TESIS DOCTORAL

Three essays on church competition: the role of economic modernization, historical legacies, and national sentiments

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1. The consequences of church competition

When people outside sociological classrooms hear about church competition, they think primarily about conflicts or disagreements between religious groups. From a deep history of the West-East Schism and the Reformation to the more recent Yugoslav wars, there have been plenty of religious conflicts that have led to political disagreements, economic competition, and casualties. However, comparative sociologists often view church competition as something else. Church competition is often studied as a part of a broader agenda labeled in sociological literature with many names, e.g. *religious economies, supply-side theories or church competition theory*. Leaving details aside, these names are used to call a stream of thoughts defending the idea that a diverse supply of religious products and services explains religious vitality in certain societies if not around the Globe. According to this theory, competition provides additional incentives for churches to fight for their congregation. Consequently, religious identities and practices of people are inspired and reinforced by churches.

Although this theory was praised as the "new paradigm" (Warner 1993), "most popular alternative to traditional secularization theory" (Norris and Inglehart 2011), and "one of the most prominent approaches that explain religious change" (Pickel and Sammet 2012), it has been widely challenged in recent decades. More recent comparative studies have shown that church competition does not have uniform effects on religious participation and depends on many other factors (Chaves and Gorski 2001; Voas, Crockett and Olson 2002).

Nevertheless, despite the ample criticism, this theory has not been rejected completely (Lechner, 2007). Both adherents and critics agree that this theory has been put on hold waiting for more theoretical clarification and empirical scrutiny; that the influence of religious markets could be studied better when the social context is studied

(i.e. the "ecological perspective"); and that institutions that shape religious markets were formed back in history. Therefore a test of the theory has to include a historical dimension (i.e. the "path-dependency perspective").

However, few studies have advanced these points empirically. This dissertation aims to fill this gap in the existing knowledge and study church competition in its context. For that purpose, this dissertation will invite a reader to such different places as the Netherlands in the 19th century as well as Ukraine in the 21st century. These places, being distant in time and space, will serve to tell a story about church competition embedded in its context of economic modernization and national revivals.

Besides academic debates, the consequences of religious competition have profound social relevance. When I was little, adults around me had experienced one of the most traumatic existential challenges possible. They had lost their country and identity, although they had not lost their houses, commodities, and communities. Everything was still there and yet everything was different. The Soviet Union collapsed along with its ideology and promises. Naturally, new ideas and ideologies started to fill this gap. Although most of these ideas were about nationalism, democracy and capitalism, this was also a time when many people around me started 'trying out' religion. Many Ukrainian atheists, including my parents (highly skilled natural scientists), approached religion directly, reading the Bible as a manual if not a to-do list. Once my parents read that holy water can cure people, they 'tried it' out on me as one would try medical syrup. Neither faith nor spiritual beliefs guided such actions. My parents were far from being in minority. In fact, the number of people who identified with the Orthodox Church tripled in a short period of time (Yelensky 2010).

So how come so many people with no prior religious socialization, faith or spiritual curiosity were so keen to identify with a particular religious denomination?

One can imagine a number of alternative scenarios that could have happened. Research showed that the religious beliefs and practices of many Ukrainians were eclectic (Borowik 2002). There is a good chance that religious ideas of many people could have been dislodged by beliefs in paganism or witchcraft. So why the Orthodox Church? A lot of evidence exists to suggest that the role of political and clerical elites was pivotal (Yelensky 2010, Karpov 2013). Not only did they generate a significant supply of religious products and services, this religious supply was very competitive. In other words, religious groups tried to increase their congregations at the cost of other religious organizations (Krindatch 2003). As this dissertation shows, had the religious supply of Orthodox groups been less competitive, fewer Ukrainians would have joined the Orthodox Church.

What are the consequences of church competition? This dissertation provides evidence for church competition that goes beyond dogmatic lines and involves cultural or nationalistic sentiments, which could explain occupational status attainment, people's religious participation in the long run, and religious revivals in post-Communist environment.

1.2. Goals of this dissertation

There is a well-accepted consensus in the existing literature that the theory of church competition has been put on hold waiting for more theoretical clarification and empirical scrutiny (Lechner 2007). Church competition should be studied in line with the ecological and path-dependency perspectives. The main goal of this dissertation is to answer to this demand. Each chapter of this dissertation has its own goals.

The goal of the first chapter is to study the interaction of religious competition and economic modernization in the Netherlands during the 19th and early 20th centuries.

Religious competition between Roman Catholics, Liberal Protestants and so-called Orthodox Protestants was embedded in the process of economic modernization. While previous studies largely focused on a division between Catholics and Protestants, this chapter stresses the intra-doctrinal schisms within Protestant groups. Such divisions are known in the literature as *pillarization*. The first chapter aims to study the extent to which pillarization influenced occupational attainment of male workers.

The goal of the second chapter is to explore historical legacies of pillarization in the Netherlands with respect to religious belonging. While previous studies have stressed the theoretical importance of path-dependency, very few of them have investigated this matter empirically. Most of the historical studies focus on the past, rarely modeling the long-term consequences of historical religious markets. This chapter analyzes whether religious competition in 1909 in the Netherlands influences religious belonging in the same country in the 2000s.

The goal of the third chapter is to address intra-doctrinal competition of the Orthodox Church jurisdictions in the context of post-Communist religious and national revivals. This chapter shows that intra-doctrinal competition of the Orthodox jurisdictions positively affected religious affiliations, church attendance, subjective religiosity, and praying at home among Ukrainians. This effect was particularly strong for individuals who preferred Ukrainian language.

1.3. The contributions of this dissertation

The first chapter of this dissertation shows that religious competition in the 19th and early 20th centuries influences occupational attainment of Dutch male workers. Although the existing literature provides some scarce evidence that Protestant men were more successful than Roman Catholic men, this literature does not distinguish between

more liberal types of Protestants and more conservative types of Orthodox Protestants with respect to their occupational status attainment. The present chapter provides the first large-scale attempt to investigate this matter. Besides showing the impact of church competition on occupational mobility, this chapter improves on two classic research traditions in economics and sociology: firstly, relating religion to individual economic performance; and secondly, relating economic modernization to occupational status attainment.

The second chapter of this dissertation contributes to the debate about historical legacies of religious competition. Although previous studies have examined religious markets in the past as well as in the present, there are very few studies that combine these two perspectives. This chapter explores historical data on religious affiliations merged with more recent attitudinal surveys in the Netherlands. The analysis suggests that religious socialization as well as pillarization have a long-term effect on the present religious belonging. Finally, this chapter employs a method proposed by Voas, Crockett and Olson (2002) to validate statistical analysis. Although this method has been extensively cited in the existing literature, very few studies have actually replicated it.

The third chapter is the first empirical investigation of Ukraine with respect to church competition and religious vitality. Although recent literature has questioned the role that religious markets played in religious revivals in post-Communist Europe, this chapter shows that this literature has overlooked a key factor of religious revivals, namely, the link between national and religious identity. This chapter suggests that nationalistic competition between the Orthodox jurisdictions in Ukraine has positively affected religious affiliations, church attendance, subjective religiosity and the frequency of prayer among Ukrainians.

1.4. Brief summary of each chapter

1.4.1. Summary of chapter 1.

The first chapter, titled *"Religious Communities and Social Mobility. Status Attainment among Orthodox Protestants, Liberal Protestants, and Roman Catholics in the Netherlands, 1859-1918",* engages with the classical debate on the role of Protestantism as an engine of economic growth. This is done by exploiting a unique database comprising of the occupations of more than 300,000 Dutch men nested in more than 400 Dutch municipalities of different religious denominations during the 1859-1918 period.

The existing literature has cast some doubts that Protestantism, as devotion, was the key explanation of economic differences between mostly Protestant and Catholic territories. This chapter shows the crucial role that intra-doctrinal differences among Protestant communities – in interaction with modernization forces – played in shaping men's occupational mobility in the Netherlands.

This chapter explores an excellent individual level historical dataset of all marital records from all municipalities in five Dutch provinces (Gelderland, Groningen, Limburg, Overijssel, and Zeeland). In order to measure the occupational attainment of men, their occupation is first coded using the HISCO scheme, a standard classification for occupations in the 18th and 19th centuries. These individual data are enriched with contextual data about economic modernization at the municipal level. Economic modernization is measured as division of labor, educational expansion, urbanization, mass transport, mass communication, and geographical mobility.

A set of hierarchical regression models suggests that the economic success of Liberal Protestants was more strongly affected by modernization than the economic success of the adherents of the other denominations. This is also reflected in a greater

likelihood for sons of Liberal Protestants to have an occupation of a different status than that of their father. All in all, the data confirm that there was a significant difference in the process of status attainment of Dutch men between Liberal and Orthodox Protestant communities which was explained by their relationship to modernization. Catholics often took the middle position. This finding is in contrast with the prior view that such difference should be exclusive to Protestants and Catholics. Therefore, the specific religious stratification of the Dutch society (i.e. pillarization) influenced the economic performance of individuals.

1.4.2. Summary of chapter 2.

The second chapter, titled *"The long-term effects of religious markets, religious tradition, and institutions: secularization in the Netherlands in 1909 and 2000s",* explores historical legacies of religious competition by combining historical data with contemporary attitudinal surveys. This chapter offers a theoretical synthesis of religious market, ecological, and path-dependency perspectives to answer whether Protestant and Catholic religious markets in 1909 left an enduring influence on religious affiliations in the Netherlands today.

The existing literature offers some historical assessments of religious markets and religious vitality, yet with certain limitations. Most of the studies address religious markets in religiosity of people either in the past or in the present. However, there are very few studies that include both of these dimensions, i.e. explain the present by the past. In order to overcome this limitation, historical data for the Netherlands in 1909 are merged with survey data for the same country from 2002 to 2008.

Voas, Olson and Crockett (2002) demonstrated that there is a mathematical association between measures of religious competition and religious vitality that

produces non-zero correlation. They proposed a method to estimate such spuriousness. Following their method, bootstrapping simulations were employed showing that the statistical analysis of this chapter was not contaminated.

This chapter suggests that higher religious concentration in 1909 yielded higher religiosity for Catholic regions in the 2000s. In contrast, religious concentration across mostly Protestant territories in 1909 is associated with secularization in the 2000s. The main argument provided in this chapter is that historical identities and social organization of Protestant and Catholic groups have had an enduring effect on the present-day religious participation of people. Protestant tradition is built on weaker church authority as well as earlier individual-based consumption of religious products. The fact that both Protestant and Catholic communities reinforced their worldviews and practices in isolation from each other (i.e. pillarization) exacerbated their differences in religious participation. While intra-doctrinal competition of Protestants contributed to the existence of competitive religious markets in some of the regions.

1.4.3. Summary of chapter 3.

The third chapter, titled *"Church competition hypothesis revisited: new evidence from Ukraine, 1992-2012",* applies the framework of religious competition to study religious revivals in Ukraine. Recent literature has questioned the role that religious markets played in religious revivals in post-Communist Europe. However, most of the studies have overlooked the link between national identity and religious identity.

Drawing on the literature on post-Communist transformations as well as Ukrainian religious revivals, this paper suggests that religious groups became important actors of the political process in Ukraine; that they exploited narratives about an idealized past as well as an utopian future of the nation to mobilize their congregation;

that furthermore this nationalistic competition contributed to the split within the Orthodox Church in Ukraine. These processes are theorized to affect religious values and behavior of people in Ukraine.

A novel dataset of religious communities was collected for the purpose of empirical analysis. Although similar data have been employed in the existing literature (Balakirieva and Sereda 2013; Yelensky 2010; Krindatch 2003), the present data include the hitherto longest series and includes cross-regional comparisons.

A set of hierarchical and OLS models confirmed that intra-doctrinal competition of the Orthodox jurisdictions itself has positively affected religious affiliations, church attendance, subjective religiosity and the frequency of prayer among Ukrainians. Considering religious affiliations, this effect was particularly among people who preferred Ukrainian language.

1.5. Conclusions and suggestions for future research.

The main goal of this dissertation was to study church competition in line with ecological and path-dependency perspectives. In order to achieve this goal, a series of studies was conducted employing historical and attitudinal data about intra-doctrinal competition and religious participation in the Netherlands and Ukraine. This dissertation shows that when historical context as well as the institutions that frame church competition is modeled directly, church competition theory explains occupational mobility, religious belonging as well as religious behavior in a wide range of settings. Furthermore, it shows that intra-doctrinal competition is important when religious participation is studied.

As to the goals of the first chapter, church competition modeled as pillarization indeed influences occupational mobility of Dutch men during economic modernization

in the 19th and the beginning of the 20th centuries. Considering the goals of the second chapter, religious belonging in the Netherlands increases when individual-based religious consumption has been cultivated for generations, and both Protestant and Catholic communities reinforced their worldviews and practices in isolation from each other (i.e. pillarization). Finally, considering the third goal of this dissertation, intra-doctrinal Orthodox nationalistic competition positively affected religious belonging and behavior of Ukrainians.

Overall, this dissertation confirms some old ideas that religious markets are indeed strong predictors of religious participation once a relevant context is properly considered. However, this dissertation offers some new ideas as well. It shows that intra-doctrinal competition is an important dimension of religious markets. Disagreements between Liberal and Orthodox Protestants in the Netherlands as well as between the Kyivan and Moscow jurisdictions of the Orthodox Church in Ukraine played a crucial role for economic, political and religious outcomes in these societies. Despite ample criticism in the existing literature, church competition theory is far from being irrelevant yet. Given the evidence provided in this dissertation, church competition theory remains a valuable part of sociological knowledge.

The findings of this dissertation provide some questions for future research as well. Future studies could apply the proposed framework of intra-doctrinal competition to other Orthodox societies, which witnessed strong intra-doctrinal divisions, such as Bulgaria, Moldova, and Macedonia. However, this framework does not have to be limited to Orthodox Churches only. One may think about competition of different streams of Protestantism in Western societies, Sunni and Shia in Middle East, and Greek Catholics and Roman Catholics in Eastern Europe. Another line of future research could be connected with cross-national comparisons. Although church

competition theory is helpful for understanding religious belonging and behavior in some countries, it is still difficult to employ it in a large-scale comparative perspective. Future studies could endeavor to study multiple contexts in one coherent theoretical and empirical framework.

2. Chapter 1. Religious Communities and Social Mobility. Status Attainment among Orthodox Protestants, Liberal Protestants, and Roman Catholics in the Netherlands, 1859-1918[1]

Abstract: Recent studies have cast doubts on the idea that Protestantism was the key to explaining economic differences between Protestant and Catholic geographies. Differences in human capital and technological innovations have been suggested as alternative explanations. We contribute to this debate by investigating the role of cultural conservatism in hampering the embracement of technological innovation and, as a consequence, economic success. We study the status attainment of more than 300,000 Dutch men in the period 1859-1918 in 446 Dutch municipalities. The municipalities differed greatly with respect to religious composition and modernization. Whereas Catholics were in general conservative, Dutch Protestants were divided across communities of a more liberal and a more conservative character. Our analyses show that the interplay of conservatism and economic modernization shaped the occupational status attainment of men.

2.1. Introduction

A century ago the German sociologist Max Weber (1864-1920) noted that the economically most advanced countries of his day were, in whole or in part, Protestant, and that within religiously mixed countries, such as Germany and the Netherlands, the most successful businessmen were Protestants (and not Catholics) in general, and

[1] This paper was written with Ineke Maas and Marco van Leeuwen from Utrecht University. The collection of the data on the municipalities was supported by the European Research Council (Advanced Grant no. 230279, 2009–14), "Toward Open Societies? Trends, Variations and Driving Forces of Intergenerational Social Mobility in Europe over the Past Three Centuries."

Calvinists in particular. Looking for an explanation, he turned to what he saw as the nexus between the mindset of the average Calvinist and the mindset needed to pursue modern, capitalist economic activities. In his view, the Calvinist mindset led to a greater predisposition to economic modernization. We will discuss Weber's ideas later in more detail, but at this stage it will suffice to state that his thesis on the religious roots of the spirit of capitalism lends itself to being empirically tested in the Netherlands, arguably the most Calvinist country in the world.

We are certainly not the first to explore this relationship. Recently several economic-historical studies have endeavored to confirm whether Weber was correct about economic advances being more prominent among Protestants than Catholics (Delacroix and Nielsen 2001; Becker and Woessmann 2009, 2010; Cantoni 2015). These studies focused mostly on macro indicators, such as average tax revenues, railroad networks, and city size, as dependent variables and provided mixed findings about the impact of religion. Sociological studies on Weber's hypothesis have more often compared individual economic success or economic attitudes among Protestants and Catholics, leading to a similar mixture of positive and negative findings (Lenski 1961; Bouma 1973; Cohen 1985; Lehrer 2004; Hayward and Kemmelmeier 2011). Yet, to the best of our knowledge, very few studies have combined these two approaches by investigating the role that religious stratification played in shaping the individual economic performance of individuals in a long-term perspective. The lack of historical individual data hampered such investigations for a long time (van Leeuwen and Maas 2010). In order to fill this gap, we employ excellent Dutch data on the economic success of individuals in terms of occupations and intergenerational mobility (Genlias 2009). Our data contain information from all civil marriage certificates in five (out of eleven) provinces in the Netherlands during the period of economic modernization from 1859 to

1918. Marriage certificates for 336,304 men living in 446 municipalities are included in our database. These certificates include information on the occupation of the bridegroom and the occupation of his father. Furthermore, the data are enriched with contextual information on economic modernization in Dutch municipalities, measured in terms of the division of labor, educational expansion, urbanization, mass transportation, and mass communication. All the municipalities are classified in terms of the predominant religious group.

Our research questions are (1) whether Liberal Protestants and/or Orthodox Protestants had a higher occupational status than Roman Catholics during economic modernization, (2) whether the influence of a father's status on his son's status differed between the three denominations, and (3) whether modernization affected the status attainment of members of the three denominations differently.

The contribution of our study is two-fold. On the one hand, our research questions extend the literature that links the Protestant Reformation to subsequent economic developments in Europe (Becker, Pfaff, and Rubin 2016). We add to this literature by analyzing individuals' occupational status attainment in the Netherlands during the nineteenth and early twentieth centuries. At that time, the Dutch population was organized along religious lines between Roman Catholics, Liberal Protestants, and Orthodox Protestants (also known as Re-Reformed Protestants). We will contrast the traditional Weberian explanation, according to which all Protestants performed better than Catholics, with an alternative explanation based on the denomination's conservatism. According to the latter, Orthodox Protestants resembled Catholics. Although a few studies show that Protestants generally occupied higher social positions than Catholics (van Poppel, Liefbroer, and Schellekens 2003; Zijdeman 2010), these findings are based on small regions within the Netherlands and do not distinguish

between Orthodox and Liberal Protestants. To the best of our knowledge, the present paper is the first large-scale attempt to investigate this matter.

On the other hand, our research questions extend another scholarly tradition relating economic modernization to intergenerational social mobility (Inkeles 1960; Kerr et al. 1960; Blau and Duncan 1967; Ganzeboom, Treiman, and Ultee 1991; Lipset and Bendix 1961; Erikson and Goldthorpe 1992; van Leeuwen and Maas 2010; Yaish and Andersen 2012). The earlier debates about the causal link between modernization and intergenerational social mobility were intense. The Research Committee on Social Stratification and Mobility of the International Sociological Association concluded that "Modernization theory is wrong" (Hout and DiPrete 2006, p. 8). However, this conclusion was based on studies that mainly covered the second half of the twentieth century. In most Western countries, many modernization processes took place before the twentieth century. In fact, when new historical data on social mobility in Europe are analyzed, more evidence is found that modernization did increase social mobility (Maas and van Leeuwen 2016; van Leeuwen et al. 2016). However, it is still difficult to explain changes in social mobility over time and differences in the level of social mobility between regions. Knigge, Maas, and van Leeuwen (2014) showed that pivotal indicators of modernization – industrialization and educational expansion – could not explain the trends. Part of the regional and temporal differences in mobility could be explained by developments in the means of mass transportation and mass communication, but a large part remained unexplained. We improve on this literature by investigating to what extent the religious environment directly affected status attainment, and to what extent it affected how people reacted to modernization processes.

This article is organized as follows. We start with a description of religious cleavages in the Netherlands. Then we discuss theoretical mechanisms that could influence the occupational status attainment of Liberal Protestants, Orthodox Protestants, and Roman Catholics in the Netherlands during modernization. Our data, measures, and design are presented in the following part. We conclude our paper with the results of our analysis and a discussion of the findings, limitations, and implications.

2.2. Religious cleavages in the Netherlands

The Netherlands of the nineteenth and the first half of the twentieth century is often said to have been a "*pillarized*" society. Pillarization is the term coined by Lijphart (1975) to denote deep, institutionalized cleavages between Dutch religious and political groups. Although there have been various suggestions as to how to classify the major "pillars", we follow the tradition established in the Dutch historical literature and distinguish three religious pillars: "Roman Catholics", "Orthodox Protestants", and "Liberal Protestants" (Lijphart 1975; Post 1989; Hendrickx, Lammers, and Ultee 1991; de Rooy 2002; van Bavel and Kok 2010). In our study, we will focus on the religious cleavages only, and not study the "socialist pillar" that originated later than the other pillars and had a lesser influence in the period we are studying. Religion played a crucial role in the social life of Dutch people prior to the twentieth century (van Bavel and Kok 2005), and this warrants our decision to focus on religious groups due to their strong presence and significance in the public sphere.

While it is impossible to establish when pillarization began in the Netherlands, it certainly had a grip on the country after 1880 (van Bavel and Kok 2010). Its signs can be traced back further – to the Reformation – but pillarization was given a boost by the restoration of the Catholic clerical hierarchy in 1853. From that year onwards the number of Catholic organizations increased significantly (Kok and van Bavel 2006),

and political mobilization among Catholics increased with the growing influence of Catholics in parliament (Cox 1993). The cleavages between Protestants and Roman Catholics increased over time. As Lijphart (1975) pointed out, in the nineteenth century there had been a number of joint trade unions in which Roman Catholics and Protestants worked together for their mutual benefit. However, in 1912 Catholic bishops forbade their flock from participating in these joint unions.

In 1895, a new, Orthodox Protestant (also known as Re-Reformed Church) pillar emerged. The reasons for this division were rooted in the response of conservative Protestants to the country's growing modernization. For instance, conservative religious groups did not favor an expansion of standardized public education provided by the state, which competed with religious schooling. Furthermore, some Protestants were engaged in political alliances with Catholics in order to build a stronger opposition to the expansion of state secular institutions. This repelled conservative Protestants, who were intolerant of cross-denominational alliances (Cox 1993). All said, the political division between the so-called Liberal and Orthodox Protestants increased the degree of pillarization.

One of the pivotal features of pillarization is that religion influenced almost all the social institutions that regulated the lives of people. Individuals from the various religious communities made use of the schools, hospitals, sport organizations, and labor unions specific to their communities; they also read the newspapers and were members of the social clubs specific to their community (Boone et al. 2012). Furthermore, Liberal Protestants, Orthodox Protestants, and Roman Catholics created their own political parties (Cox 1993). Pillarization was probably reinforced by the geographical spread of religious groups in the Netherlands. Most Protestants lived in the north, whereas most Catholics lived in the south.

Figure 1.1. illustrates the municipalities included in our study and the pillar that predominated there in 1909 (the way we define "predominant" is discussed later in the text). As this figure shows, in 1909 the southwest of the Netherlands (the province of Zeeland) as well as the center of the country (the provinces of Gelderland and Overijssel) were settled by members of all the main pillars, with considerable commingling. The south (the province of Limburg) and the north (the province of Groningen), conversely, were more homogeneous: Roman Catholics inhabited the south, Protestants the north.

Regarding Orthodox Protestants, the literature often describes them in terms of the so-called "Bible Belt" (Ruijs et al. 2011), with their communities stretching from the southwest to the northeast. However, our data do not cover all the provinces through which this "belt" stretches. The northern province of Groningen (e.g. Duivendijke, Meliskerke, Oostkapelle) and Zeeland in the southwest (Baflo, Bedum, Ulrum) were largely Orthodox Protestant. There were some Orthodox Protestant municipalities in the province of Overijssel too (such as Zwartsluis and Zalk en Veecaten).

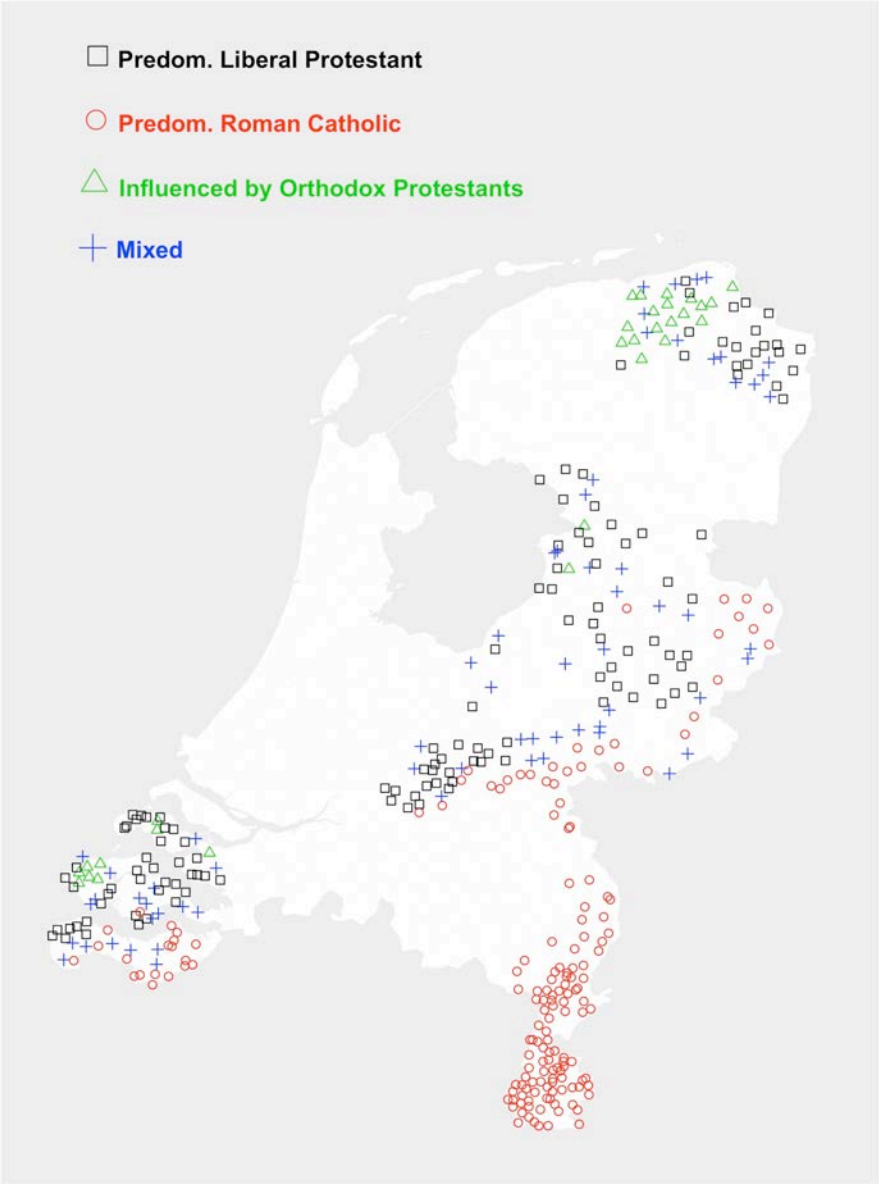

Figure 1.1. Religious pillars in five Dutch Provinces (Zeeland, Gelderland, Overijssel, Limburg, and Groningen) in 1909. GIS data source: Huijsmans (2013)

2.3. Differential effects of modernization on occupational status attainment by denomination

Sociologists and historians frequently link the status of a person to his or her occupation (van Leeuwen and Maas 2010). Theoretically, a person's occupation often defines his or her relative position in the social hierarchy. Methodologically, occupation is one of the few variables available in historical documents as well as comparably

across societies and time (Miles 1993; van Leeuwen, Maas, and Miles 2002). The study of occupational status attainment is concerned with the conditions under which children are able to attain a status different from that of their parents (Breen and Jonsson 2005; Ganzeboom, Treiman, and Ultee 1991). Traditionally, children inherited their place in the social hierarchy from their parents, and were trapped there. With modernization, more children attained a status different from that of their parents.

There are different ways in which pillarization might have shaped the occupational status attainment of men. On the one hand, within a denomination a specific culture might have existed that was important for either the work ethic or the acceptance of modernization processes. On the other hand, individuals might have experienced economic modernization at different rates because of their geographical location and distance to industries. We call these possible alternative explanations of the role of pillarization *the cultural mechanism* and *the economic modernization mechanism.* The former can be addressed from the Weberian perspective as well as from the perspective of pillarization. We discuss these mechanisms in the following part of this paper.

2.3.a. The Weberian cultural mechanism

According to Weber – nicely summarized by Engerman (n.d.) – "it was Christian asceticism and Calvinism that provided the orientation that led to the development of such ideas as the 'necessity of proving one's faith in worldly activity,' 'the preaching of hard, continuous bodily or mental labor,' and 'rational conduct on the basis of the idea of the calling' that were to provide 'the fundamental elements of the spirit of modern capitalism'". (For more reviews of the Weber thesis see, for example, Jones 1997; Tawney 1998; Besnard 1970; Kalberg 1996, 2001; Barro and McClearly 2003; Breiner 2005; McCleary and Barro 2006).

Within Calvinism, neither luxury nor pleasure were regarded as virtuous qualities; diligent work expressing the talents given by God was. This led to a predisposition to hard work and the ever more efficient, modern organization of work, made feasible through education and the efforts of each individual.

Calvinist religion and economic modernity were connected in another way too. A Catholic could redeem his or her worldly flaws by doing good – by giving to charity for example – or having posterity do good in their name. This was thought to shorten the time spent in purgatory before one was admitted to a heaven where only a few humans were admitted immediately after death. Protestants in general and Calvinists in particular agreed with the latter point: only a few fortunate individuals would enter the kingdom of heaven directly. But they denied the existence of purgatory. As a consequence, according to a strict interpretation of Calvin's dogmas, the chance of entering the kingdom of heaven was rather slim, and to make matters worse it depended not on human action but on divine election. Whether all Dutch Calvinists adhered to the dogma of predestination is an empirical question, and recent literature on charitable giving casts doubt on this (van Leeuwen 2012), but purgatory, with its redeeming effects, certainly was closed to Calvinists, who could do nothing to secure their salvation and were unaware of their fate until their death. Weber noted that a predestined life without redemption through good works or other individual action must create stress among the faithful. He surmised that to reduce stress, Calvinists tended to work diligently and rationally, at the very least to avoid economic failure, a near sure sign of not being elected, and maybe with a secret hope that economic success could be seen as foreshadowing election.

Dutch Protestants – mainly Calvinists – might, according to this theory, be expected to have been economically more successful than Roman Catholics, who lacked

such calling. As Weber (1930) had already observed, Protestant sons of craft workers in Germany were more likely to employ modern methods of production, i.e. to work in factories, than their Catholic counterparts. This is in line with Protestants embracing modern capitalism and suggests that Protestants not only obtained a higher status, but also that they were more likely to be intergenerationally mobile, not just after the Reformation in the age of merchant capitalism, but also in the centuries to follow, including that of the nascent industrial capitalism we are studying.

The spirit of modern capitalism required people not to stick to traditional ways of life, but to adapt if alternatives were more profitable. This leads one to expect that if a Protestant region were more modernized, those living there would grasp the new possibilities that modernization provided, even if that meant abandoning a more traditional way of life. In contrast, the Weberian cultural mechanism suggests that Roman Catholics were more likely to remain under the strong influence of their fathers, despite the process of economic modernization. On the basis of this cultural mechanism we expect:

H1. Protestants to have attained a higher status than Roman Catholics.

H2. The effect of father's status on son's status to have been weaker for Protestants than for Roman Catholics.

H3. Modernization to have had a stronger positive effect on the status of Protestants than on the status of Roman Catholics.

H4. Modernization to have had a stronger negative effect on the transfer of status from father to son for Protestants than for Roman Catholics.

2.3.b. The "cultural conservatism" mechanism

A secondary cultural mechanism has also been suggested. Sociological, demographic, and historical investigations of the Netherlands have shown that members of the Roman Catholic and Orthodox Protestant pillars were generally more *traditionalistic* than members of the Liberal Protestant pillar (Hendrickx, Lammers, and Ultee 1991; Schellekens and van Poppel 2006; van Bavel and Kok 2004, 2005, 2010; Poppel, Schellekens, and Liefbroer 2002).

A vast literature suggests that Liberal Protestants, also outside the Netherlands, tended to have a less hierarchical culture, with a smaller role for kin and especially parents in making life decisions, including which job to take (Mitch 1992; Gorski 1993; Woodberry 2012). In contrast, as Kok and van Bavel (2006, p. 45) have pointed out, Dutch Orthodox Protestants were:

> […] to become the strongest bulwark of Orthodoxy in the twentieth century. Their communities were characterized by a strong geographic and mental isolation; leaving the village was discouraged, newcomers were mistrusted and scientifically-based innovations such as inoculation and chemical fertilizers were often rejected.

Dutch Roman Catholics were quite conservative and traditionalistic as well. The following example from van Bavel and Kok (2004) illustrate this. An important cause of infant mortality in rural areas was mothers using bottled milk mixed with poor-quality water (Wintle 2000). In the nineteenth century the Dutch authorities launched a campaign to combat this. The idea of natural breastfeeding was promoted. Women who breastfed were promised a reward. The Catholic clergy, however, started their own campaign against breastfeeding, arguing that it was shameful for a mother to expose her

breast. As a result, Catholic women continued to use bottled milk and poor-quality water.

On the basis of such cultural differences one would expect the dividing line with respect to the intergenerational transfer of status and how it is affected by modernization not to have been between Protestants and Roman Catholics, but between Liberal Protestants on the one hand and Orthodox Protestants and Roman Catholics on the other. Whereas Liberal Protestants were arguably open to new developments, Orthodox Protestants urged young men not to take up new modern occupations, just as Roman Catholics did. Thus, among Liberal Protestants we expect to find a father's occupational status having a weaker influence on that of his son than among members of the other two denominations.

We also expect to find modernization having decreased the importance of a father's status most among Liberal Protestants. Industrialization created new job opportunities, but Roman Catholics and Orthodox Protestants might have had fewer opportunities to succeed in the new high-risk and highly innovative market due to their more hierarchical and traditional culture. Educational participation expanded, but the Roman Catholic and Orthodox Protestant schools and newspapers might have strengthened the religious culture instead of embracing modern values. Accordingly, the hypotheses derived from the cultural mechanism are as follows:

H5. Liberal Protestants attained a higher status than Catholics and Orthodox Protestants

H6. The effect of father's status on son's status was weaker for Liberal Protestants than for Catholics and Orthodox Protestants

H7. Modernization had a stronger positive effect on the status of Liberal Protestants than on the status of Catholics and Orthodox Protestants

H8. Modernization had a stronger negative effect on the transfer of status from father to son for Liberal Protestants than for Catholics and Orthodox Protestants.

2.3.c. The economic modernization mechanism

Although according to Weber (1930) Protestants, and especially Calvinists, were motivated to strive for economic success because of their religion, more recent sociological and economic studies have emphasized alternative mechanisms that allied Protestants with economic success. These mechanisms are intertwined with but distinct from religion. The sociological literature has emphasized the ability of Protestants to create new anti-authoritarian and yet disciplined forms of social organization (associations, social clubs, for example), which were pivotal to creating innovative production and trade networks, disseminating innovations, and, inevitably, to promoting economic growth (Bouma 1973; Coleman 1990; Gorski 1993). Economists have emphasized the earlier investment by Protestants in publishing and literacy, technological innovations, institutionalizing education, as well as their promoting gender equality in education (Becker and Woessmann 2008, 2009; McCloskey 2010; Dittmar 2011; Hornung 2014; Mokyr 2016).

All in all, this literature suggests that the economic success achieved by Protestants was due not to their religious devotion per se. The main explanation, according to the literature, is that Protestants managed to organize and maintain their social institutions in a way that would enhance the economic progress of their communities in the long run, regardless of the actual religious engagement of individuals. In contrast, owing to a number of historical circumstances, which went beyond dogmatic conduct, Catholics did not manage to arrange their social institutions

in the same way. Since this literature is focused on the long-run consequences of early economic decisions that affect the subsequent economic success of Protestants compared with Catholics, we label our explanations derived from this logic "the economic modernization mechanism".

According to the economic modernization mechanism, religion and culture might have had little to do with the economic success of and intergenerational mobility among Dutch men in the nineteenth century. Dutch Protestants might have lived in areas that witnessed greater economic development in the past. As a consequence, regardless of their devotion or conservatism, Protestants were more likely to have higher-status occupations different from the occupations of their fathers. Obviously, this argument suffers from endogeneity issues because the earlier development of the Netherlands might have been caused by earlier religious stratification, which in turn caused further economic development (Akçomak, Webbink, and ter Weel 2016). To properly test our hypotheses relating to cultural mechanisms, we need to take differences in modernization between regions populated by the different denominations into account. Note that, regardless of prior religious stratification, modernization was firmly entrenched in both Protestant and Catholic regions in the Netherlands (see the discussion of figures II to VII in the results section). Catholic regions had their harbors, warehouses, and factories, and Protestant regions had their villages and underdeveloped municipalities.

If the economic modernization mechanism were at work, we would still expect Protestants to have had a higher status than Roman Catholics and the influence of a father's occupational status on that of his son to have been weaker among Protestants than among Roman Catholics, but this difference should disappear once the level of modernization in the place where they live is taken into account.

H9. Cross-pillar differences in occupational status attainment between Liberal Protestants, Catholics, and Orthodox Protestants disappear once the level of modernization in the place where they live is taken into account.

2.4. Data and Methods

2.4.a. Data

This study follows in the footsteps of Zijdeman (2010), Knigge, Maas, and van Leeuwen (2002, 2014), Knigge et al. (2014), and Maas and van Leeuwen (2016) in using the Genlias dataset of all marital records from all municipalities in five Dutch provinces (Gelderland, Groningen, Limburg, Overijssel, and Zeeland) (Genlias 2009). However, our current dataset is restricted to 1859-1918 since not all of our contextual variables are available for other years. Marital records include not only the year and place of marriage but also information on the occupation of the bride, bridegroom, and their parents. We built a dataset by (1) selecting individual data; (2) gathering contextual variables at the municipal level; and (3) nesting our observations in groups to perform multilevel analysis.

We select only men who married between the ages of 16 and 65 and whose occupation, place of birth, and father's occupation are known. While there are few missing values for bridegroom's occupation, his place of birth, or age at marriage, almost half of the records in the Genlias dataset lacked information on father's occupation. Previous studies that employed the same data have discussed possible explanations for and the consequences of this issue (see Zijdeman 2010; Knigge, Maas, and van Leeuwen 2014; Maas and van Leeuwen 2016). Most likely the father was deceased at the time his son married, but it is also possible that he was not present at the marriage. One can assume that these missing data cause a bias, because individuals of

low occupational status were more likely to die earlier due to the nature of their hard labor or low quality of life. However, research has shown that there was no connection between social position and adult mortality in the Netherlands in the nineteenth century (Frinking and van Poppel 1979). Moreover, our comparison of men with and without parental information in the data shows that the distribution of their status was almost identical. This comparison suggests that our results are not biased by the selection of cases with complete information, although we cannot exclude the possibility that mobility patterns were different between the two groups.

To investigate the role of modernization processes, the individual data were enriched with macro characteristics from a variety of historical sources. The majority of the contextual data were collected within the Towards Open Societies project, which investigates the social stratification structure and social mobility in Western societies in the nineteenth and twentieth centuries. Our variables were retrieved from the HISCI_NL10 dataset (for more details see Knigge, Maas, and van Leeuwen 2014). Our final merged dataset covers the period 1859 to 1918 since not all our contextual variables are available for other years. This period coincides with the decades in which both pillarization and economic modernization developed in the Netherlands. Like a number of scholars before us, we measure modernization as a complex process that includes changes in labor, educational expansion, means of mass transportation, mass communication, urbanization, and geographical mobility (Treiman 1975; Zijdeman 2010). The empirical indicators are discussed further in the section on measures.

All observed men were grouped in municipalities in a certain year in our dataset. Hence all individuals who registered their marriage in a given year in a given municipality are regarded as sharing the same context for occupational status

attainment. The final merge of all individual and contextual data yielded 336,304 observations for the analysis, nested in 25,356 contexts.

2.4.b. Measures

Son's occupational status (dependent variable). In order to measure the occupational status of the son (i.e. the bridegroom on the marital record), his occupation was first coded using the HISCO scheme (van Leeuwen, Maas, and Miles 2002), a standard classification for occupations in the eighteenth and nineteenth centuries and the historical version of the International Standard Classification of Occupations (ISCO). The HISCO codes were transferred to HISCAM v.0.1 (Lambert et al. 2013), which is a historical version of the contemporary CAMSIS (Cambridge Social Interaction and Stratification) scale. CAMSIS scales are measures of social interaction distance (Bottero and Prandy 2003). The core assumption of this scale is that social interactions are more intense between socially close individuals. CAMSIS and its historical version HISCAM generate an interval scale to measure social status. The use of HISCAM and CAMSIS for historical research has been validated and discussed in the literature (see Zijdeman 2010; Lambert et al. 2013; Knigge, Maas, and van Leeuwen 2014, Knigge et al. 2014; Schulz, Maas, and van Leeuwen 2015).

Father's occupational status. The occupational status of a bridegroom's father is also measured by means of HISCAM v.0.1.

Religious composition. In the dataset individual-level information on religious affiliation is absent. We use contextual data from the censuses to determine whether a particular municipality is inhabited mostly by members of a specific pillar. This enables us to study to what extent the religious environment influenced status attainment among Dutch men during modernization.

Data on the proportion of Liberal Protestants, Orthodox Protestant, and Roman Catholics in a municipality are retrieved from the Historical Ecological Database (HED). These data are taken from the Dutch censuses and are available for approximately every tenth year. For the years in between, we used linear interpolations. Due to the data discrepancies between different historical sources, the sum of the total population and the sum of all religious and non-religious groups were sometimes not identical. Nevertheless, the correlation between these two variables was very strong (0.99).

Following Lijphart (1975) we defined the Orthodox Protestants as those labeled "Re-Reformed" (or *Gereformeerd*). Hence, we collapsed information on the members of all churches with the descriptor "*Gereformeerd*": *Gereformeerde gemeenten*, *Christelijke Gereformeerde Kerken*, *Gereformeerde Kerken*, *Overige Gereformeerden*, and *Oud Gereformeerden*. As van Bavel and Kok (2010) have pointed out, the Liberal Protestant bloc consisted of the Dutch Reformed, Lutherans, Huguenots, Mennonites, and Remonstrants. This is in line with previous literature including Lijphart (1975). We therefore amalgamated the *Nederlands Hervormden* (Dutch Reformed) with the other groups. The Roman Catholic group was calculated as the sum of the members of the Rooms-Katholieke and members of the very small *Oud-Katholieke Kerk*. We consider a municipality to have been "*dominated by the Liberal Protestant pillar*" when more than 65 per cent of its population were Liberal Protestants (N=239). Municipalities in which more than 65 per cent were Roman Catholic are labeled as "*dominated by the Roman Catholic pillar*" (N=182). Given the relatively small size of the Orthodox Protestant pillar, we apply a different threshold to them. Where more than 35 per cent of a municipality's population were Orthodox Protestants, we classify it as having been

"*influenced by the Orthodox Protestant pillar*" (N=34). Other municipalities were classified as "*mixed*" (N=114).

For the sake of space, we will use as the labels "predominantly Liberal Protestant municipalities", "Liberal Protestant municipalities", and "Liberal Protestant pillar" as interchangeable in the text (a similar practice will be applied to the other pillars).

Table 1.1. shows how many municipalities belonged to each pillar in the census years between 1859 and 1909. The total number of municipalities increased over time.

Table 1.1. Distribution of municipalities with respect to the predominant pillar, by year (%)

	1859	**1869**	**1879**	**1889**	**1899**	**1909**
Roman Catholic (>65%)	34.2	38.2	38.6	38.0	38.1	39.8
Liberal Protestant (>65%)	57.4	52.9	52.4	47.7	42.1	37.0
Orthodox Protestant (>35%)	-	0.7	0.7	4.0	5.7	5.8
Mixed	8.4	8.2	8.3	10.2	14.0	17.4
	100%	100%	100%	100%	100%	100%
N	396	416	420	421	421	430

It should be noted that a municipality could change its status over time. For instance, a municipality that initially comprised mostly Liberal Protestants might then become mixed owing to the concentration of Liberal Protestants decreasing to below 65 per cent, which is the threshold we employ.

Measures of modernization

Division of labor. Previous studies of occupational status attainment during modernization have emphasized the importance of technological changes in the labor market (Zijdeman 2010). Technological changes are important because: (i) they create new occupations that have to be filled, which stimulates occupational mobility; (ii) they ensure meritocratic selection because it becomes more difficult to pass "how-to"

knowledge from a father to a son within a household. That is why previous studies focused on variables that measured such technological changes. For instance, Zijdeman (2010) employed the number of steam engines purchased per municipality in the Netherlands. Unfortunately, these data do not cover the bulk of the period we are studying. Therefore, we use another measure that can be derived from our data. We compute a measure of *division of labor* by counting the number of unique occupations (HISCO codes of bridegrooms and their fathers) in a region (as van Leeuwen et al. 2016 does).

The number of unique occupational titles serves as a proxy of the complexity of the labor market. In contrast to all other measures of modernization employed in our analysis, this measure is not calculated at the level of a municipality per year, because the number of people marrying in a municipality in a given year was sometimes quite small. Instead, we calculate it at the level of sub-region per year. There are 36 such sub-regions in our dataset. These historical regions are similar to the geographical entities employed by Dutch sociologists and demographers in contemporary studies (e.g. NUTS units or COROPs).

Educational expansion. Educational expansion is measured as the number of pupils enrolled in secondary education (including *gymnasia*, a type of school that prepares pupils for university) in the municipality per 100 inhabitants in a given year. These data were derived from the annual reviews on Dutch education (Scholen 1862-1917). The data were retrieved for each fifth year; estimates were used for the years in between.

Urbanization. Urbanization is measured as the population size of the municipality in a given year, divided by 1,000. The data are retrieved from the HED and the Historical Database for Dutch Municipalities (HDNG).

Mass transportation. In order to measure the development of mass transportation facilities, data retrieved from the website *stationsweb.nl* were used. This website contains information on the opening and closing years of all train and steam engine tram stations in the Netherlands. The variable indicates the presence of a train and/or a steam tram station in a municipality in a given year.

Mass communication. Mass communication developments are measured by the presence of a post office in the municipality in the year of the marriage. This measure reflects the ability of individuals to communicate with others by post and to purchase newspapers or magazines. The data were retrieved from the annual reports of the Dutch postal services, copies of which are held in the archive of the Museum of Communication in The Hague (Posterijen 1880-1916).

Geographical mobility. In a manner similar to Zijdeman (2010), geographical mobility was measured as the proportion of immigrants to the total population of the municipality.

Controls. At the individual level, we control for the bridegroom's age, and whether a bridegroom was born in a place other than that of his marriage (we label this variable "migrant"). At the contextual level, we will control for marriage year, which is measured in years since 1859, divided by 100. Descriptive information for all variables is presented in Table 1.2 Additionally, we provide an Appendix with a description of the same variables by pillar.

Table 1.2. Descriptives of the variables, 1859-1918 (N = 336,357 individuals in 25,356 municipalities per year)

	Mean	S.D.	Range
Individual characteristics:			
Son's occupational status	46.93	13.05	10.60-99.00
Father's occupational status	47.28	11.59	10.60-99.00
Son's age	27.35	5.47	16.00-65.00
Son is a migrant (born in a place different from the place of marriage)	0.54	-	0/1
Contextual characteristics:			
Time (years since 1859)/100	0.33	0.17	0.00-0.59
Denominations:			
Municipality dominated by Liberal Protestants	0.51	-	0/1
Municipality dominated by Roman Catholics	0.25	-	0/1
Municipality influenced by Orthodox Protestants	0.02	-	0/1
Mixed municipalities	0.22	-	0/1
Division of labor (number of unique HISCO titles in a region per year)*	52.08	28.82	1.00-160.00
Educational expansion (pupils per 100 inhabitants)	0.13	0.48	0.00-6.29
Urbanization (population divided by 1,000)	3.52	5.45	0.19-87.59
Mass transportation (presence of a train/tram station)	0.26	-	0/1
Mass communication (presence of a post office)	0.17	-	0/1
Geographical mobility (proportion of immigrants)	0.06	0.03	0.00-0.57
Observations in municipalities per year	13.27	24.27	1.00-434.00

*Minimum value of this variable observed in our data is 1.0. This is because there was only one marriage registered in the sub-region of Diepenheim (in the province of Overijssel) in 1909. The groom and his father were both farmers (identical HISCO codes 61220).

2.4.c. Design

Hierarchical regression analysis is used for the data analyses. All men are nested within municipalities in a given time period (i.e. year of marriage). Conceptually, this allocation groups individuals into different contexts that provide opportunities for occupational status attainment in terms of religious stratification and economic modernization. We will report models with the quadratic term for time since 1859 in

order to account for non-linear trends in status inheritance over time (see, for example, Figure VIII in the results section):

$$Y_{ij} = \gamma_{0j} + \gamma_1 FathOS_{ij} + \gamma_2 A_{ij} + \gamma_3 Migrant_{ij} + \gamma_4 Time_j + \gamma_5 Time\hat{}2_j + \gamma_6 Modern_j + \varepsilon_i + \mu_j$$

Hierarchical models will estimate the dependent variable Y_{ij}, which is the occupational status of a male *i* in a specific context *j,* which is a municipality in a given year. The occupational status of males will be modeled as a function of a father's occupational status *FathOS*, age *A*, being a migrant *Migrant*, time since 1885 *Time* (linear and quadratic term), and a vector for all indicators of modernization *Modern*.

In all analyses, all continuous variables, except time, are centered on their mean. Models will be estimated for the whole sample as well as for different religious pillars separately.

2.5. Results

We start our analysis with a description of how economic modernization progressed in the four types of municipality (figures II to VII). Figure II shows the development of the division of labor in the region around a municipality. Although the division of labor increased in all types of municipality over time, mixed municipalities had higher levels for almost all years. Orthodox Protestant municipalities lagged considerably before the 1880s. However, after 1880 the division of labor in these municipalities increased significantly, such that they caught up with mixed municipalities. Considering municipalities dominated by the Liberal Protestant and the Roman Catholic pillars, before 1905 the former showed a slightly higher division of labor than the latter. However, after 1905 the trends became very similar, and even reversed after 1915.

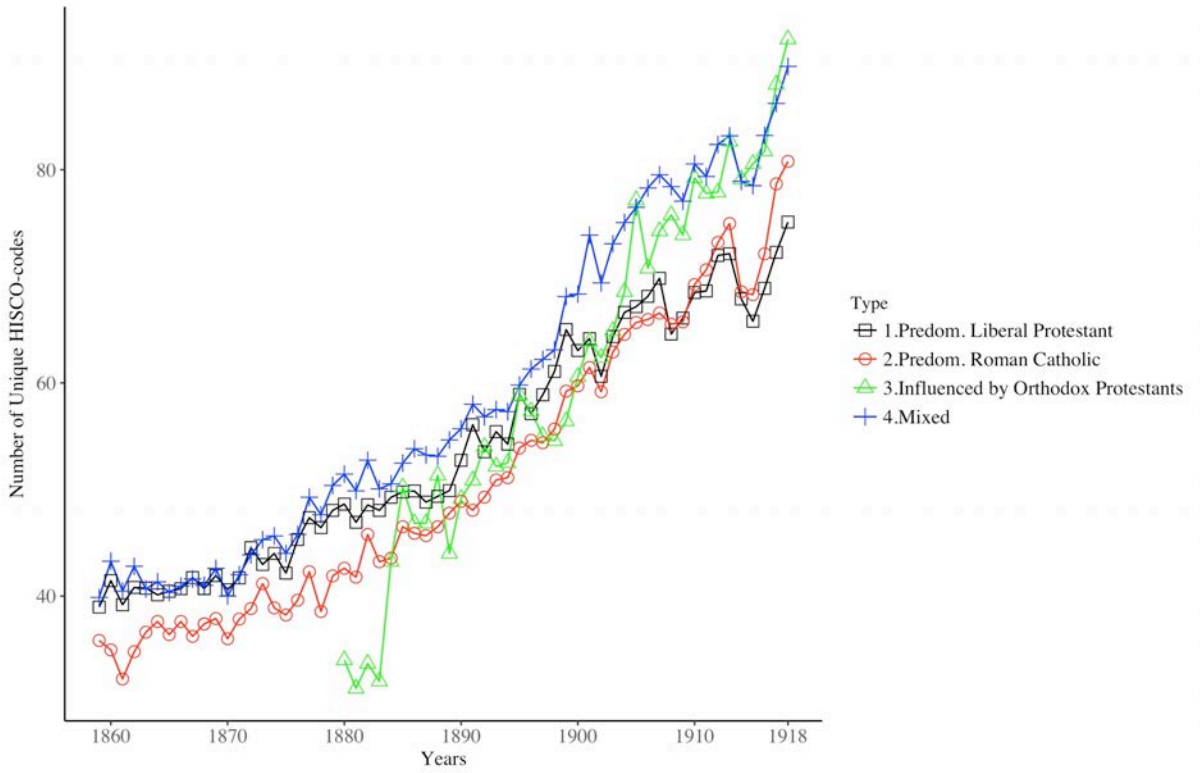

Figure 1.2. Division of labor (number of unique HISCO codes) in the region, by denomination of municipality, The Netherlands, 1859-1918

Figure III shows the development of educational expansion across all types of municipality. Before 1880, Liberal Orthodox and mixed municipalities were quite similar in terms of educational expansion. Then, after some years of decline, a significant increase occurred in mixed municipalities after 1900. In contrast to Figure II, Roman Catholic municipalities as well as municipalities influenced by Orthodox Protestants lagged for almost all years. However, after 1905 they saw some increase in educational expansion.

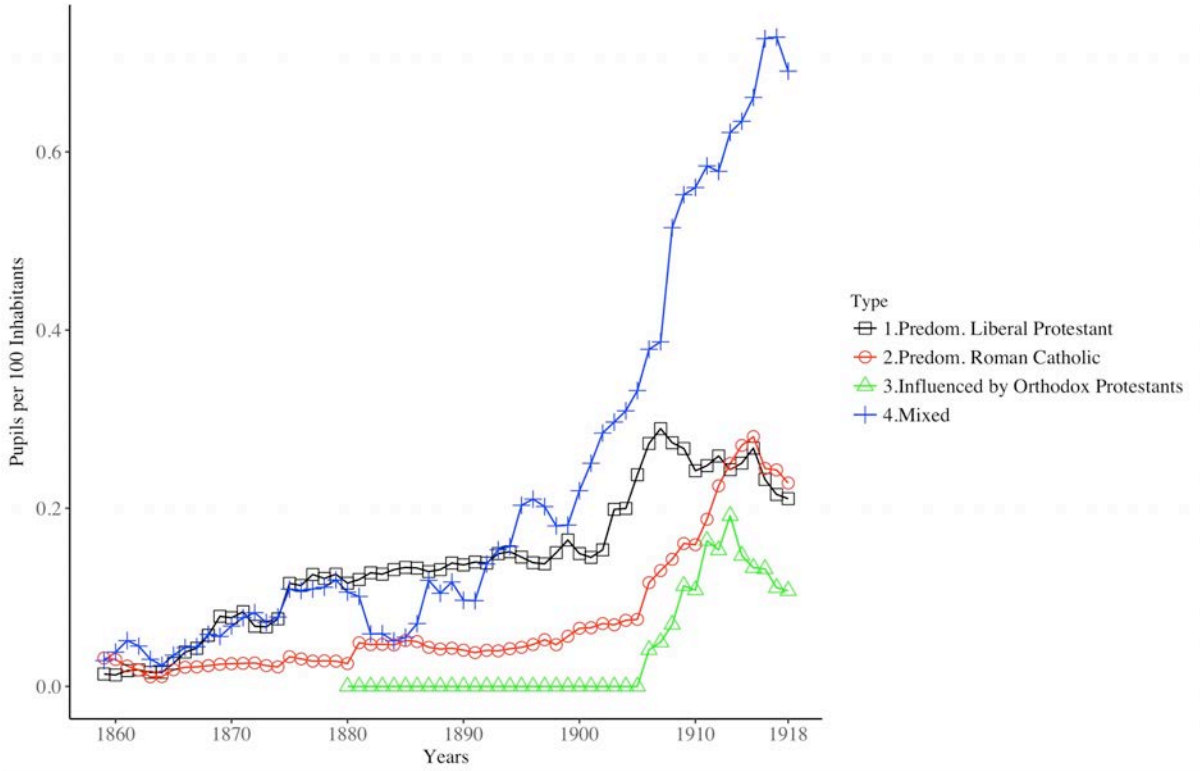

Figure 1.3. Educational expansion, by denomination of municipality, The Netherlands, 1859-1918

Considering urbanization (Figure IV), our data suggest that mixed municipalities were the most urbanized parts of the Netherlands that we are studying, for all years. The next most urbanized were Liberal Protestant municipalities. As in Figure III on educational expansion, Roman Catholics and Orthodox Protestant municipalities ranked third and fourth respectively.

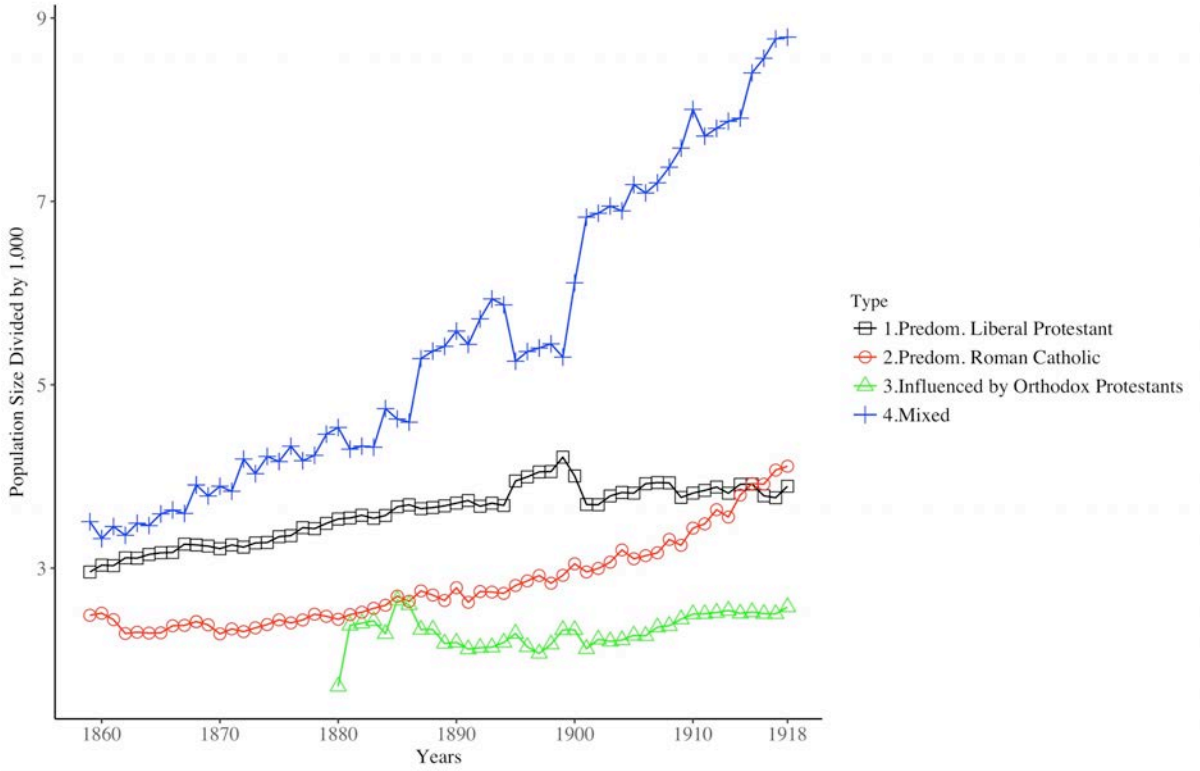

Figure 1.4. Urbanization, by denomination of municipality, The Netherlands, 1859-1918

In terms of mass transportation (Figure V), all types of municipality witnessed a significant improvement. Before 1880, mixed, Roman Catholic, and Liberal Protestant municipalities were more or less as likely to have a train or tram station. However, mixed municipalities significantly outpaced other municipalities in the following years. Liberal Protestant municipalities did so to a lesser extent. The few Orthodox Protestant municipalities did not have a train station before 1884, yet they joined the race quite successfully after that year. The developments in mass communication were very similar to those with respect to mass transportation (Figure VI).

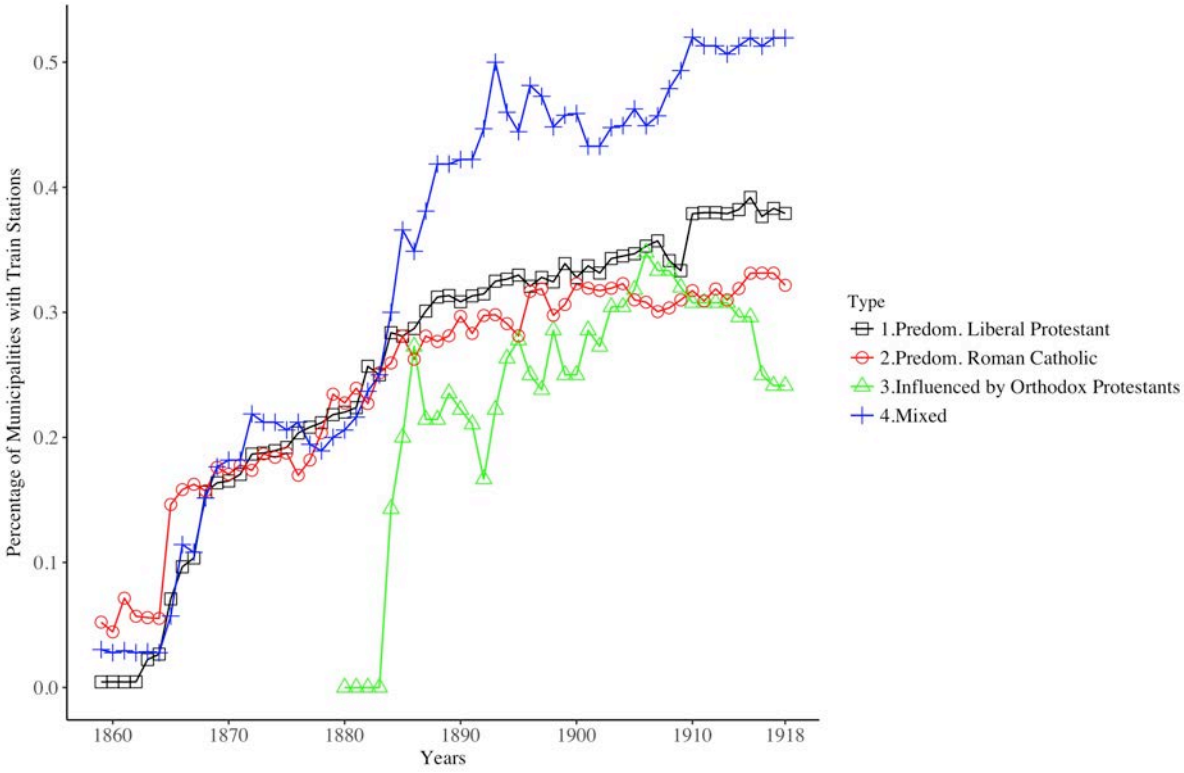

Figure 1.5. Mass transportation in the Netherlands, 1859-1918, at municipal level

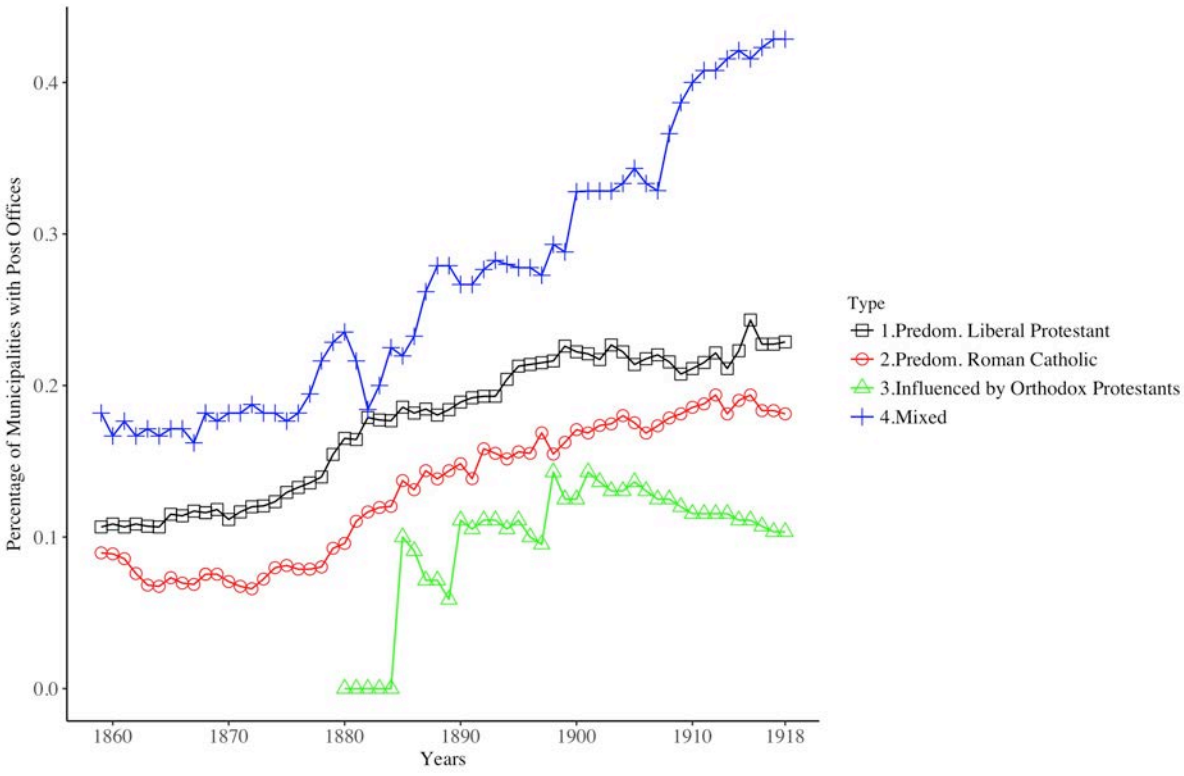

Figure 1.6. Mass communication in the Netherlands, 1859-1918, at municipal level

Generally speaking, geographical mobility was higher in Orthodox Protestant municipalities than in other types of municipality (Figure VII). However, Roman Catholic municipalities witnessed a sharp increase in geographical mobility in the twentieth century, becoming the most mobile. Mixed municipalities had relatively high levels of geographical mobility before the 1880s.

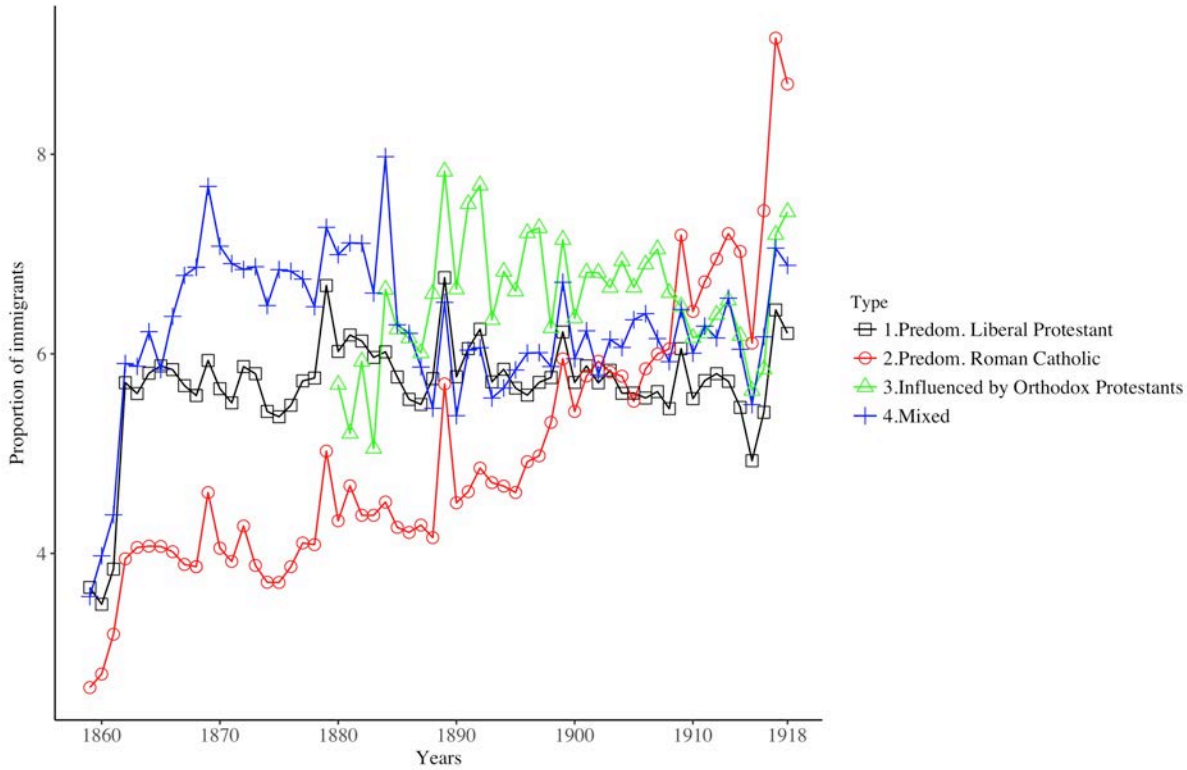

Figure 1.7. Geographical mobility in the Netherlands, 1859-1918, at municipal level

All in all, our data show that predominantly Liberal Protestant and especially mixed municipalities predominated in terms of almost all measures of modernization and in most years. Roman Catholic municipalities lagged on most indicators, but the differences became less pronounced in the twentieth century. Municipalities influenced by Orthodox Protestants showed the lowest scores on our modernization indicators, with the exception of the division of labor and geographical mobility.

We proceed by showing the correlations between the occupational status of men and that of their fathers. Such correlations give some preliminary clues about developments in status inheritance in different types of municipality. Figure VIII shows average correlations for each type of municipality per year between 1859 and 1918. In the case of municipalities influenced by Orthodox Protestants, we start in 1880 because of the relatively small numbers of observations before that point.

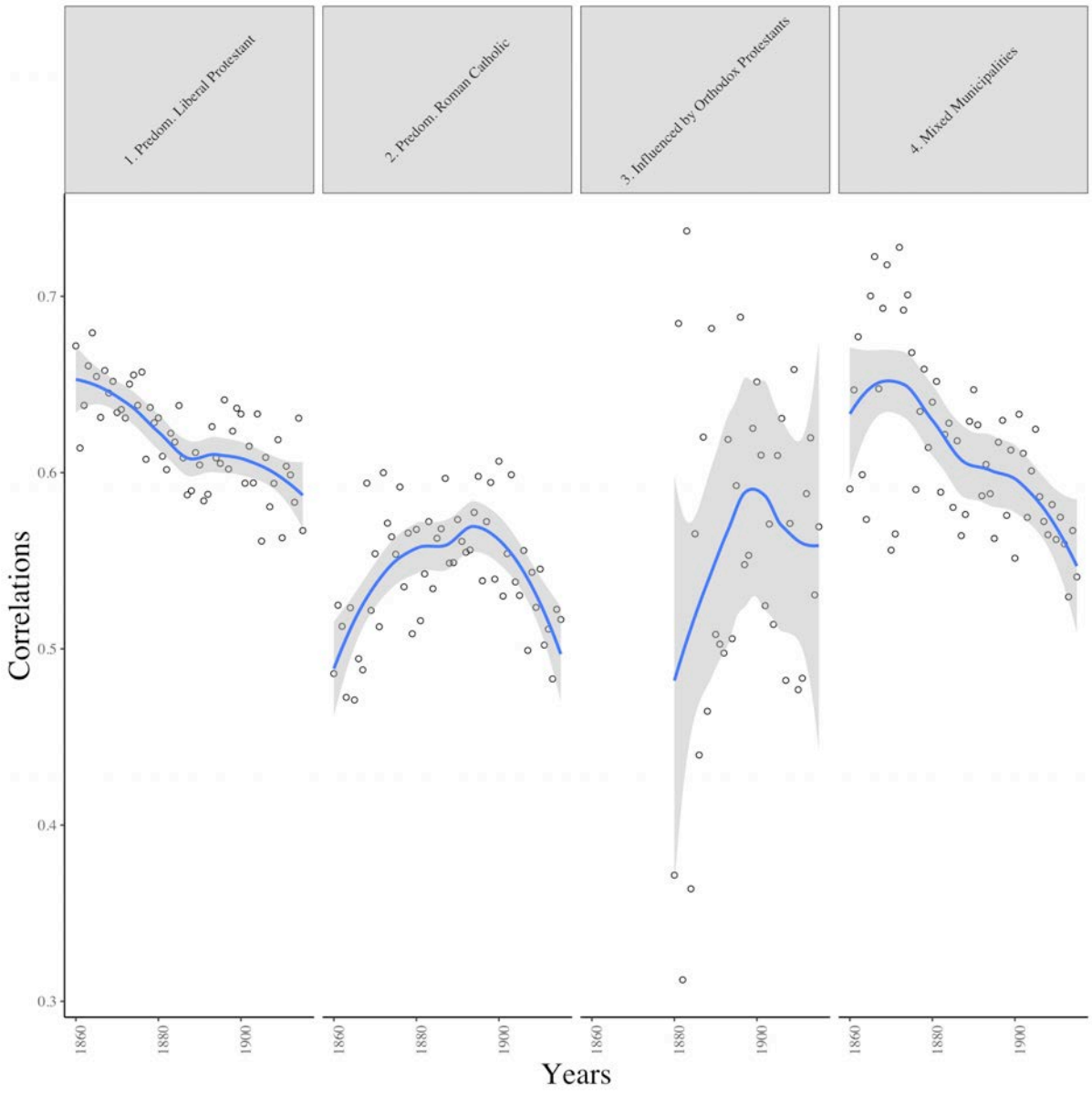

Figure 1.8. Correlations between status of sons and their fathers in four types of municipality in the Netherlands, per year, 1859-1918

A sharp contrast can be observed between the correlations for fathers and sons in Liberal Protestant municipalities and those in Roman Catholic municipalities. In the former case, almost all correlations exceed 0.60, whereas in the latter case correlations are generally less. On the other hand, the Liberal Protestant municipalities show a stronger decline in the correlation in the course of time compared with Roman Catholic municipalities. Moreover, in Roman Catholic municipalities the correlations between father's and son's status initially increased and then – after 1890 – declined. Municipalities influenced by Orthodox Protestants witnessed a trend similar to that in Roman Catholic municipalities. The variation between years was much stronger for them, but that reflected the small number of municipalities of this type. The correlations in the mixed municipalities resembled those in Liberal Protestant municipalities. At first sight, the divide seems to have been between conservative and liberal municipalities instead of between Protestants and Catholics. The question to be investigated in our models is to what extent this conclusion holds when we take the hierarchical structure of our data into account, control for age and migration status, and explicitly model economic modernization.

Tables 1.3 and 1.4 include the results of our hierarchical regression analysis. Table III demonstrates the results of the regression of son's occupational status on individual and contextual characteristics for the whole dataset. Table 1.5 shows models for each type of municipality separately.

Model 0 in Table 1.3 estimates the effect of father's status on son's status and interacts this with time. Model 1 estimates the role of the predominant denomination in a municipality on the son's occupational status as well as differences in the effect of a father's occupational status among the pillars (with the Roman Catholic pillar as the reference group). Model 2 estimates the role of economic modernization as well as the

effect of the father's occupational status interacted with each measure of modernization. Finally, Model 3 includes all variables simultaneously.

Table 1.3. Hierarchical regression of son's occupational status on individual and contextual characteristics, The Netherlands, 1858-1918 (N = 336,357 individuals in 25,356 groups)

	Model 0		**Model 1**		**Model 2**		**Model 3**	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Fixed effects								
Constant	43.626 ***	0.099	42.886 ***	0.108	44.804 ***	0.113	44.171 ***	0.127
Status groom's father	0.671 ***	0.005	0.684 ***	0.006	0.667 ***	0.006	0.674 ***	0.006
*time	-0.027	0.038	-0.027	0.038	0.063	0.038	0.058	0.038
*timeˆ2	-0.274 ***	0.059	-0.254 ***	0.059	-0.296 ***	0.060	-0.291 ***	0.060
time	2.199 **	0.736	2.281 **	0.727	0.835	0.715	0.899	0.711
timeˆ2	6.700 ***	1.186	6.609 ***	1.170	3.848 ***	1.154	4.470 ***	1.149
Denomination:								
Predominantly Catholic (ref.)								
Predominantly Lib. Prot.			1.023 ***	0.071			0.730 ***	0.072
Influenced Orth. Prot.			0.246	0.186			0.597 ***	0.182
Mixed denomination			1.538 ***	0.099			0.723 ***	0.098
Status groom's father								
* Predominantly Lib. Prot.			-0.010 *	0.004			-0.005	0.004
* Influenced Orth. Prot.			0.053 ***	0.011			0.040 ***	0.011
* Mixed denomination			-0.040 ***	0.005			-0.017 ***	0.005
Division of labor					1.758 ***	0.167	1.274 ***	0.172
Educational expansion					0.978 ***	0.062	0.961 ***	0.062
Urbanization					0.049 ***	0.005	0.050 ***	0.005
Geographical mobility					1.071	0.968	0.789	0.963
Mass communication					1.620 ***	0.085	1.608 ***	0.085

Mass transportation					0.347 ***	0.074	0.361 ***	0.074
Status groom's father								
* Division of labor					-0.045 ***	0.008	-0.042 ***	0.009
* Educational expansion					-0.003	0.002	-0.002	0.002
* Urbanization					0.000	0.000	0.000	0.000
* Geographical mobility					-0.290 ***	0.051	-0.301 ***	0.051
* Mass communication					-0.021 ***	0.004	-0.020 ***	0.004
* Mass transportation					-0.020 ***	0.004	-0.020 ***	0.004
Groom's age	0.128 ***	0.003	0.132 ***	0.003	0.133 ***	0.003	0.136 ***	0.003
Groom is migrant	0.929 ***	0.037	0.914 ***	0.037	0.966 ***	0.037	0.957 ***	0.037
Random effects								
R^2 (individual level)	0.328		0.328		0.329		0.329	
R^2 (contextual level)	0.350		0.358		0.382		0.385	
R^2 (total)	0.363		0.367		0.389		0.389	
AIC	2,515,763		2,515,338		2,511,527		2,511,389	

*** = p < 0.001, ** = p < 0.01, * = p < 0.05

Model 0 shows that a son's status was strongly affected by that of his father, but this effect decreased over time. Considering Model 1, we can conclude that men in the Roman Catholic pillar (the reference category) on average reached a status of 42.89 in 1858. This was 43.91 for men who lived in Liberal Protestant municipalities (42.89 + 1.02); 43.13 for men who lived in municipalities influenced by Orthodox Protestants; and 44.42 for men who lived in mixed municipalities. Men thus had a higher status in Liberal Protestant and mixed municipalities than in Catholic and Orthodox Protestant municipalities, but the differences were not large.

With economic modernization, the occupational status of men improved (Model 2). Economic modernization partly explains the differences in average status between

men from the different pillars (Model 3). Whereas, previously, men living in municipalities influenced by Orthodox Protestants had an occupational status comparable to that of men living in Catholic municipalities, the values for Orthodox Protestants were now similar to those for Liberal Protestants and men from mixed municipalities (average status 44.76, 44.90, and 44.89 respectively, compared with 44.17 for Roman Catholics). Thus, men in Orthodox Protestant municipalities tended to have a lower occupational status, because these municipalities were less modernized than other municipalities. If the opportunities for economic advance had been the same, they would have reached (almost) the same status as the inhabitants of Liberal Protestant municipalities. The difference with the Catholic municipalities cannot, however, be completely explained by the level of modernization. Furthermore, all differences were small.

We now turn to differences between pillars in the effect of a father's status on his son's status. Model 1 shows that the effect of a father's status was weakest in mixed communities (in 1858: 0.684 – 0.040 = 0.644) and strongest in Orthodox Protestant communities (0.737). This is a substantial difference. For every additional ten points on the status scale for fathers, men in Orthodox Protestant communities gained one status point more than men in mixed communities. Liberal Protestant and Roman Catholic municipalities were in between and did not differ much from each other (the effect of father's status was 0.67 versus 0.68).

The influence of a father's status on that of his son was weaker in more modern municipalities (Model 2). The more specialized the labor market, the smaller the status reproduction over generations. The same is true in municipalities with a post office, a train station, and a high rate of immigration. Educational expansion and urbanization do not have an independent effect on the strength of the father's effect. Although the

modernization indicators (taken together) explain a significant part of the time trend in occupational status, they only partially explain time trend in status reproduction. Introducing the modernization indicators to the model also decreases the differences between the pillars in terms of the strength of status reproduction. As models 1 and 3 suggest, the substantial difference of 0.10 between Orthodox Protestant and mixed municipalities decreased to 0.06. The difference between Catholic and Liberal Protestant municipalities on the one hand and mixed municipalities on the other becomes very small (about 0.005).

In Table 1.4 models are estimated for the four types of municipality separately. We test the hypothesis that modernization affected the status attainment of men from the different denominations differently.

Table 1.4. Hierarchical regression of son's occupational status on individual and contextual characteristics, The Netherlands, 1859-1918, by religious pillars

	Model 4 **Predom. Roman Catholic municipalities**		**Model 5** **Predom. Liberal Protestant municipalities**		**Model 6** **Municipalities influenced by Orthodox Protestants +**		**Model 7** **Mixed Municipalities**	
	Coef.	Coef.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Fixed effects								
Constant	44.015 ***	0.283	45.232 ***	0.109	37.743 ***	2.100	45.304 ***	0.245
Status groom's father	0.684 ***	0.015	0.667 ***	0.007	0.718 ***	0.187	0.706 ***	0.016
*time	0.021	0.091	0.004	0.050	1.556 *	0.741	0.010	0.090
*timeˆ2	-0.366 **	0.148	-0.177 *	0.081	-1.774 *	0.872	-0.237	0.130
time	4.789 ***	1.565	-0.482	0.704	23.661 **	8.226	-3.921 **	1.509
timeˆ2	1.125	2.582	4.930 ***	1.156	-14.274	9.735	10.574 ***	2.262
Division of labor	1.643 ***	0.427	1.597 ***	0.165	0.142	0.870	1.105 ***	0.316
Educational expansion	0.451 *	0.190	1.132 ***	0.053	-0.570	0.572	0.920 ***	0.084

Urbanization	0.108 ***	0.015	0.045 ***	0.005	0.049	0.095	0.019 ***	0.005
Geographical mobility	-8.350 ***	2.188	2.520 **	0.977	-18.211 ***	7.254	13.911 ***	1.908
Mass communication	1.634 ***	0.206	1.475 ***	0.080	1.154 ***	0.393	1.743 ***	0.148
Mass transportation	0.084	0.164	0.399 ***	0.074	1.505 ***	0.326	0.650 ***	0.141
Status groom's father								
* Division of labor	0.023	0.025	-0.022 ***	0.165	-0.332 ***	0.080	-0.088 ***	0.017
* Educational expansion	0.017 *	0.007	-0.005	0.053	-0.026	0.047	-0.001	0.004
* Urbanization	-0.001 ***	0.000	-0.001 ***	0.005	0.040 ***	0.008	0.001 ***	0.000
* Geographical mobility	-0.570 ***	0.105	-0.304 **	0.977	0.779	0.640	-0.155	0.138
* Mass communication	-0.007	0.010	-0.018 ***	0.080	-0.081 ***	0.035	-0.002	0.010
* Mass transportation	0.012	0.010	-0.010	0.074	0.007	0.029	-0.097 ***	0.010
Groom's age	0.147 ***	0.007	0.119 ***	0.004	0.335 ***	0.028	0.146 ***	0.007
Groom is migrant	0.312 ***	0.077	1.169 ***	0.049	1.279 ***	0.308	1.139 ***	0.080
Random effects								
R^2 (individual level)	0.276		0.358		0.327		0.329	
R^2 (contextual level)	0.279		0.506		0.397		0.562	
R^2 (total)	0.325		0.413		0.353		0.396	
AIC	632,039		1,271,089		57,201		551,484	
N individuals	83,546		171,887		7,508		73,416	
N contexts	9,711		11,841		795		3,009	

*** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$

+ The results for this pillar are for 1868-1918; before 1868 there were no municipalities with more than 35% Orthodox Protestants.

In order to make clear what the total effect of modernization is on the status of men in each pillar, we look at both moderate and larger values of modernization for each measure (see Table 1.5).

Table 1.5. Moderate and larger values of modernization

(centered for continuous variables)

	Moderate values of modernization	**Larger values of modernization**
Division of labor	-0.22	0.18
Educational expansion	-0.53	0.24
Urbanization	- 9.99	0.21
Geographical mobility	-0.02	0.01
Mass communication	0	1
Mass transportation	0	1

For example, the difference between the predicted status of men who lived in predominantly Roman Catholic communities with moderate and high levels of modernization is respectively:

For moderate: 42.490 = 44.015 - (0.22*1.643) - (0.53*0.451) – (9.99*0.108) + (0.02 * 8.35) + (0*1.634) + (0*0.084)

For large: 46.053 = 44.015 + (0.18*1.643) + (0.24*0.451) + (0.21*0.108) - (0.01 * 8.35) + (1*1.634) + (1*0.084)

Difference: 46.053 – 42.490 = 3.563

This difference means that the average status of men from the Roman Catholic pillar increased by 3.5 points when the degree of modernization changed from moderate to high. The same numbers were 3.9, 2.2, and 4.2 for men from Liberal Protestant, Orthodox Protestant, and mixed communities respectively. Modernization thus increased the status of men in mixed and Liberal Protestant communities most and in Orthodox Protestant communities least.

It was only for Liberal Protestant and mixed municipalities that all indicators of economic modernization increased the status of men. In contrast, in Roman Catholic and Orthodox Protestant municipalities, the influence of geographical mobility was

negative. Furthermore, mass transportation did not have an effect in Roman Catholic municipalities; and the division of labor, educational expansion, and urbanization did not have an effect in Orthodox Protestant municipalities.

Considering the influence of modernization on status inheritance, in Roman Catholic pillars it was quite modest:

For moderate: 0.690 = 0.684 - (0.22*0.023) - (0.53*0.017) + (9.99*0.001) + (0.02 * 0.570) + (0*0.007) + (0*0.012)

For large: 0.689 = 0.684 + (0.18*0.023) + (0.24*0.017) - (0.21*0.001) - (0.01 * 0.570) - (1*0.007) + (1*0.012)

Difference: 0.689-0.690 = -0.001

This small difference (of -0.001) means that modernization was associated with a very small decrease in status inheritance among men who lived in a predominantly Roman Catholic community. This decrease was more salient in Liberal Protestant (-0.060) and especially mixed communities (-0.13). In contrast, modernization increased status inheritance for men who lived in Orthodox Protestant municipalities (increase of 0.21).

Our hierarchical models partially confirm the intuition derived from correlations of statuses in the course of time (Figure VIII). Indeed, we find that status inheritance followed the inverse U-shaped curve pattern in Orthodox Protestant pillars. However, we do not find this for the Roman Catholic pillars. For example, in 1880 in an Orthodox Protestant community the influence of the father's status was 0.967 = 0.718 + (0.21 * 1.556) - (1.774* 0.21^2); in 1890 it increased to 1.030; in 1918 it decreased to 1.019. In contrast to this curvilinear relationship, Roman Catholic communities witnessed a steadier decline in parental status over time: 0.678, 0.629, and 0.554 respectively.

Table 1.5 also shows that four out of six indicators weakened the influence of father's status in Liberal Protestant municipalities. In contrast, only two indicators did so in each of the other municipalities. A further division of labor weakened the

influence of father's status in all pillars except the Roman Catholic one. Mass communication weakened the influence of father's status in the Liberal and Orthodox Protestant pillars. Mass transportation weakened the influence of fathers' status only in mixed municipalities. Considering urbanization and geographical mobility, these weakened the influence of father's status in municipalities predominantly inhabited by Liberal Protestants and Roman Catholics. A similar "crowding" effect has been observed before (Knigge et al. 2014). It has been explained in terms of the "anonymization mechanism", which claims that with an increasing population and geographical mobility employers are less likely to know one's family background, decreasing the possibility of favoritism. Our findings, however, show that this was the case only for Liberal Protestants and Roman Catholics (which together form the majority of all municipalities). In mixed and Orthodox municipalities urbanization increased the influence of fathers. It seems that Orthodox Protestants responded to growing labor competition by relying more strongly on their family background. In the case of mixed municipalities, it could be that competition between those pillars stimulated closure and social control between but also within the labor markets.

We summarize our findings with respect to our hypotheses in Table 1.6, and will discuss them below.

Table 1.6. Summary of the hypotheses and results

Hypotheses on differences in	**1. Economic success (status)**
	2. Intergenerational mobility
	3. The effect of modernization on economic success
	4. The effect of modernization on intergenerational mobility

Weberian hypothesis:	Lib Prot + Orth Prot > Cath
Conservatism hypothesis:	Lib Prot > Orth Prot + Cath
Modernization hypothesis:	Smaller differences after taking modernization into account
Differences between men from municipalities dominated by different denominations	
Finding before taking modernization into account:	Lib Prot > Orth Prot + Cath, differences not substantial
Finding after taking modernization into account:	Lib Prot + Orth Prot > Cath, differences not substantial
Conclusion: No substantial differences, therefore none of the hypotheses supported.	
Differences in intergenerational mobility between men from municipalities dominated by different denominations	
Finding before taking modernization into account:	Lib Prot + Cath >> Orth Prot
Finding after taking modernization into account:	Lib Prot + Cath > Orth Prot
Conclusion: Men in Orthodox Protestant municipalities showed less intergenerational mobility. After controlling for modernization, differences become smaller. Therefore, partial support for the conservatism and modernization hypotheses.	
Differences in the effect of modernization on economic success between men from municipalities dominated by different denominations	
Finding:	Lib Prot + Cath > Orth Prot
Conclusion: Although modernization influenced economic success of men in all types of community, this effect was much weaker in communities dominated by Orthodox Protestants. Therefore, partial support for the conservatism hypothesis.	
Differences in the effect of modernization on intergenerational mobility between men from municipalities dominated by different denominations	
Finding:	Lib Prot >> Cath + Orth Prot
Conclusion: Modernization had no influence on intergenerational mobility in Catholic municipalities; modernization decreased mobility in Orthodox Protestant municipalities; modernization increased intergenerational mobility in Liberal Protestant municipalities. Therefore, more support for conservatism.	

2.6. Conclusions

In our study, we contrasted the Weberian hypothesis on differences in economic success among members of different denominations with an alternative hypothesis that emphasizes differences between denominations with respect to conservatism. According to the Weberian hypothesis, Protestants should be characterized by greater economic success, more intergenerational mobility, and a stronger influence of modernization processes on status attainment and status reproduction. According to the conservatism hypothesis, the divide is between Liberal Protestants on the one hand and Catholics and Orthodox Protestants on the other. Alternatively, the differences among the denominations were caused by increasing economic modernization and should disappear when the level of modernization is taken into account. In general, our results are most in line with the conservatism hypothesis. We also find some support for the economic modernization hypothesis.

In the Netherlands in the second half of the nineteenth century, the religious denominations did not substantially differ with respect to economic success, as measured by average occupational status. Having said that, Liberal Protestants lived in municipalities that were on average more modernized than the municipalities dominated by Catholics or influenced by Orthodox Protestants. Status reproduction, however, was clearly stronger in Orthodox Protestant municipalities than in municipalities dominated by the other denominations. This particular distinction was not expected by either of our hypotheses. It is caused partly by differences between these municipalities with respect to modernization – supporting the modernization hypothesis – but some of the extensive status reproduction among Orthodox Protestants remains. In line with the conservatism mechanism, this can be explained by the fact that the new pillar of Orthodox Protestants emerged as one of the strongholds of traditionalism in the late nineteenth and early

twentieth centuries. People raised in this environment discouraged social and technological innovation. Therefore, we think it reasonable to assume that both employees and employers were likely to value ascribed social status and predictable career paths over the turbulence of modernization.

Moreover, our findings suggest that the economic success of Liberal Protestants was more strongly affected by modernization than the economic success of other denominations. This is also reflected in the greater likelihood of sons of Liberal Protestants having an occupation with a different status than that of their father. We observe that communities with Orthodox Protestants were less mobile compared with other communities. This difference between the Orthodox Protestant pillar on the one hand and the Liberal Protestant pillar on the other was expected in our hypothesis. However, the difference between the Orthodox Protestant pillar and the Roman Catholic one was not. It seems that changes in the occupational mobility of Orthodox Protestants in stressing parental influence and extending parental control was a specific reaction to ongoing economic modernization. Moreover, we find that, after controlling for modernization, status inheritance in such places followed the inverse U-shaped trend over the decades. In other words, Orthodox Protestants firstly reacted to modernization by extending parental control, but over time this effect became weaker. We can tentatively assume that acceptance of different aspects of modernization, including changes in the labor market and dissemination of the ideas of meritocracy, took time. Perhaps what we are observing in our data is that the initial reaction among Orthodox Protestants to economic modernization was reactionary, but that over time they adopted the ways in which other pillars behaved. The time lag could be explained by the closed nature of pillars.

All in all, our data confirm that there was a significant difference in the process of status attainment by Dutch men between Liberal and Orthodox Protestant communities; this difference was explained by their relationship to modernization. Catholics often take the middle position. This finding contrasts with the earlier view that such difference should be exclusively between Protestants and Catholics. Some cautionary remarks regarding our study should be discussed as well. We have studied only married men living in five Dutch provinces. Although our data cover a variety of municipalities that represented all pillars, some of the provinces that were essential for trade and finance (such as Noord-Holland and Zuid-Holland) are not included. Moreover, the interplay between economic modernization and pillarization could have yielded different outcomes for women. Traditionalism and conservatism might have had a stronger grip on them. It is therefore possible that we have underestimated the influence of conservatism. We believe that future studies should expand the collection of the data to cover these issues.

Our study improves on two classic research traditions in economics and sociology: (i) relating religion to individual economic performance; (ii) relating economic modernization to occupational status attainment. The literature had already cast some doubt on the argument that Protestantism as devotion was the key explanation of economic success after the Reformation. Instead, early investments in human capital and technological innovations have been suggested as alternative explanations (Becker and Woessmann 2009; McCloskey 2010; Akçomak, Webbink, and ter Weel 2016; Mokyr 2016). We add to this literature by stressing the differences between religious denominations with respect to a traditionalistic and conservative culture (i.e. pillars). In the Netherlands, such cultural differences were generated and maintained within pillars, and we have shown that they were important especially for the acceptance of

modernization processes. Although pillarization was connected to religious cleavages, it went beyond our traditional understanding of denominational segregation, i.e. Protestants on the one side and Catholics on the other. Dutch Protestants were divided between those groups of a more liberal and conservative character, known as the Liberal Protestant pillar and the Orthodox Protestant pillar respectively. Social interactions between members of different pillars were rare. Therefore, the process of social diffusion of innovations (both technical and social) was constrained. The social cleavages between these groups stimulated a divergence in terms of economic modernization as well as in terms of individual occupational status attainment. Therefore, we argue that, although economic modernization affected the occupational attainment of all Dutch men in the long run, the process of pillarization caused this to happen in a different pace for different pillars. This finding also adds to the social stratification literature. Cultural differences within a country explain part of the differences in status reproduction that seem at first sight unconnected to modernization processes. In hindsight, these differences reflect the different rate of acceptance of economic modernization by more liberal and more conservative groups.

Considering a broader application of our findings, social change is a process that might meet resistance. Individuals who witness various social innovations face a dilemma: whether to reproduce the traditional way of life (following the templates created in the past) or to take the path of social change (Greif 2006; McCloskey 2010). We argue that the specific religious stratification of Dutch society (i.e. pillarization) influenced the outcome of this dilemma. Our analysis of individual and contextual historical data informs the literature on economic development, showing the empirical case of resilience to innovation based on cultural closure among religious communities.

Appendix

Table 1.1a. Descriptives, 1859-1918, Catholic pillar (83,546 individuals in 9,711 municipalities per year)

	Mean	S.D.	Range
Individual characteristics:			
Son's occupational status	46.42	13.03	10.60-99.00
Father's occupational status	47.87	10.54	10.60-99.00
Son's age	28.36	5.33	16.00-65.00
Son is a migrant (born in a place different from the place of marriage)	0.50	-	0/1
Contextual characteristics:			
Time (since 1859 in decades)/100	0.34	0.17	0.00-0.59
Division of labor (number of unique HISCO titles in a region per year)	50.99	24.25	9.00-148.00
Educational expansion (pupils per 100 inhabitants)	0.08	0.35	0.00-4.40
Urbanization (population divided by 1,000)	2.83	4.40	0.22-66.48
Mass transportation (presence of a train/tram station)	0.25	-	0/1
Mass communication (presence of a post office)	0.13	-	0/1
Geographical mobility (proportion of immigrants)	0.05	0.03	0.00-0.57
Observations in municipality per year	8.60	13.57	1.00-216.00

Table 1.1b. Descriptives, 1859-1918, Liberal Protestant pillar

(171,887 individuals in 11,841 municipalities per year)

	Mean	**S.D.**	**Range**
Individual characteristics:			
Son's occupational status	46.24	12.78	10.60-99.00
Father's occupational status	46.61	11.67	10.60-99.00
Son's age	27.10	5.52	16.00-65.00
Son is a migrant (born in a place different from the place of marriage)	0.53	-	0/1
Contextual characteristics:			
Time (since 1859 in decades)/100	0.30	0.17	0.00-0.59
Division of labor (number of unique HISCO titles in a region per year)*	53.64	29.53	1.00-159.00
Educational expansion (pupils per 100 inhabitants)	0.13	0.49	0.00-6.29
Urbanization (population divided by 1,000)	3.56	4.54	0.19-67.56
Mass transportation (presence of a train/tram station)	0.24	-	0/1
Mass communication (presence of a post office)	0.17	-	0/1
Geographical mobility (proportion of immigrants)	0.06	0.03	0.00-0.56
Observations in municipality per year	14.16	22.91	1.00-434.00

*Minimum value of this variable observed in our data is 1.0. This is because there was only one marriage registered in the sub-region of Diepenheim (in the province of Overijssel) in 1909. The groom and his father were both farmers (identical HISCO codes 61220).

Table 1.1c. Descriptives, 1869-1918, Orthodox Protestant pillar (7,508 individuals in 795 municipalities per year)

	Mean	S.D.	Range
Individual characteristics:			
Son's occupational status	44.94	13.60	10.60-99.00
Father's occupational status	45.42	11.14	10.60-99.00
Son's age	26.14	4.52	16.00-61.00
Son is a migrant (born in a place different from the place of marriage)	0.75	-	0/1
Contextual characteristics:			
Time (since 1859 in decades)/100	0.44	0.11	0.09-0.59
Division of labor (number of unique HISCO titles in a region per year)	61.16	25.48	12.00-131.00
Educational expansion (pupils per 100 inhabitants)	0.05	0.21	0.00-1.56
Urbanization (population divided by 1,000)	3.11	1.55	0.54-8.32
Mass transportation (presence of a train/tram station)	0.26	-	0/1
Mass communication (presence of a post office)	0.11	-	0/1
Geographical mobility (proportion of immigrants)	0.07	0.02	0.01-0.28
Observations in municipality per year	9.44	6.35	1.00-36.00

Table 1.1d. Descriptives, 1869-1918, Mixed (73,416 individuals in 3,009 municipalities per year)

	Mean	S.D.	Range
Individual characteristics:			
Son's occupational status	49.32	13.35	10.60-99.00
Father's occupational status	48.40	12.42	10.60-99.00
Son's age	26.88	5.42	16.00-65.00
Son is a migrant (born in a place different from the place of marriage)	0.56	-	0/1
Contextual characteristics:			
Time (since 1859 in decades)/100	0.40	0.15	0.00-0.59
Division of labor (number of unique HISCO titles in a region per year)	61.12	27.84	12.00-160
Educational expansion (pupils per 100 inhabitants)	0.28	0.75	0.00-4.77
Urbanization (population divided by 1,000)	5.97	9.98	0.53-87.59
Mass transportation (presence of a train/tram station)	0.37	-	0/1
Mass communication (presence of a post office)	0.30	-	0/1
Geographical mobility (proportion of immigrants)	0.06	0.04	0.00-0.57
Observations in municipality per year	24.40	45.95	1.00-432

3. Chapter 2. The long-term effects of religious markets, religious tradition, and institutions: secularization in the Netherlands in 1909 and the 2000s

Abstract: Religious market theory states that church completion increases religious participation. However, this theory has met considerable resistance in recent decades. We offer a synthesis of religious market, ecological, and path-dependency perspectives in order to answer whether Protestant and Catholic religious markets in 1909 influence religious affiliations in the Netherlands today. We argue that the formation of a religious market was only possible in municipalities that were mostly Protestant due to the combination of the greater individualism that characterizes the Protestant doctrine (i.e. a freer demand) and the existence of two Protestant churches that competed for the congregation (a differentiated supply). These conditions were absent in predominantly Catholic municipalities, where the combination of pillarization and doctrinal hierarchy actually hindered secularization. We show empirically that these historically-specific characteristics measured in the early 20th century have an enduring impact on current levels of religiosity after controlling for a host of contextual and individual characteristics.

3.1. Introduction

The status of religious market theory (RMT) has changed dramatically in sociology in the span of a decade. RMT has shifted from being described as one of the most influential theories of religious participation (Norris and Inglehart 2011) and the "new paradigm" (Warner 1993) to be considered, at best, one explanation of religious participation that is valid only in a limited number of cases (Chaves and Gorski 2001). Originally, RMT was developed to explain religious vitality in the US as a consequence of competitive and unregulated religious markets (Iannaccone, Finke, and Start 1997; Stark and Bainbridge 1987; Stark and Iannaccone 1994; Stark and Finke 2000; Warner 1993). The religious market framework soon met significant resistance. Many scholars

have pointed out that the demand for religious products is not constant and depends on a variety of personal and contextual factors including the levels of religious socialization, existential security, previous religious tradition, educational development, and individualization (Kelley and de Graaf 1997; Norris and Inglehart 2011; Ruiter and Van Tubergen 2009; van Ingen and Moor 2015). Others have questioned the historical plausibility of the concept of religious markets per se (Chaves and Gorski 2001; Gorski 2000; Lechner 1996). Finally, a significant share of criticism has arrived from empirical studies. A review of 26 empirical papers that contained 193 analyses shows that competitive religious markets rarely increased religious participation (Chaves and Gorski 2001). Moreover, the empirical measures typically employed to test RMT have been questioned by Voas, Olson, and Crockett (2002) who for this reason disregard a significant body of previous findings.

Nevertheless, there is still room for debate. Frank Lechner (2007) conducted an extensive review of the religious market literature and pointed out that both adherents and critics of this theory agree on the following three points: (i) that RMT has not been completely rejected but rather put on hold waiting for greater theoretical clarification and better empirical scrutiny; (ii) that the influence of religious markets should be studied by bringing in the social context in which these markets allegedly operate (i.e. the "ecological perspective"); and (iii) that the institutions that shaped religious markets were formed back in history, and hence a proper test of the RMT also requires taking a historical perspective (i.e. the "path-dependency" perspective). To our best knowledge, these theoretical points have not been advanced empirically.

In this paper, we aim to revisit RMT by theorizing and testing the specific institutional and doctrinal conditions that made the formation of religious markets plausible in the course of history. We offer a synthesis of the religious market,

ecological and path-dependency perspectives to explain religious participation in the Netherlands, a country that has been at the center of the debates about RMT. Our research shows that religious participation in the Netherlands can indeed be explained by church competition (which is the core element of RMT) but only under very specific historical conditions, i.e. the conditions that enable the formation of religious markets. We argue these conditions were only met in the Netherlands in predominantly Protestant regions and this for the following two reasons. First, because by fostering the individualization of the religious experience, the Protestant doctrine allowed for the formation of religious "consumers"; and second, because the split of the Protestant Church provided these consumers with a differentiated supply. We note that the specific Dutch institution of *pillarization* probably made it unlikely that these new consumers crossed the Protestant camp and hence religious markets were mostly intra-Protestant markets. Equivalent markets did not emerge in the Roman Catholic camp because the religious supply for Catholics was not differentiated (i.e. there was only one Catholic Church) while the specific doctrinal characteristics of Roman Catholicism hindered (or delayed) the formation of religious consumers. For these reasons, more competition in predominantly Catholic regions meant the presence of the Protestant Church. Such presence, we argue, could have reinforced Catholics' identities in predominantly Catholic regions thus strengthening (rather than weakening) the links between the Roman Catholic Church and its congregation. Mostly Catholic regions with Protestant presence could have therefore better resisted secularization trends. These processes were largely facilitated by *pillarization*.

Pillarization is a specific Dutch institution that existed in the Netherlands approximately from the late nineteenth century and the first half of the twenty century and which organized many central aspects of the social life across major religious

organizations (i.e. “pillars”). Pillars provided people with education, work and leisure, as well as with a strong feeling of pillar-based identity. The fact that both Protestant and Catholic communities reinforced their worldviews and practices in isolation from each other exacerbated their doctrinal differences and, we argue, played a fundamental role in explaining how church fragmentation influenced religious participation in different directions in different regions.

Because religious markets are institutions shaped by history and because religious (and secular) beliefs are transmitted over generations, current levels of secularization could be explained by these specific historical developments that took place in the past. Extant studies typically address the effect of religious markets on people’s religiosity either in the past or in the present (see e.g. Boone et al. 2011; Iannaccone, Haight, and Rubin 2011; Finke, Guest, and Start 1996; Voas, Olson, and Crockett 2002), yet there are very few studies that seek to explain the present religious behavior by looking at the past (but see Dekker and Ester 1996; Olav 2010). We investigate the shadow of history over present-day levels of religious participation in the Netherlands by merging unique historical data for 1909 with survey data from 2002 to 2008. This, we claim, is an important contribution of this study.

By studying the Netherlands, we also hope to contribute to the classic debates in the field of religious change and religious markets. The case of the Netherlands has appeared systematically on both sides of this debate since the late 80s (Lechner 1989; Lechner 1996; Stark and Iannaccone, 1996; Lechner 2007). It is therefore a critical case for the sociology of religion. Our approach conciliates RMT with Lechner’s emphasis on path-dependency and social context. In so doing, we claim, it provides a better understanding of the formation of religious markets. We stress such markets appear only under very specific social conditions and warn against interpreting Church

concentration/fragmentation as a sign of market forces. This analytical approach is in itself another important contribution of this study.

A final contribution of this study is methodological. Voas, Olson and Crockett (2002) demonstrated that there is a mathematical association between standard measures of religious competition and religious vitality that produces non-zero correlations. This association is driven by spurious variation in denominational size. This means the association between measures of competition and religious vitality often reported in the literature could actually be spurious. Voas, Olson and Crockett (2002) propose to employ bootstrapping simulations to detect the incidence of such spurious results. Using their method, we show that our estimates of the correlation between past religious fragmentation and present religious vitality are not spuriously driven by variation in denominational size.

The rest of the paper is organized as follows. Section II provides a brief review of the literature on RMT and places our contribution in theoretical context. Section III introduces the Dutch case in historical perspective by briefly discussing pillarization, religious tradition and path-dependency. Section IV presents the data, variables and analytical strategy. Findings are presenting in Section V. Finally, Section VI concludes and discusses the analyses' results.

3.2. Challenging the church competition argument: a brief review of the literature

The theory of religious markets represents the supply-side explanation of religious participation. RMT draws particular attention on church competition and state regulations of religious organizations (Iannaccone, Finke, and Start 1997; Stark and Bainbridge 1987; Stark and Iannaccone 1994; Stark and Finke 2000; Warner 1993). According to this line of thought, religious organizations are responsible for inducing peoples' church attendance and religious attitudes. This is the case because of two main

factors. First, competition generates incentives for churches to be active. Without competition churches tend to act as "lazy firms" which do not engage their congregations. Second, people may have different preferences for religious products. Therefore, a more differentiated supply of churches is necessary to cater all potential religious needs. Otherwise, people will shun formal religion and satisfy their needs with close substitutes among secular products. This theory has generated a vast array of theoretical and empirical papers, thus deserving the title of the "new paradigm" in sociology of religion (Warner 1993).

Despite the short-term success of this theory, RMT has been widely challenged in the course of the years. First, many scholars have contested one of its basic theoretical assumptions, namely that demand for religious products is largely constant. In fact, most scholars agree religious demand is not constant as it depends on a variety of personal and contextual factors. For instance, individual wellbeing and existential security reduces the personal need for religious reassurance (Norris and Inglehart 2011; Immerzeel and Van Tubergen 2011). Moreover, the evolution of scientific-based rational worldviews, individualization and modern consumerist practices have all reduced the demand for religious products in developed societies (Hirschle 2011; Hirschle 2013; Ruiter and van Tubergen 2009; van Ingen and Moor 2015). Finally, the expansion of secular education, the demise of religious socialization within families together with generational replacement has reduced the demand for religiosity in many Western societies (Kelley and de Graaf 1997; Voas and Chaves 2016).

Second, many scholars have employed historical arguments in order to disqualify RMT (Gorski 2000). The historical literature has questioned the very existence of religious markets, i.e. social spaces where individuals were able to choose amongst preferable religious products and consume them individually and freely

(Lechner 1996; Chaves and Gorski 2001). It has been argued, for instance, that it was the local rulers of many Premodern Western European localities who decided the religious affiliation on behalf of their subjects after the Peace of Augsburg in 1555 – an arrangement known as *cuius regio, eius religio* (Becker, Pfaff, and Rubin 2016). Religious consumption was a collective act, and choosing an alternative supplier was most difficult and very frequently restricted by geographical and political circumstances (Chaves and Gorski 2001). This why Modern Western societies inherently developed "religious oligopolies" rather than "religious markets" (Lechner 1996).

Third, meta-analysis of the literature shows that the relationship between religious markets (or at least fragmentation) and religious participation may take various forms depending on the specific context (Chaves and Gorski 2001). This point has been made both from a theoretical and a methodological angle. Considering the theoretical criticism, many scholars have stressed that both religious markets and individual religiosity are embedded in the broader context of social institutions (Ammerman 1997; Lechner 1996). Therefore, it is theoretically more appealing and efficient to study such institutions directly. Often times the lack of expected correlations could be better understood when confounding contextual variables such as e.g. urbanization or religious regulations are taken into account (McBride 2008; 2010). Other scholars have pointed out that the presence of church competition is not exactly the same as the absence of church concentration. For example, when a single church dominates in a given society it might actually fuel the resistance of the secular population and push people away from it (Achterberg et al 2009; Ribberink, Achterberg, and Houtman 2011). This argument does not employ the logic of "lazy firms" and yet it predicts the same outcome at the macro-level. Therefore, the same statistical association between oligopoly and secularization is explained by a different theoretical mechanism.

Considering methodological criticisms, there are some fundamental flaws in the way scholars used to analyze the link between religious markets and religious participation. The Herfindahl-Hirschman index is the common measure to study competition in religious markets (Barro and McCleary 2003). Yet scholars have often misused this index in their statistical analysis (see Voas, Olson, and Crockett 2002). We turn to this point below.

Can RMT be saved?

Despite all the above criticisms, the theory of religious markets has not been completely dismissed. RMT has inspired many supply-side studies of religiosity, many of which go beyond church competition per se. For example, scholars have successfully investigated religious regulation (Ruiter and Van Tubergen 2009), religious persecution (Grim and Finke 2007), and state-church competition for public good provision (Gruber and Hungerman 2005; Gruber and Hungerman 2006; Hungerman 2005). Moreover, defenders of RCT offered new formal models in reaction to the above-mentioned criticisms (see e.g. Montgomery 2003; McBride 2008) and looked for better data and measures to test church competition (e.g. Olav 2010; Van Tubergen and Sindradottir 2011). One may suggest that replicating previous studies with better theories and methods could be a strategy to solve fundamental problems discovered by the critics.

We build our motivation to reinforce the church competition argument on the writings of Frank Lechner (2007) who has been one of the most prominent critics of the religious market framework. Lechner conducted an extensive review of the religious market literature and pointed out that both adherents and critics of this theory agree on the following three points. First, the theory of religious markets has not been rejected but rather put on hold "until quantitative studies become more refined" (Lechner 2007, 88); Second, both sides of the debate agree that religious markets do not have uniform

effects but their influence is actually moderated by structural conditions (i.e. "ecological perspective"); and, finally, religious markets are the products of institutions that were shaped in the past. This notion of path dependency is, however, not yet fully incorporated into the literature on religious markets (Lechner 2007, 94).

Religious markets must be therefore placed in the broader context of social institutions (McBride's 2008). Because these institutions logically evolve over time, social context means also historical context. Below we offer a synthesis of the religious market, ecological, and path-dependency perspectives in order to explain religious change in the Netherlands.

3.3. The role of religious tradition, pillarization and path-dependency in the Netherlands

Religious traditions

Sociological scholarship has pointed out that religious change largely depends on the predominant religious culture (Norris and Inglehart 2011). Some religious traditions are more fragile to secularization than others because they favor individualism and accept the separation between the church and the state. Predominant religious cultures have enduring effects.

Protestantism was forged during the Reformation and sought to rebel against the authority of the Roman Catholic Church. This specific line of opposition influenced the identities and the social organization of both religious groups. Protestants developed various practices and social institutions in order to reduce the role of church hierarchy. For instance, to undermine the role of priests as mediators in reading the Bible, Protestants promoted mass literacy and mass printing (Becker, Pfaff, and Rubin 2016; Becker and Woessmann 2009; Woodberry 2012). Furthermore, the social and ideological organization of Protestants favored the separation between political and

economic power as well as the rule of law. This decreased the role of the church in the public and political spheres (Gorski 1993; Woodberry 2012). Since Dutch Protestants were less dependent on the church hierarchy than Roman Catholics, their decisions with respect to family formation and reproduction became more individualistic and rational and less dependent on the influence of the church (Hendrickx, Lammers, and Ultee 1991; Van Bavel and Kok 2004; Van Bavel and Kok 2010).

The very idea of church competition implies that religious organizations compete for congregations and people decide which church to join based on their personal religious preferences. Hence competition requires "free" consumers and a differentiated supply. Lechner (1996) argues that the Netherlands were split into religious "oligopolies" that did not compete with each other. This division is known in the literature as *pillarization* (Lijphart 1968). Each church provided individuals with a full set of social institutions: education, work, and leisure. Moreover, pillarization implied a strong feeling of pillar-based identity (Dekker and Ester 1996). This concentration of church power was very similar to what Becker, Pfaff, and Rubin (2016) defined as incontestable market with a true religious monopolist. Pillarization, Lechner argued, prevented the formation of religious markets.

Yet by the end of the 19th century, a group of fundamentalist Protestants split into a separate church, the Re-Reformed Protestants, increasing religious competition in traditionally Protestant regions (Van Bavel and Kok, 2010). We argue that this split in combination with the specific doctrinal features of Protestant might have generated an intra-doctrinal religious market in mostly Protestant regions even in the face of pillarization. Dutch men and women who lived in regions dominated by Protestants became less attached to the power of a single church by 1909 and may have developed into a religious demand, while the intra-doctrinal split within the Protestant camp might

have generated a differentiated "Protestant" supply. Both processes are obviously not independent of each other. Together, they might have evolved into what Stark and Innaccone (1994) would call a 'competitive religious market' where competition hampers secularization. In contrast individuals living in Protestant regions with little or none intra-doctrinal competition could have been more prone to secularization.

No such intra-doctrinal markets ever developed in mostly Catholic regions where the Roman Church retained its monopoly. We expect Lechner's argument to apply fully in this case because 1) the hierarchical nature of Roman Catholicism prevented the formation of religious consumers and, 2) because pillarization hindered inter-doctrinal competition. The Catholic Church could have better retained its congregation in the face of modernization and other secularization trends because of its hierarchical nature. Hence in mostly Catholic regions, fragmentation (i.e. the presence of Protestant churches) did not imply competition, i.e. Lechner argument applies.

Our own descriptive historical evidence suggests this might have been the case. Figure 2.1 features municipalities of the Netherlands in 1909. Each node indicates the percentage of people who did not belong to any church. The proportion of people with no denomination per municipality varied from 0 to 35 per cent. As Figure 2.1 clearly shows, the South of the country (traditionally Catholic lands) was characterized by the absence of secularization in the early 20th century. In contrast, traditionally Protestant territories in the North experienced a significant variation in secularization already in 1909. Figure 2.1 provides an intuition that secularization in the Netherlands was already on its way in the beginning of the 20th century and evinced a different rate among traditionally Protestant and traditionally Catholic regions. We hypothesize variation in secularization trends in mostly Protestant regions in the early 20th century could be at least partially explained by differences in the extent of religious competition. Moreover,

we believe these differences could have had enduring effects even to the extent that they could predict variation in present-day levels of secularization.

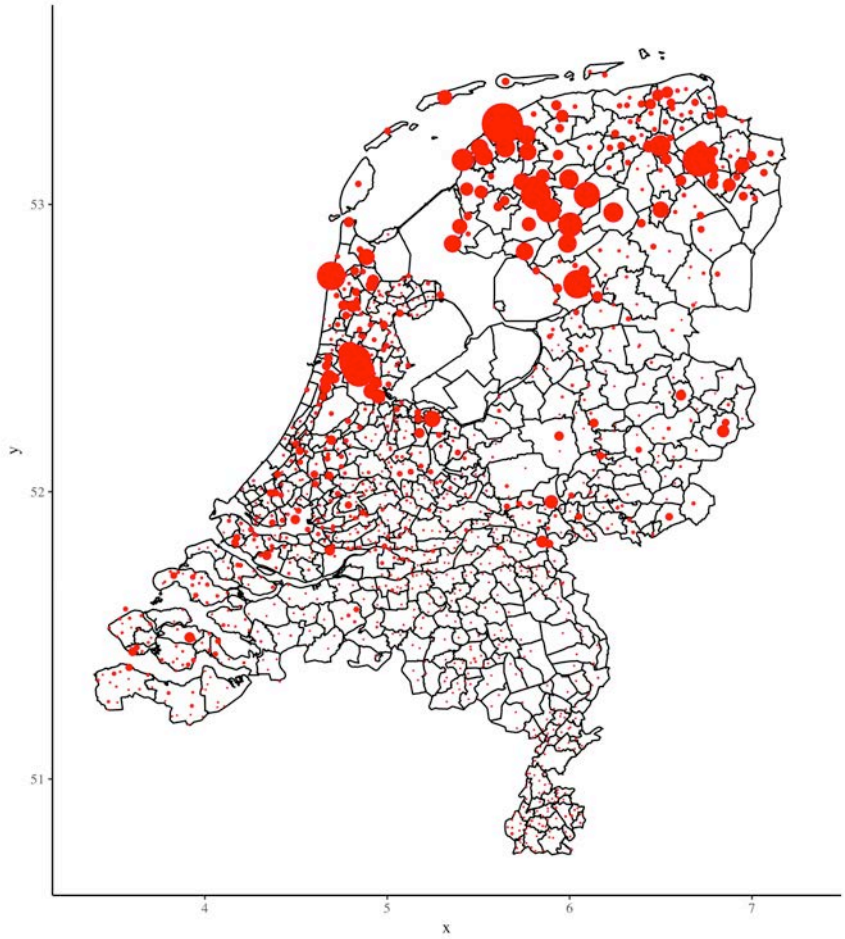

Figure 2.1. Secularization by municipalities in 1909, the Netherlands

Source: (1) GIS data source: Huijsmans (2013); (2) Numbers of religious people per municipality are derived from the CBS software StatLine.

The shadow of history

The existing literature offers some historical assessments of the effect of religious markets on religious vitality, yet with certain limitations. For instance, a number of studies have explored data on historical religious markets in Britain in 1851, New York in 1855 and 1865, and even Delphi from the 8th century BCE to the 4th CE (Iannaccone, Haight, and Rubin 2011; Finke, Guest, and Stark 1996; Voas, Olson, and

Crockett 2002). These studies, however, focused exclusively on the past. Other studies, such as Bruce's (1995) paper on Britain or Lechner's (1996) paper on the Netherlands, present data on different decades. However, they did not model changes over time. Statistical models where social and economic institutions in the past, including religious markets, are used as predictors of religious participation in the present are scarce in the literature. A dissertation by Olav (2010), who studied the duration of competition as a predictor of religious participation, is a notable exception. However, his study employs the World Values Survey and therefore cannot draw on the historical sources of secularization that predate the survey fieldwork.

We seek to explain current levels of religious vitality in the Netherlands by looking at the interaction between predominant religious tradition and Church fragmentation that took place a hundred years back. Descriptive historical analysis suggests high path-dependency in both fragmentation and secularization levels. This is shown in Figure 2.2, which presents graphically two correlations: (1) the correlation between the proportion of people with no religious affiliation in 1909 and 2008 in each sub-regional unit; and (2) the correlation between the HH index of religious concentration across the same two data points (data and measures are discussed below). These correlations are surprisingly strong despite one hundred years of social and economic change in the country: for concentration indexes the correlation is 0.84, for church departures is 0.56.

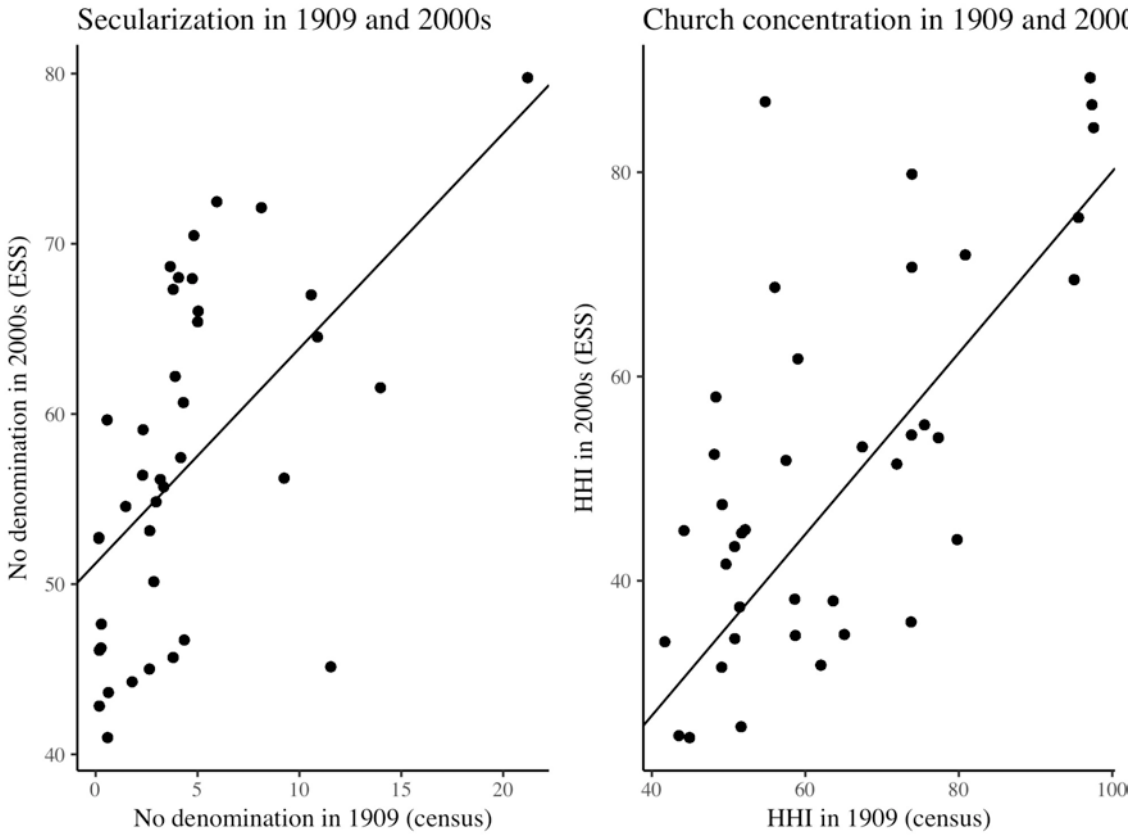

Figure 2.2. Path dependency: Correlations between 1909 and 2000s on the level of 40 NUTS-3 sub-regions, the Netherlands

(1) Left side – correlation between HHI in 1909 and HHI in 2000s;

(2) Right side – correlation between having no church denomination in 1909 and having no denomination in 2000s.

Sources: 1909 census data, ESS (2002-2008).

3.4. Data, analytical strategy, and variables

3.4.a.Data

We merge historical data from 1909 with survey data for the recent decade. Historical data come from various sources. Church affiliations per municipality in 1909 are derived from the StatLine software of the Centraal Bureau voor de Statistiek (CBS). Historical variables of socio-economic modernization are retrieved from the Historical International Standardized Community Indicators. Survey data are derived from the

European Social Survey (2002, 2004, 2006 and 2008). These four rounds of the Dutch ESS were selected because of their sampling design. In the period 2002-2008 the Dutch sample was based on so-called COROPS that correspond to the NUTS-3 units. According to the ESS manual, the Dutch ESS sample is representative at the level of NUTS-3. All historical data originally are at the level of municipalities. For the present empirical study, historical data were collapsed to the level of contemporary COROPS (NUTS-3) units and then merged with the ESS data, as explained in detail in Appendix 1. The final number of sub-regions used in the statistical models is 39.

3.4.b. Analytical strategy

In order to test the hypotheses that religious competition might have hindered secularization in traditionally Protestant regions (while fragmentation might have actually increased secularization in Catholic ones), we employ multilevel logistic regression. Multilevel models take into account the contextual allocation of observations thus reducing the risks of spurious significance results (Hox, Moerbeek and van de Schoot 2010). All individuals are nested within COROP-regions of the Netherlands (NUTS-3).

We have discussed earlier that Voas, Olson, and Crockett (2002) demonstrated that the use of standard HH index of concentration might lead to spurious non-zero correlations due to variations in denominational size. Previous studies circumvented this issue by looking for alternative data or models (Montgomery 2003; Olav 2010; Van Tubergen and Sindradottir 2011). Voas, Olson, and Crockett (2002) proposed to use the bootstrapping method in order to test "whether it seems plausible that the real correlation is mostly the result of the variations in denominational size or conversely might reflect the influence of additional factors not included in the simulations" (ibid. 2002, 219). We follow this method and run 1,000 simulations for each region. These

simulations reveal that in the case of the Netherlands, the correlations between HH index and religious affiliation in 1909 are not spuriously driven by variation in denominational size (see Appendix 2).

3.4.c. Variables

Dependent variable

Secularization. We use information about religious denomination, which is coded as 1 when ESS respondents report no religious affiliation and 0 otherwise. Using religious affiliation allows for a direct link between the ESS data and our historical data on affiliations and hence to place religious affiliations in the Netherlands in a long-term perspective.

Independent variables

Religious concentration. We employ the Herfindahl-Hirschman index after applying bootstrap simulations in the similar vein to Voas, Olson, and Crockett (2002). The index is constructed from the 1909 census data at the regional level.

Predominantly Protestant regions in 1909. The number of all Protestants in the municipality is retrieved from the CBS software. These figures are collapsed to the level of COROP sub-regions. Whenever a sub-region displays more than 70 per cent of Protestants amongst all religious individuals in 1909 it is labeled as "predominantly Protestant" (15 regions out of 39). By construction, value 0 captures predominantly Catholic regions. We apply other thresholds such as 60 per cent and 80 per cent as well in order to test sensitivity of our findings (the number of such regions is 26 and 12 respectively). We will discuss this below.

Share of Catholics in 1909. As discussed above, we theorize that intra-doctrinal competition hinders secularization in Protestant regions. Furthermore, we assume that pillarization significantly blocked Protestant-Catholic competition for congregation (i.e.

"religious oligopolies"). Therefore, it is crucial to control for the presence of Catholics in predominantly Protestant regions, since higher rates of competition there might imply that there were more Catholics in 1909 that were less likely to secularize. In other words, only by controlling for the share of Catholics in each region, then we interpret our results as reflecting intra-Protestant competition.

Educational expansion and mass transport in 1909. Secularization is often attributed to socio-economic developments such as educational and economic growth (Hirschle 2013; van Ingen and Moor 2015). Thus, it is crucial to control for the potentially confounding effect of modernization on secularization trends. To this end, we employ the share of enrolled pupils with respect to the total population in a COROP in 1909 as well as the share of municipalities that have a train station (or tram with a steam engine). The final variables that are utilized in the models are dummies that indicate whether a particular region is in the third quartile of the respective distribution. We apply this threshold because both education and mass transport were quite developed in all regions of the Netherlands by 1909, thus we would need a special yardstick to select the most modernized territories. However, we applied alternative thresholds to construct respective dummy variables as well (i.e. average and median values) in order to ensure sensitivity of our analysis.

Net migration and GDP per capita in 2000. Present-day secularization will logically respond also to present-day factors. In order to identify path-dependency we must therefore net out our estimates form the potential effect of contemporary factors operating at the level of sub-regions. We use information on average GDP per capita and net migration rates in 2000 measured the level of COROPs to control for variation in economic development across Dutch sub-regions. These variables are derived from

the webpage of the Centraal Bureau voor de Statistiek (CBS). Both variables are centered in the models.

Individual-level controls. We also account for individual-level sources of variation in religious affiliation by introducing controls for age, gender, ISEI, and whether a respondent was born in the Netherlands. This way we account for standard individual-level predictors of religiosity as pointed out in the existing literature, including generational replacement, gender socialization, nation-based socialization, and socio-economic status (Kelley and de Graaf 1997; Van Tubergen and Sindradottir, 2011).

Descriptive statistics for the dependent and independent variables are presented in Table 2.1. A correlation matrix with all contextual variables is presented in Table 2.2.

Table 2.1. Descriptive statistics.

	N	Mean	Median	SD	Min	Max
Being without any denomination	7,359	0.57	-	-	0	1
HH index in 1909	39	0.65	0.62	0.17	0.41	0.97
Modernized regions (mass transport)	39	0.24	-	-	0	1
Modernized regions (educational expansion)	39	0.29	-	-	0	1
Share of Catholics in 1909	39	0.40	0.33	0.29	0.00	0.98
GDP per capita in a region in 2000	39	25,78	23,8	5420,437	16,2	39,26
Net migration in 2000	39	1,911	1,452	2,091.407	-1,693	8,339
Age	7,359	48.9	48	17.48	15	95
Male	7,359	0.44	-	-	0	1
ISEI	7,359	47	49	16.46	16	90
Born in the country	7,359	0.92	-	-	0	1

Table 2.2. Correlation matrix for the contextual variables.

	HHI in 1909	Share of Protestants in 1909*	Share of trains in 1909*	Share of enrolled pupils in 1909*	Share of Catholics in 1909	GDP per capita in 2000	Migration in 2000
HHI in 1909	1						
Share of Protestants in 1909*	-0.72	1					
Share of trains in 1909*	-0.05	-0.03	1				
Share of enrolled pupils in 1909*	-0.24	0.27	0.17	1			
Share of Catholics in 1909	0.75	-1.00	0.05	-0.29	1		
GDP per capita in 2000	-0.25	-0.09	-0.30	0.04	0.03	1	
Migration in 2000	-0.20	0.28	-0.30	0.31	-0.28	0.17	1

* is not included to the models

3.5. Results

Results of the binomial multilevel regression models are presented in Table 2.3. This table includes three models. Model 1 includes historical variables of religious concentration (HH index), and whether a region was predominantly Protestant at the beginning of the 20th century, together with present-day individual-level controls. Model 2 includes additional controls for historical modernization and religious composition as well as more recent economic performance at the regional level. The same model includes the interaction term between church concentration and Protestant predominance in 1909 as well. Finally, Model 3 includes two more interaction terms between church concentration and modernization in 1909.

The main effect of religious concentration in 1909 and present-day values of secularization in models 1 is negative. This suggests that when the rate of religious competition in history is low, the likelihood of a respondent in the ESS sample to be secular decreases, a finding which is in sharp contrast to the predictions of standard RMT. But Model 1 assumes the effect of concentration on current levels of secularization is constant across historically Protestant and Catholic sub-regions.

Models 2 to 3 suggest this is actually not the case. Consistent with our expectations, we find that past fragmentation increases current levels of religious affiliations in predominantly Protestant sub-regions, while the opposite is true in predominantly Catholic ones. This finding is robust to both individual-level controls as well as to accounting for historical and present-day differences in economic development across sub-regions.

Table 2.3. Logistic multilevel regression. Having no church affiliation (ESS 2002-2008) regressed on the historical church concentration (census, 1909). The Netherlands.

	Model 1	**Model 2**	**Model 3**
Fixed effects			
Intercept	1.249 (0.292) ***	1.145 (0.312) ***	1.216 (0.392) **
Religious concentration in 1909	-1.131 (0.37) **	-1.455 (0.596) *	-1.645 (0.899) +
Historically Protestant regions	0.048 (0.129)	-1.338 (0.627) *	-1.498 (0.717) *
Modernization (transport in 1909)		0.216 (0.122) +	0.498 (0.479)
Modernization (educational expansion in 1909)		0.205 (0.142)	-0.198 (0.722)
Catholics in 1909		0.376 (0.447)	0.529 (0.606)
GDP in a region in 2000		0.084 (0.062)	0.087 (0.064)
Net migration in 2000		0.035 (0.063)	0.031 (0.063)
Interactions between			
Religious concentration in 1909 and:			
*Historically Protestant regions		2.745 (1.147) *	3.081 (1.382) *
* Modernization (transport in 1909)			-0.444 (0.728)
* Modernization (educational exp. in 1909)			0.717 (1.281)
Individual level controls			
Age	-0.025 (0.002) ***	-0.025 (0.002) ***	-0.025 (0.002) ***
Male	0.226 (0.05) ***	0.225 (0.05) ***	0.225 (0.05) ***
ISEI	0.003 (0.002) *	0.003 (0.002) *	0.003 (0.002) *
Born in the country	0.794 (0.091) ***	0.804 (0.091) ***	0.801 (0.091) ***
Variance of intercept (random)	0.104 (0.050) *	0.070 (0.040) *	0.060 (0.040)
AIC	9,507	9,510	9,441
N_1/N_2	7,359/39	7,359/39	7,359/39

*** = p < 0.001, ** = p < 0.01, * = p < 0.05 , + = p < 0.10.

Model 3, for example, suggests that if a Dutch person lives in a historically Protestant sub-region with moderate levels of church concentration back in 1909 (0.6), his or her odds of declaring no religious affiliation in the 2000s increase by a factor of 1.79, i.e. exp (1.22 - 0.6 * 1.65 – 1 * 1.50 + 0.6 * 1 * 3.08). If church concentration was 0.8 in 1909, the respective odds would increase by a factor of 2.40. However, when the same levels of concentration were present in historically Catholic regions, the odds of declaring no religious affiliations are 1.26 and 0.91 respectively. Therefore, we observe the odds of declaring no religious affiliation increase with church concentration in historically Protestant regions, but, decrease with church concertation in historically Catholic ones.

To facilitate the interpretation of this crucial interaction, predicted probabilities are presented on Figure 2.3. This figure shows that church monopolization in traditionally Catholic regions is associated with lower levels of contemporary secularization, while higher fragmentation in traditionally Protestant regions correlates negatively with present-day secularization. This finding is consistent with the idea that religious (proto)markets only existed in predominantly Protestant regions, and hence it is only in this regions that we find the shadow or religious competition today.

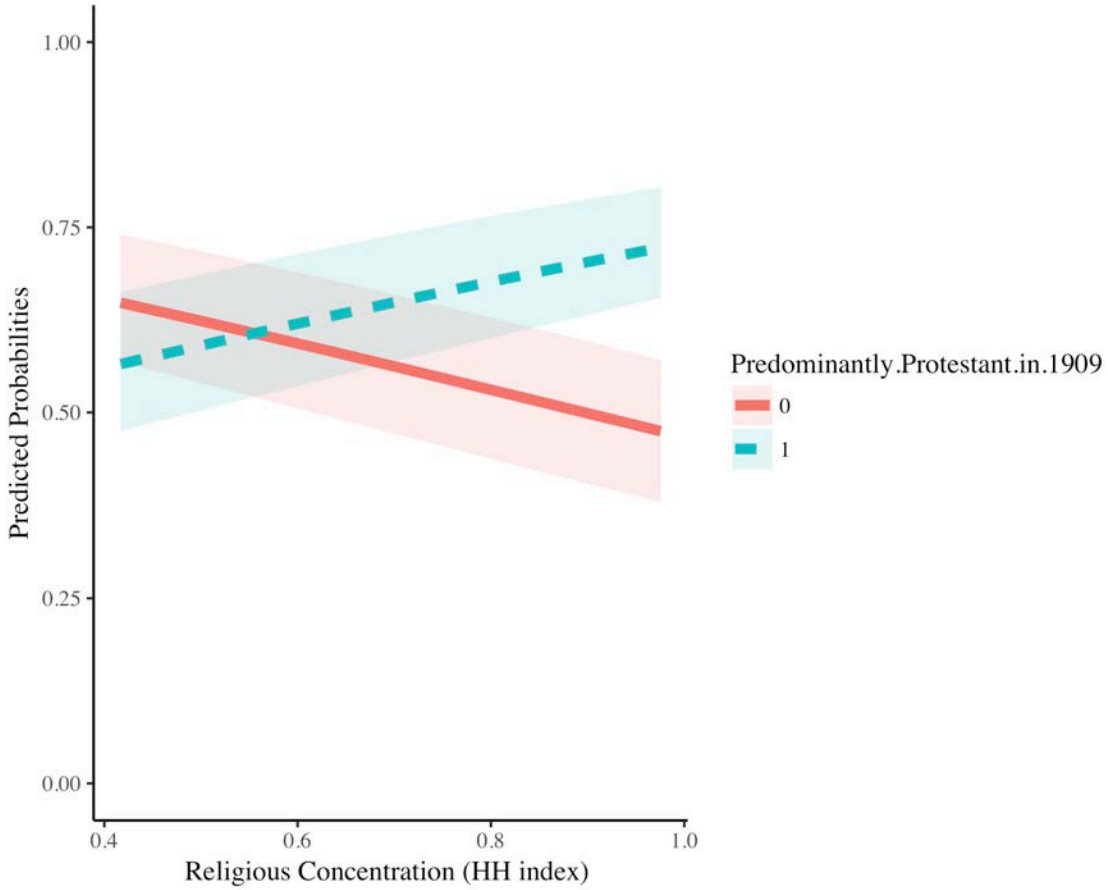

Figure 2.3. Predicted probabilities for having no religious affiliation in the ESS data.

Finally, we would like to discuss some robustness checks we employed in order to challenge our results. First, we replicated our multilevel regression models with another link function, i.e. we applied linear probability models. The interaction of interest remained significant. Second, we split our data in two parts: predominantly Protestant and predominantly Catholic samples. We tested the role of HH index in these two samples (this time avoiding multilevel design since the number of regions was obviously smaller in each sample). The results were in line with our previous findings: HH index was positive in the former case and negative in the latter ($p = 0.07$ and $p = 0.04$ respectively).

Considering the sensitivity of our measures, we recreated our independent variables applying different thresholds. Considering predominance of Protestants, we

used 60 per cent and 80 per cent as alternative yardsticks. Considering modernization, we used average and median value to split our municipalities into less and more modernized territories. We confirmed our results using these different thresholds with one exception. In the case when we defined predominantly Protestant regions with the 60 per cent threshold, our main interaction of interest was not significant when educational expansion was categorized using average and median values (but it was significant when we categorized educational expansion using its third quartile).

3.6. Conclusions and discussion.

Religious market theory has met a lot of resistance in sociology. This theory has been put on hold waiting for new theoretical and methodological advances. Both adherences and critics agreed, however, that the original formulations of RMT largely underestimated the role of social context and history. Despite this consensus, to our best knowledge, very few studies attempted to address these limitations empirically. In this paper, we offer a synthesis of religious market, ecological, and path-dependency perspectives and revisit the Dutch case to investigate the association between religious fragmentation (concentration) and secularization in a historical perspective.

We have argued that the distinctive religious identities and the social organization of Protestant and Catholic groups have had an enduring effect on present-day levels of religious participation even in a country as secularized as the Netherlands. One obvious conclusion, already pointed out by Lechner (1996), is that religious fragmentation does not always imply competition. Only under specific historical circumstances fragmentation might lead to competition. We have argued that in the Dutch case proto markets might have emerged in predominantly Protestant regions but not in Catholic ones. The Protestant tradition is built on the individualization of the religious experience and thus implies weaker church authority. This in turn facilitates

the birth of the religious consumer, particularly after the split in the Protestant Church differentiated the supply of religious services for the Protestant congregation. In contrast, the hierarchical nature of the religious experience within Catholicism combined with (and reinforced by) pillarization hindered the formation of markets in Catholic regions. In such regions, more concentration meant a greater control over the congregation and hence lower secularization. More fragmentation in Catholic regions did not imply greater competition.

This argument seems consistent with the data. Merging historical data from the early 20th century with recent attitudinal surveys conducted at the level of "COROPS" (equivalent to NUTS-3 in the Netherlands), we find indeed suggestive evidence that higher religious concentration in the past stimulated secularization in mostly Protestant territories but hindered secularization in mostly Catholic ones.

These findings provide new empirical evidence to support existing theoretical claims about the role of social context and path-dependency (Ammerman, 1997; Lechner, 1996). They also suggest that RMT will only yield analytical pay-offs if it is sensitive to the social and historical context in which markets are developed. Our approach to RMT stresses that religious markets might only emerge under very specific historical circumstances. In order to understand the formation of these markets one needs to account for the role of religious tradition, social institutions, and their historically specific developments.

We see this paper only as a first step in the direction of re-conceptualizing RMT by embedding it in its social and historical context. Our conclusions are based on a statistical association between two points in time, 1909 and the 2000s. They show a strong association between religious fragmentation in the past and religious affiliation in

the present despite almost 100 years of socio-economic development and cultural and political change.

Our findings also provide some questions for future research. The present analysis suggests that the role of socio-economic modernization in 1909 had limited lasting effects on contemporary religious participation. This poses the question of whether the socio-economic modernization argument must be re-evaluated with respect to the path-dependency mechanisms. Also, the statistical association between past indicators and present-day attitudes poses fundamental questions of identification. Future research should improve on the regional controls for potential confounding regional-level variables measuring both contemporary and historical factors. With the existing data, we cannot identify the precise mechanisms through which path-dependency operates, although the vast literature on religious socialization suggests inter-generational transmission of religious beliefs must have played a major role in the transition of religious affiliation.

Appendix 1: Merging historical data with the ESS

We merge historical data from 1909 with European Social Survey data for the rounds 200, 2004m 2006 and 2008, as explained above. Historical data come from the Centraal Bureau voor de Statistiek (CBS) and the Historical International Standardized Community Indicators. In the beginning of the 20th century there were more than 1,000 municipalities in the Netherlands. This number was reduced to around 400 in the 21th century. While many European countries increased the number of their municipalities during the course of time by conquering new territories, the Netherlands showed the opposite trend. Many Dutch municipalities disappeared over the course of time by means of various administrative reforms. In order to fit historical municipalities to the present-day NUTS units the codebook "Repertorium van Nederlandse gemeenten 1812-2006" (Van der Meer & Boonstra, 2006) was used. This codebook lists all historical names of the Dutch municipalities and all historical changes of their borders. For instance, such changes are listed as "merging with another municipality" or "emergence from another municipality". Very rarely municipalities shifted to another country (Belgium or Germany) and had to be excluded from the analysis. In some cases, web pages of the Dutch provinces and Wikipedia pages of municipalities were used in order to track all changes in borders of some municipalities.

An important issue is how to treat those Dutch territories that emerged very recently. The twelfth Dutch province Flevoland was established in 1986. Although some municipalities in this province were established in the same year, there are several municipalities that existed in 1909 and subordinated to other provinces (for instance, such municipalities as Warffum or Urk). These municipalities were merged and labeled as Flevoland. The initial number of sub-regions in the ESS data is 40. However, since

the historical data on the Zuidwest-Drenthe region were limited, the latter was merged with Zuidoost-Drenthe, hence yielding 39 sub-regions for the final analysis.

Appendix 2: The correlations between HH index and religious affiliation in 1909

The Herfindahl-Hirschman index has often been used incorrectly (Voas, Olson, and Crockett 2002). Although the index per se is a valid measure of concentration, the association between this index and religious activities is problematic. The main problem is that both religious competition and religious practices are calculated from the same total population.

Voas, Olson, and Crockett (2002) demonstrated that there is a mathematical association between these two measures that produces non-zero correlation. This spurious correlation is driven by the distribution of churches in the index of concentration. If large denominations are more variable in the data, religious activities are expected to have positive correlations with concentration. If small denominations are more variable, religious activities are negatively correlated with concentration. They propose to use the bootstrapping method in order to test: "whether it seems plausible that the real correlation is mostly the result of the variations in denominational size or conversely might reflect the influence of additional factors not included in the simulations" (Voas, Olson, and Crockett, 2002, 219). From this citation, it is clear that it is not necessarily the case that the correlation is determined by the variations in denominational size. Additional factors not included in the simulation may be at work.

In the case of the New York data for 1865 provided by Voas, Olson, and Crockett (2002), simulated correlations matched quite closely the real empirical correlations in their data. This was the evidence that in their case actual correlation was driven by the characteristics of the denominational size distribution. If the real correlations in our data do not match simulations, therefore, the real empirical association is driven by some other factors not included in the simulation. In order to avoid confusion, it is worth mentioning that Voas, Olson, and Crockett (2002) referred

to an index of religious pluralism, which is the inverse of our index of church concentration, hence, the sign of correlation is the opposite in their case.

We run 1,000 simulations for the data for 1909. The original source of the data is the census; thus, the rows of data are municipalities, and the columns are religious groups including a column for non-religious people. Like the method of bootstrapping proposed by Voas, Olson, and Crockett (2002), the selection of a certain religious group is independent of for any other denomination. Each round a new distribution is drawn from each column. Each Herfindahl-Hirschman index is calculated as well as the proportion of religious people. Then, a correlation between these two indexes is calculated in each round. The final number is the average over 1,000 of correlations. Our bootstrapping is at the regional level. In other words, we simulate denominations and run correlations in each sub-region.

Figure 2.4 reveals a great discrepancy between empirical and simulated correlations in 1909 at the regional level. Circles represent real correlations and triangles represent simulated correlations. As it can be seen, there is very little convergence between the real and simulated values. Therefore, in line with the argumentation of Voas, Olson, and Crockett (2002), the real empirical association is not driven by the variations in denominational size but is affected by some other factors not included in the simulation. The goal of the empirical part of the present article is to investigate whether these unobserved factors are linked with the predominant religious groups in a region.

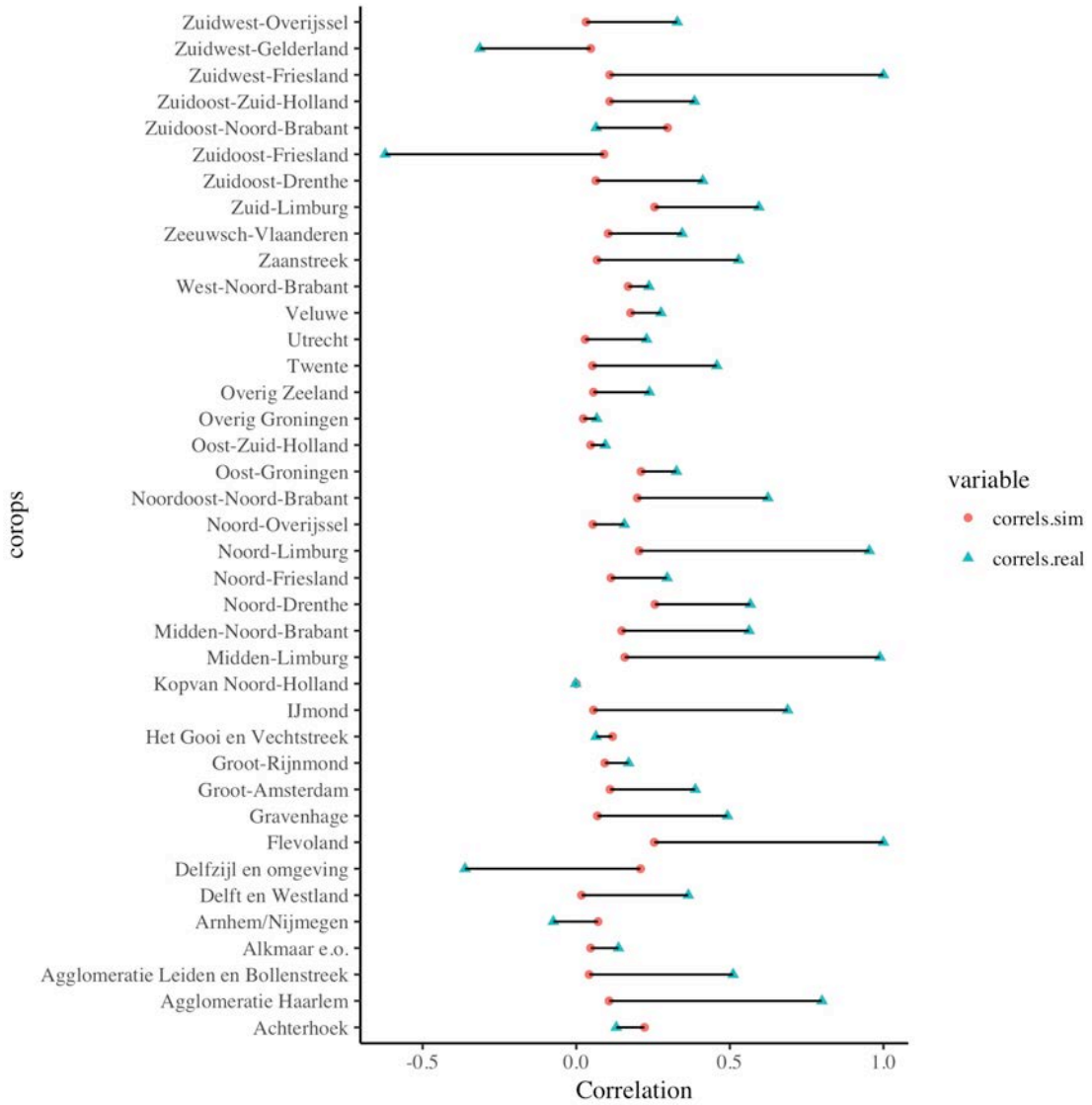

Figure 2.4. Real and simulated correlations between Herfindahl-Hirschman index and church affiliation in the Netherlands, 1909 on the level of COROP regions.

4. Chapter 3. Church competition hypothesis revisited: new evidence from Ukraine, 1992-2012

Abstract: Although religious revivals in post-Communist Europe have been studied extensively, there are still many gaps in knowledge. Prior studies have doubted the role played by religious markets and church competition. Nevertheless, more recent literature has argued that religious markets are very complex and that they have multiple dimensions, some of which have never been brought to light. A central argument of this chapter is that a specific dimension of church competition in Ukraine, i.e. nationalistic competition within the Orthodox Church has positively affected people's religious affiliations, attitudes and behavior. This argument is corroborated with a set of hierarchical and OLS models applied to novel regional data on church communities in Ukraine which is merged with survey data from 1992 to 2012.

4.1. Introduction

Religious revivals in post-Communist Europe have been a subject of ceaseless debates in sociology (Pickel and Sammet 2012). Particularly, many scholars have criticized the church competition hypothesis derived from religious market theory (Bruce 2000; Müller 2011). However, this criticism has been challenged by some case studies (Froese 2001; Pfaff 2012). Moreover, in Ukraine, a country under the scope of my analysis, church competition has been reported as an essential part of religious life (Krindatch 2003; Mitrokhin 2001; Yelensky 2010). Yet the link between church competition and religious vitality in this country has not been properly addressed.

This paper contributes to the literature on both church competition and post-Communist religious revivals in two ways. First, prior studies of church competition primarily have addressed cross-doctrinal competition. In contrast, this paper presents an empirical case of intra-doctrinal competition (IDC). In Ukraine, the Orthodox Church is divided in several competing jurisdictions. Although these jurisdictions challenge each

other's canonical legitimacy, their main disagreement has gone beyond dogmatic disputes and focuses on the status of nation, language, and history. This dimension of church competition has been omitted in the existing literature and, as we will argue, is crucial to understand both religious market and religious behavior in Ukraine. Potentially, this framework could be applied to other countries as well since religious denominations display fragmentation along political lines in many societies, especially those where the Orthodox Church is predominant (Pickel and Sammet 2012). Second, although most of the existing scholarship tends to criticize church competition hypothesis for post-Communist societies, this criticism is often based on inconclusive empirical analyses. This paper improves on this literature by merging a new dataset of religious communities in Ukraine at the regional level with attitudinal survey data from 1992 to 2012.

This paper is organized as follows. First, we review the literature on church competition in post-Communist societies. Then the history of religious revivals in Ukraine is briefly discussed. After presenting the role of IDC of the Orthodox jurisdictions in Ukraine, we follow with the hypotheses, analytical strategy, data, results, and discussion.

4.2. Church competition in post-Communist societies: review of findings

According to religious market theory, religious organizations constitute a market of religious products and services; and competition serves as a powerful source of religious vitality (Stark and Iannaccone 1994; Stark and Finke 2000; Montgomery 2003; McBride 2008). Competition is important firstly because it provides additional incentives for churches to fight for their congregation instead of acting as "lazy firms", and secondary because churches match potential religious preferences of people, thus

creating adequate niches. Consequently, individual religious identities and practices are inspired as well as reinforced by churches.

This theory, however, has been widely challenged. Comparative studies have shown that church competition does not have uniform effects on religious participation and depends on many other factors (Chaves and Gorski 2001; Lechner 2007; Voas, Crockett and Olson 2002). Nevertheless, this theory has not been rejected completely (Gruber and Hungerman 2006; Lechner 2007; Montgomery 2003; McBride 2008; Ruiter and Van Tubergen 2009). Scholars tend to agree that religious markets are very complex and that they have multiple dimensions, some of which have never been brought to light (Lechner 2007; McBride 2008).

Although religious revivals in post-Communist societies per se have gathered a lot of attention in the literature (Gautier 1997; Meulemann 2004; Pickel and Sammet 2012; Pollack 2001), studies of church competition in these countries have been surprisingly scarce. Those rare studies that investigated religious markets in post-Communist world were often inspired by different theoretical guidelines and goals.

The bulk of these studies cover predominantly Catholic and Protestant countries as Poland, Hungary, Eastern Germany, Check Republic, Slovakia, and the Baltic states (Bruce 2000; Froese 2001, 2005; Froese and Pfaff 2001). They mostly employed detailed case analyses. Cross-national studies of larger samples of countries are exceptional (e.g. Froese 2004; Müller 2011). Overall, these studies suggest that church competition does not predict religious participation, thus showing little support for religious market theory. As a result, some of the authors have proposed to dismiss this theory (Bruce 2000), whereas others have proposed to revisit it significantly with respect to the local context (Froese and Pfaff 2001).

However, these findings could be revisited in light of more recent literature (e.g. Voas, Crockett and Olson 2002; McBride 2008; Lechner 2007). Although both Bruce (2000) and Müller (2011) do not find a positive correlation between church competition and religious vitality, most of their theorizing and analyses were at the national level. At the same time, more recent literature has pointed out that once the analysis is performed at the regional level, the results could be very different (McBride 2008). This is explained by the fact that most confounding effects operate at the regional level. Moreover, measurement procedures employed by both Bruce (2000) and Müller (2001) have been challenged if not dismissed in the literature (Voas, Crockett and Olson 2002). Finally, most of the abovementioned papers did not address predominantly Orthodox societies, although the existing literature on post-Communist religious revivals has consistently emphasized the importance of this context (Tomka 2006; Karpov 2013; Northmore-Ball and Evans 2016).

Another line of research has analyzed church competition in post-Communist societies as part of a larger research agenda (Barro, Hwang and McCleary 2010; McCleary and Barro 2006). These studies extended their attention to church competition and state regulation of religious organizations in the world. Post-Communist societies were included in large samples of countries. Although these comparative studies supported religious market theory in the world, they paid little attention to the specific issue of post-Communist church competition.

Finally, a handful of recent studies have focused on post-Communist societies exclusively in cross-national as well as long-term perspectives (Müller and Neundorf 2012; Northmore-Ball and Evans 2016). Although they do not focus on the religious market theory per se, they do include some hypotheses derived from this framework in order to test them against other competing explanations. These latter studies do not test

the role of church competition; instead they test the role of state regulations and favoritism. They conclude that such supply-side factors do not explain religious resurrections in post-Communist societies. However, this literature does not address church competition.

Considering the existing literature on Ukraine, to the best of my knowledge, there has been no empirical test of church competition hypothesis for this country. While some scholars study religious conflicts and confrontations in Ukraine (Krindatch 2003; Mitrokhin 2001), others study religious behavior and attitudes of Ukrainians (Yelensky 2010). However, there are no studies that connect the two. At best, there are only few studies that refer to religious market theory as a taken-for-granted concept that is potentially responsible for some part of religious change in Ukraine (Balakireva and Sereda 2013; Parashevin 2006).

All said, it seems that the reservations about the church competition argument in post-Communist societies are not well grounded. Most of the empirical studies excluded predominantly Orthodox countries; some comparative studies of church competition employed questionable quantitative analyses; and in some cases, negative findings about religious regulations yielded skepticism towards religious market theory as a whole.

4.3. A brief history of religious revivals in Ukraine

In general, religious institutions witnessed a variety of penalties under Communist regimes. The strength of prosecutions varied across countries as well as over time. At best, religion was stigmatized as a primitive and superstitious rudiment (Gautier 1998). However, in most cases religion was forcibly excluded from public life: churches were expropriated or destroyed; priests were repressed; religious education was banned; and everywhere the symbolic role of religion was diminished (Greeley

1994; Pollack 2001; Voicu and Tufiş 2013; Zrinščak 2004). However, by the late 1980s the gradual disappearance of the strong state control led to religious freedoms in almost all European Communist societies (Meulemann 2004; Pollack 2001).

Considering Ukraine, truly active religious revivals started there in the late 1980s. Soviet authorities encouraged religious practices in line with *perestroika* and *glasnost*. Religious rituals were broadcast on TV, the state officially celebrated the Millennium of the Christianization of Kievan Rus' in 1988, and General Secretary Mikhail Gorbachev met with Pope John Paul II in 1989 (Krindatch 2003; Panych 2014; Yelensky 2010). Such top-down legitimization of religious practices yielded a significant increase in religious participation. By the end of 1990 more than three quarters of adult Ukrainians were religious (Yelensky 2010). Furthermore, this top-down legitimation was supported and reinforced by local religious actors (priests and communities) making Ukraine quite different in this respect from Russia where, in contrast, desecularization from above was the main source of religious resurrections (Karpov 2013).

Although the majority of Ukrainians identify themselves as Orthodox, religious market in Ukraine has become quite pluralistic mostly due to intra-doctrinal competition of the Orthodox Church (Borowik 2002; Krindatch 2003; Karpov 2013). According to the survey conducted in 2015 (DIF 2015), 44 per cent of religious people identified themselves with the *Ukrainian Orthodox Church of the Kyivan patriarchate* (UOC-KP), and 21 per cent identified themselves with the *Ukrainian Orthodox Church of the Moscow patriarchate* (UOC-MP). Other important Ukrainian churches were the Greek Catholic Church (11%), the Ukrainian Autocephalous Orthodox Church (UAOC) (2.4%), different Protestant churches (2.5%), and the Roman Catholic Church (1%).

There are also traditional regional minorities that adhere to Islam (mostly Crimean Tatars) and Judaism.

4.4. The role of intra-doctrinal competition (IDC) in Ukraine

In order to understand Ukrainian intra-doctrinal competition (IDC) one has to keep in mind that religious and national identities have been strongly connected in post-Communist societies (Pickel and Sammet 2012). Many scholars of Central and Eastern Europe, and Ukraine in particular, have regarded national sentiments as the strongest source of solidarity and religious consciousness in post-Communist countries (Borowik 2002; Spohn 2012; Yelensky 2010). Historically, organized religious movements often resisted to the Soviet repressions and championed new independent national states (Spohn 2012). Furthermore, churches played a crucial role in the aftermath of the fall of communist states during difficult political, economic, and social crises (Balakireva and Sereda 2013; Pickel and Sammet 2012; Tomka 1991). In post-Communist societies churches emphasized history, tradition, and culture as a powerful source of reassurance and solidarity (Spohn 2012; Tomka 1991; Zrinščak 20014). They often presented difficult transformations as a stage for the nation to achieve its long-deserved prosperity and glory. Since narratives about an idealized past, a depressive present and a utopian future of nations constitute a method for mobilizing mass political movements (Levinger and Lytle 2001), organized religious groups in post-Communist countries naturally have become significant political actors.

Ukraine was not an exception from this general story. Religious identities there were strongly connected to national sentiments (Yelensky 2010). Those traditional churches that re-emerged after the collapse of the USSR frequently appealed to shared beliefs about an idealized national past and an equally idealized future (Krindatch 2003; Mitrokhin 2001; Yelensky 2010). Most importantly, however, different religious groups

within the Orthodox tradition appealed to different historical and national narratives in Ukraine (Krindatch 2003). Conflicting nationalistic narratives caused a separation of the Orthodox Church. As Krindatch put it: "The separation of Ukrainian Orthodoxy from Moscow is obviously considered by politicians and the state authorities in Kiev as a necessary complement to Ukrainian national independence" (Krindatch 2003: 69). This separation yielded "competitive coexistence of several Orthodox jurisdictions" (Krindatch 2003: 59).

These jurisdictions were: *the Ukrainian Orthodox Church of the Moscow patriarchate* (UOC-MP), *the Ukrainian Orthodox Church of the Kyivan patriarchate* (UOC-KP), and *the Ukrainian Autocephalous Orthodox Church* (UAOC). It is noteworthy that only the first church has been officially recognized in the international realm of Orthodoxy. Other churches are not recognized internationally and they declare their legitimacy unilaterally. This fact, however, has not prevented the UOC-KP from being the most popular Ukrainian church according to the existing surveys (DIF 2015).

These different Orthodox jurisdictions have exploited different national narratives in order to maintain and expand their congregations. For example, the UOC-MP has appealed to the pre-Soviet historical narratives of the Russian Empire as well as more recent supra national narratives of the "Russian World doctrine" which is based on three pillars: the Orthodox belief, Russian language, and historical Russian tradition (Balakireva and Sereda 2013). These narratives attracted individuals who were loyal to pro-Russian sentiments. On the other hand, the same narratives discouraged individuals who did not share such sentiments.

Most recently a new trend of hostility towards the Moscow patriarchate has emerged as a consequence of the Crimean annexation by Russia and the ensuing hybrid war. Surveys conducted in Ukraine in 2015 documented that 19 per cent of respondents

agreed that the Ukrainian Orthodox Church of the Moscow Patriarchate is the "church of the state aggressor that carries out harmful activities" (DIF 2015). Moreover, a small number of Orthodox communities changed their affiliation from the Moscow patriarchate to the Kyivan patriarchate (RISU 2015).

In contrast, the UOC-KP and the UAOC exploited pro-Ukrainian historical narratives claiming that Ukraine is the historical cradle of Russian Orthodoxy. Furthermore, these churches championed the usage of Ukrainian language during religious services. Their own disagreements were based on sometimes different ideas of their historical legitimacy and recriminations about connections with Soviet authorities (Mitrokhin 2001).

4.5. Hypotheses: IDC and national identities

As it was stated above, church competition between different jurisdictions of the Orthodox Church in Ukraine has been connected to national sentiments. All Orthodox churches have appealed to the values of tradition, origin, and nation in their attempt to summon congregations (Krindtach 2003). For example, the 1990s and early 2000s were marked by active confrontations between different Orthodox religious groups for buildings and land, for symbolic recognition in the state and internationally, and for the attention of economic and political elites (Krindatch 2003; Mitrokhin 2001). Therefore, churches were incentivized to mobilize people to support their cause and to defend their jurisdiction. That is why higher rates of IDC between Orthodox jurisdictions at the regional level must have positively affected religious participation.

(H1) People who live in a territory exposed to higher rates of IDC will be more religious.

Although the existing literature on church competition is often focused on suppliers and their incentives, more recent literature has shown that consumers'

preferences should be taken into account as well (Barro, Hwang and McClearly 2010; Montgomery 2003). As this literature shows individuals might change their religious preferences depending on their social position, age, gender or any other meaningful social category depending on the context. Since this paper is focused on a very specific dimension of church competition, i.e. nationalistic competition, it is important to account for the respective preferences of consumers. In Ukraine, different Orthodox jurisdictions have targeted individuals on the basis of their national identities. While some churches appealed to the supra-national identity of the "Russian world", others appealed to patriotism and nationalism of Ukrainians. Therefore, individuals were likely to vary in their response to IDC depending on their own nationalistic preferences.

Since the very process of IDC in Ukraine emerged after some Orthodox churches developed strong pro-Ukrainian narratives, installed Ukrainian language during religious ceremonies, and offered an idea of an independent Ukrainian church in the independent Ukrainian state, it is likely that people who displayed pro-Ukrainian preferences were more likely to respond positively to IDC.

(H2) The impact of IDC will be stronger for people with stronger pro-Ukrainian national preferences.

Finally, it is important to study the impact of IDC with respect to indicators of religiosity. "Believing without belonging" (Davie 1990) is a common trend which is observed in many societies including the post-Communist ones (Pollack 2003), and effectively is about discrepancy between different indicators of religiosity (Davie 2005). In post-Communist societies, individuals often declare eagerly their religious affiliation, yet their actual religious participation could be minimal (Karpov 2013; Pew Research

Center 2017). Religious affiliations often serve for group identification in post-Communist societies (Spohn 2012). However, the cost of actual involvement is much higher than the cost of being affiliated. Moreover, in Ukraine, as will be discussed below in greater detail, one can see a striking mismatch between the numbers of people who declare their religiosity and the numbers of religious communities. For example, more people identify with the UOC-KP than with UOC-MP. However, the UOC-KP has fewer religious communities than UOC-MP. Furthermore, many have argued that church attendance is in general lower among Orthodox (Tomka 2006). Even the most faithful and devoted Orthodox attends churches less often compared to Catholics. Furthermore, years of Communist repressions deteriorated the intellectual tradition of Orthodoxy resulting in widespread mysticism and religious heterodoxies (Borowik 2002). Therefore, one can expect that church attendance, personal religiosity and praying are less likely to be affected by IDC and nationalistic competition.

4.6. Data and methods

4.6.a. New data on religious communities.

Measures of church competition derived from surveys or censuses have been questioned in the literature because of the high risk of spurious correlations with measures of religious participation. As a solution, it is vital to find measures that are "relative to some base other than the total population" (Voas, Crockett and Olson, 2002: 215). In order to address this issue a new dataset on religious communities is employed here to construct Herfindahl-Hirschman index of church competition.

According to Ukrainian legislation, a religious community is a local religious organization of faithful people who practice the same religion. Religious communities are not obliged to register since the state has no legal rights to dictate religious practices. Therefore, local state offices obtain information about religious communities only after

the latter apply for registration. Nevertheless, religious communities have a strong incentive to apply because without such registration, it is quite difficult to practice religion, expand, and compete with other religious groups. For example, registration is vital in case of litigation.

Conceptually, the data on religious communities have several advantages. First of all, religious communities are less distant to individuals than abstract religious organizations. A certain religious organization may not have a church or a priest in a given village or neighborhood; however, the actual members of a religious community would still represent this organization. These members may spread their religion and provide social services through social networks. The presence of more than one community increases the probability that a nonreligious person encounters and interacts with religious people. Thus, the presence of religious communities contributes to peer-pressure and the spread of religious norms and ideologies. Finally, the study of religious communities is theoretically consistent with the theory of club goods which has received a particular attention in the existing literature on religious supply (Abramitzky 2008; Iannaccone 1992). This theory emphasizes the role which religious communities play in ensuring religious participation.

A problem of these data is, however, that there is no information about the size of religious communities. A community has to include a minimum of 10 people. However, there is no information about the upper bound. This limitation does not allow the building of hypotheses concerning the size of the community. Nevertheless, it is still possible to work within a framework of church competition since this framework is concerned with the shares of religious groups, not their actual sizes. Most importantly, these data on church communities circumvent the issue of confounding the demand and

supply sides, as has frequently happened with survey data (Voas, Crockett and Olson 2002).

Similar data on church communities in Ukraine have been employed in the existing literature (Balakirieva and Sereda 2013; Yelensky 2010; Krindatch 2003). However, the present data include hitherto the longest series with regional variation. Figure 3.1 reveals the data at the national level. Note that these figures are estimates (see Appendix for the details).

As it can be seen from Figure 3.1, the UOC-MP dominated in terms of religious communities from 1991 to 2015, growing from an estimated number of 5,031 to 12,574. The second largest group was all Protestant communities combined (from 1,823 to 10,038 respectively). However, surveys report that actually only between 1% and 2.5% of people belong to Protestant churches at present day in present day Ukraine (DIF, 2015). Nevertheless, Protestant churches managed to produce the most active communities (most likely of very small sizes). As it can be seen, the UOC-KP grew in the early 1990s at the expense of the UOAC. The UOC-KP demonstrated a stable growth in the course of time, outrunning the Greek Catholic communities (the latter did not manage to expand outside of Western Ukraine). As it was discussed above in the text, most of respondents tend to identify with the UOC-KP. However, Figure 3.1 shows that the UOC-KP is only the third in numbers of religious communities.

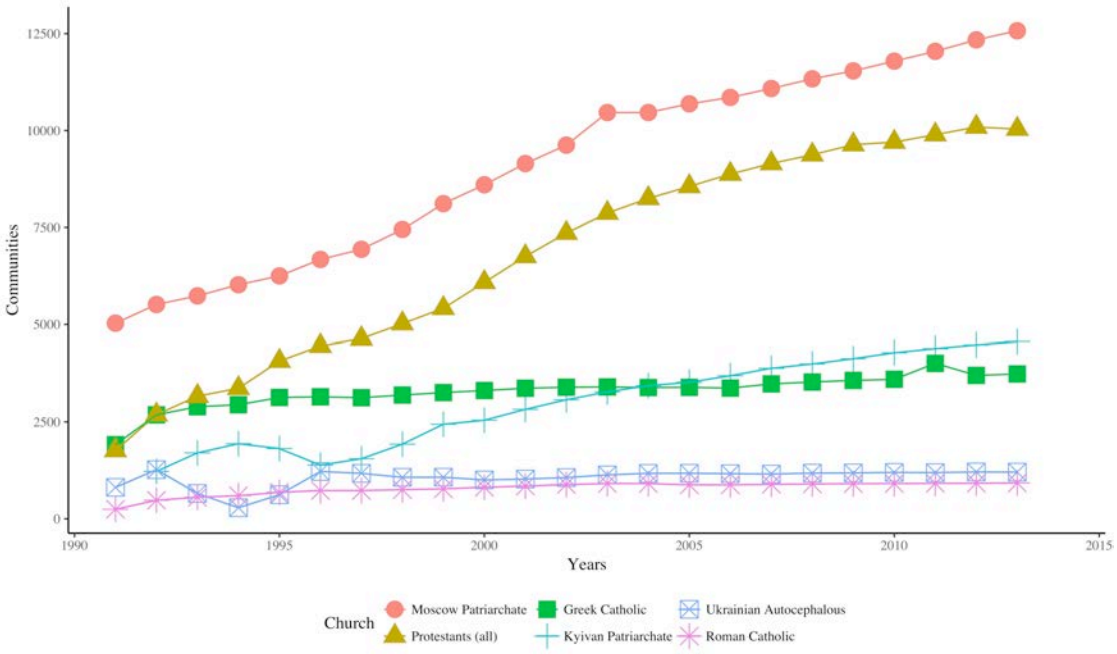

Figure 3.1. Religious communities (estimated absolute numbers). Ukraine, 1991-2013.

Two independent datasets were merged with the abovementioned data on religious communities. The first one is a dataset pooled from the surveys conducted by the Institute of Sociology of the National Academy of Science of Ukraine (ISNASU) from 1992 to 2006. The second one is the European Social Survey (ESS) conducted in Ukraine from 2002 to 2012 every two years. These surveys employ different questionnaires and sample designs, which reassures the robustness of findings.

4.6.b. Index of Orthodox intra-doctrinal competition (IDC).

The IDC index is calculated as the widely-recognized Herfindahl-Hirschman index (reversed) (Chaves and Gorski 2001; Voas, Crockett and Olson 2002), with some adjustments. As discussed above, the index is constructed from the data about religious communities, which circumvents the validity issues frequently observed in the previous studies (Voas, Crockett and Olson 2002). However, given the theoretical focus of this paper, the final index is tuned to measure the impact of within-Orthodox competition.

The measure offered here is the difference between the *actual* rates of church competition observed in a given region per year (HHI real) and the *counterfactual* rates of church competition, which would have been observed if the Orthodox churches were united (HHI counterfactual).

$$\text{HHI}idc = \text{HHI}real - \text{HHI}counterfactual$$

HHI*idc*, thus, shows to what extent overall church completion is driven by within-Orthodox competition. HHI*idc* at the regional level is plotted on Figure 3.2 for some benchmark years. Since it is reversed, zero means absolute concentration, and one means absolute competition. As can be seen, this index grew over time. In some regions, nationalistic church competition accounted for 20% of total church competition.

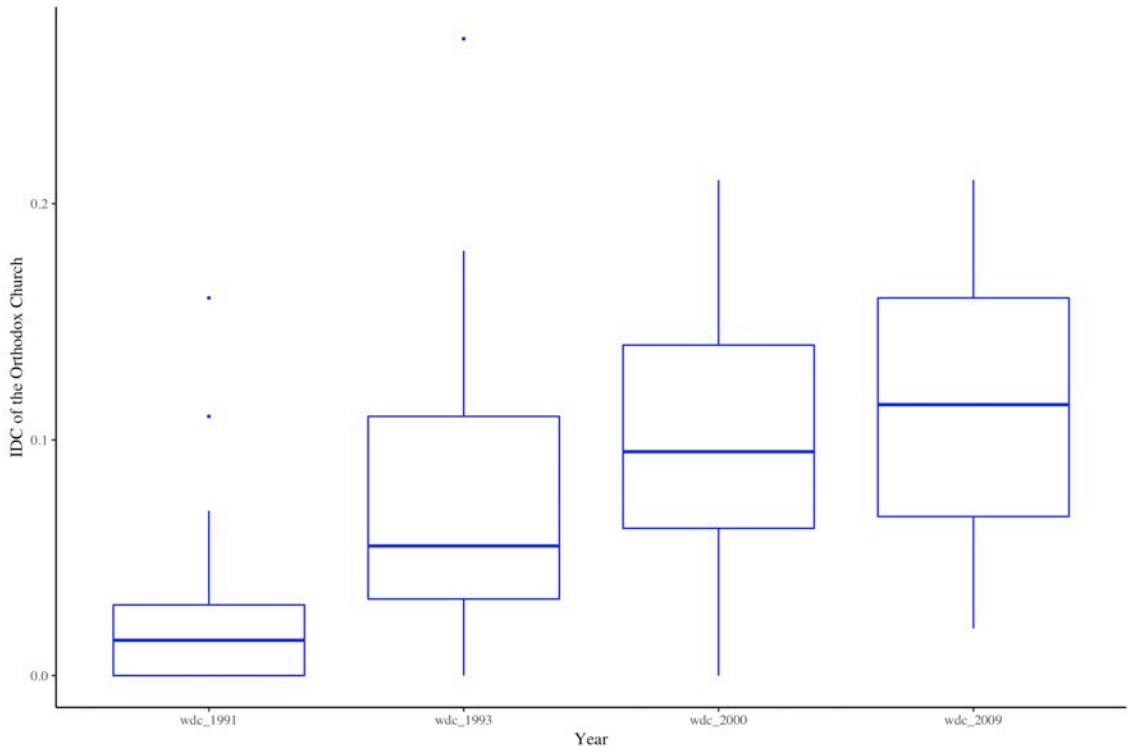

Figure 3.2. IDC of the Orthodox Church at the regional level. Ukraine, 1991-2009.

4.6.c. Modeling

Two different sets of models are fitted. First, a binary variable of religious affiliation is studied in the case of the ISNASU dataset. Due to the large sample, a significance test may produce an inflated type I error rate (Hox, Moerbeek and van de Schoot 2010). Thus, mixed-effect logistic models are applied. All individuals are nested in groups of regions per year (26 regions and 14 years). Furthermore, mixed models account for the fact that most Ukrainian regions witnessed significant changes from the early 1990s to the 2000s with respect to almost all underlying social and demographic processes including death rates, aging, de-industrialization, and migration (World Bank 2015). Thus, each region in a given year provides a set of unique social circumstances, which fits the underlying logic of multilevel contextual analysis. Moreover, a religious community is obliged to be registered in a particular region. Therefore, religious competition is happening on the level of regions, since religious groups do not have incentives to spend their resources on competition for congregation from other regions.

Then, a series of OLS regressions is fitted for the European Social Survey data. Subjective religiosity, church attendance, and praying at home are modeled in this case.

4.6.d. Variables

Dependent variable

Religious participation is measured with four different variables. The ISNASU surveys provide information about church affiliation. A dummy variable of church affiliation is employed in this case. Considering the ESS data, this survey provides information about subjective religiosity, church attendance, and praying at home.

Independent variables

National identities. National identities are difficult to conceptualize and measure. In Ukraine, however, there is a long tradition to measure language preferences as a proxy for national identities (for more information see Kulyk 2006, 2011). Although most of Ukrainians demonstrate considerable knowledge of both Ukrainian and Russian, one can see a variation of preferences in daily usage. Moreover, language is a "…powerful predictor of people's attitudes and policy preferences with regard to both language use and other socially divisive issues, such as foreign policy and historical memory" (Kulyk 2011, 627). Furthermore, long history of Soviet language polices made Ukrainian language less prestigious and useful (Martin 2001). Therefore, the cost for using Ukrainian language is higher than the respective cost for Russian language and, thus, could be used a proxy for commitment to a national identity. Finally, empirical studies showed that people with stronger Ukrainian identities tend to support pro-Ukrainian language polices. However, the desire of people with stronger Russian identities to defend pro-Russian language polices depends on the region (Kulyk 2011). Therefore, one can assume that those Ukrainians who prefer using Ukrainian language are likely to respond positively to IDC. On the other hand, a reaction of those Ukrainians who speak Russian language could depend on other factors. A dummy variable for the preference for Ukrainian language is utilized in the analysis.

In the case of the ESS dataset, voting for parties with pro-Russian sentiments in the Parliament elections are included as well (i.e. voting for Communist Party of Ukraine, and the Party of Regions).

Economic developments and existential security. The existing literature emphasizes the pivotal role of national identities as well as transitions from planned to market economy played in religious revivals in post-Communist societies (for the recent review see Pickel and Sammet 2012). Some of these explanations echo widely-

acknowledged insecurity theory (Norris and Inglehart 2011). Recent literature has demonstrated that both economic and social insecurities at both the individual and contextual levels are important for religious participation (Immerzeel and van Tubergen 2013). Thus, a number of variables that account for social and economic insecurities at both of these levels are included in the models (employment status, educational status, health status, loss of a partner, economic performance of a region, and the level of unemployment in a region). All these variables were derived from the surveys. Unfortunately, most of the statistical data on the economic performance of regions are hardly available for the early 1990s. However, there are some exceptions. GDP per capita as well as average incomes in Ukrainian regions were derived from the national statistics.

A set of controls such as gender, age, and time after the collapse of the USSR are employed in the models as well. All the variables and their descriptive statistics are listed in Table 3.1.

Table 3.1. Descriptive statistics for all variables

Variable	Data Source	Level	Mean	Median	SD	Min	Max
Church affiliation	ISNASUU	Individual	0.73	-	-	0.00	1.00
Subjective religiosity	ESS	Individual	6.15	6.00	2.67	1.00	11.00
Church attendance	ESS	Individual	1.98	2.00	1.35	0.00	6.00
Praying at home	ESS	Individual	3.16	3.00	2.37	0.00	6.00
IDC in 1991	Communities	Contextual	0.03	0.01	0.04	0.00	0.16
Is employed	ISNASUU	Individual	0.51	-	-	0.00	1.00
Employment status Unlimited contract	ESS	Individual	0.78	-	-	0.00	1.00
Prefer Ukrainian language	ISNASUU	Individual	0.37	-	-	0.00	1.00
Prefer Ukrainian language	ESS	Individual	0.22	-	-	0.00	1.00
Health is bad	ISNASUU	Individual	0.28	-	-	0.00	1.00
Health is bad	ESS	Individual	2.94	3.00	0.86	1.00	5.00
Loss of a partner	ISNASUU	Individual	0.11	-	-	0.00	1.00
Loss of a partner	ESS	Individual	0.25	-	-	0.00	1.00
Has a higher degree	ISNASUU	Individual	0.10	-	-	0.00	1.00
Has a higher degree	ESS	Individual	0.25	-	-	0.00	1.00
Voted for pro-Russian parties	ESS	Individual	0.24	-	-	0.00	1.00
Share of unemployed respondents	ISNASUU	Contextual	0.49	0.46	0.17	0.00	1.00
Share of unemployed respondents	ESS	Contextual	0.22	0.23	0.05	0.14	0.34
Share of mostly Ukrainian speakers	ISNASUU	Contextual	0.37	0.23	0.32	0.00	1.00
Share of mostly Ukrainian speakers	ESS	Contextual	0.22	0.18	0.15	0.00	0.61
Share of respondents with higher degree	ISNASUU	Contextual	0.10	0.09	0.07	0.00	1.00
GPD per capita in a region	National statistics	Contextual	1558.00	1488.00	740.02	707.10	2722.00
Average salary in a region	National statistics	Contextual	1364.00	1271.00	1.38	454.40	2465.00
Men	ISNASUU	Individual	0.44	-	-	0.00	1.00
Men	ESS	Individual	0.37	-	-	0.00	1.00
Age younger 30	ISNASUU	Individual	0.23	-	-	0.00	1.00
Age 30-55	ISNASUU	Individual	0.49	-	-	0.00	1.00
Age 55 and older	ISNASUU	Individual	0.29	-	-	0.00	1.00
Age	ESS	Individual	49.25	50.00	18.80	15.00	102.00
Years after the collapse of the USSR	ISNASUU	Individual	8.44	9.00	4.14	1.00	15.00

4.7. Results

The results of hierarchical regression models applied to the ISNASU data are described in Table 3.2. This table shows four models with the effects of IDC in 1991 on the religious affiliation of individuals nested in 355 social contexts (i.e. regions per year) in Ukraine from 1992 to 2006. The first model evaluates the role of IDC independently. Then, other individual and contextual predictors are included in Model 2. Then, a set of interactions between IDC and individual-level predictors are incorporated in Model 3. Finally, the latter model is repeated without regions-outliers. There are three regions-outliers (all in Western Ukraine) with relatively large rates of religious people and individuals with stronger Ukrainian identities. These regions were excluded in Model 4.

Table 3.2. The impact of IDC on religious affiliations (ISNASU surveys, 1992-2006). Mixed effects logistic regression models.

	Model 1 (all regions)	**Model 2 (all regions)**	**Model 3 (all regions)**	**Model 4 (no outliers)**
Intercept	1.175 (0.078) ***	-0.659 (0.192) **	-0.592 (0.191) **	-0.539 (0.195) +
IDC in 1991	10.820 (1.784) ***	9.560 (1.356) ***	6.217 (1.719) ***	4.659 (1.966) *
Individual				
Has a job		-0.230 (0.040) ***	-0.207 (0.048) ***	-0.212 (0.049) ***
Has a higher education		-0.243 (0.053) ***	-0.291 (0.070) ***	-0.280 (0.070) ***
Bad health		0.133 (0.040) ***	0.146 (0.049) *	0.145 (0.050) *
Loss of a partner		0.320 (0.064) ***	0.335 (0.080) ***	0.336 (0.079) ***
Ukrainian language		0.548 (0.045) ***	0.388 (0.053) ***	0.407 (0.054) ***
Contextual				
Share of unemployed in a context		0.331 (0.271)	0.344 (0.265)	0.360 (0.269)
Share of Ukrainian speakers in a context		1.672 (0.147) ***	1.606 (0.145) ***	1.406 (0.157) ***
Share of tertiary educated in a context		-0.693 (0.759)	-0.124 (0.753)	-0.372 (0.787)
Controls				
Time after the collapse of the USSR		0.127 (0.012) ***	0.123 (0.012) ***	0.126 (0.012) ***
Age (reference - younger than 30)				
Age 30-55		-0.015 (0.040)	-0.017 (0.040)	-0.009 (0.041)
Age 55 and older		0.137 (0.052) +	0.136 (0.053) +	0.144 (0.053) +
Male		-0.829 (0.033) ***	-0.830 (0.033) ***	-0.837 (0.036) ***
Interactions between IDC in 1991 and:				
IDC*has a job			-1.076 (1.188)	-0.601 (1.259)
IDC *higher education			1.746 (1.480)	2.596 (1.519)
IDC *bad health			-0.446 (1.312)	-0.648 (1.373)
IDC *loss			-0.551 (2.178)	-0.621 (2.242)
IDC *Ukrainian language			8.215 (1.463) ***	3.112 (1.586) *
N	25,177	25,177	25,177	22,665
Groups	355	355	355	314
Average observations per groups	71	71	71	72
Intraclass correlation	26%	11%	11%	10%
AIC	26,416	24,766	24,743	23,896

Significance codes: '***' – < 0.001; '**' – < 0.01; "*" – < 0.05; "+" – < 0.10

All the models consistently show the positive and significant influence of IDC on religious affiliations of Ukrainians, which is in line with the first hypothesis of this paper. This effect remains significant after controlling for various individual and contextual level predictors. Congruently with the previous literature, individual social and economic insecurities increase religiosity (Immerzeel and van Tubergen 2013). Ukrainian identity is positively associated with religiosity, which is in line with the existing literature as well (Yelensky 2010).

Furthermore, both Model 3 (all sample) and Model 4 (no regions-outliers) show the results that are in line with the second hypothesis of this paper. Indeed, the impact of IDC is stronger for people who display pro-Ukrainian identities. Figure 3.3 shows the predicted probabilities of church affiliation plotted against the rates of IDC in 1991. It features Model 3 with the interaction effect between IDC in 1991 and language preferences of respondents. Although all individuals tend to be more religious when they are exposed to higher rates of IDC, this effect is stronger for individuals who prefer Ukrainian language. As confidence intervals indicate, the effect is significantly stronger at the highest levels of IDC.

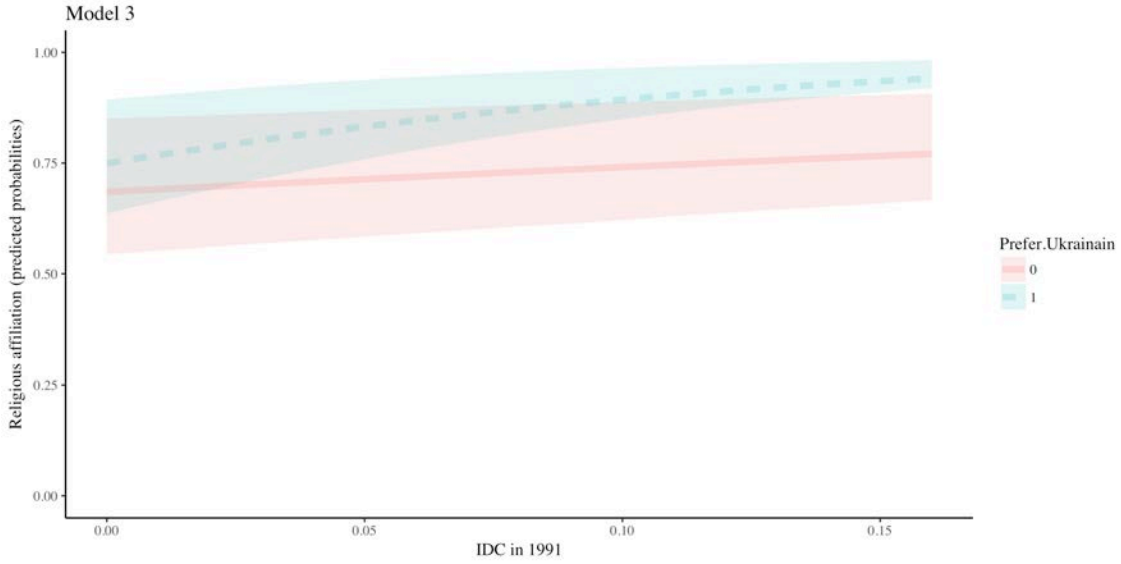

Figure 3.3. Interaction effects: IDC in 1991 and language preferences in 1992-2006 (ISNASU surveys). Predicted probabilities. Mixed effects logistic regression controlling for individual and contextual level predictors (Model 3).

To what extent do these results hold true for subjective religiosity, church attendance and prayer at home? To answer this question the data from the European Social Survey (2002 – 2012) are utilized (Table 3.3). OLS regressions reveal that the effect of IDC remains the same as in previous models (i.e. significant and positive).

However, in these models the effect of pro-Ukrainian identities is different. It appears that the main effects for neither language preference nor electoral behavior are consistently significant for different measures of religious participation. On the other hand, the share of Ukrainian speakers at the regional level is positively associated with all measures of religious participation. Most importantly, we do not observe significant interaction effects between IDC and both language preferences and voting.

Table 3.3. The impact of IDC in 1991 on religious participation in Ukraine (ESS, 2002-2012). OLS Regressions.

	Model 5	**Model 6**	**Model 7**
	Subjective Religiosity	**Church Attendance**	**Praying at Home**
Intercept	5.793 (0.218) ***	1.814 (0.110) ***	2.282 (0.187) ***
IDC in 1991	8.655 (1.204) ***	6.054 (0.604) ***	8.528 (1.018) ***
Individual level predictors			
Is employed	-0.097 (0.066)	0.028 (0.033)	-0.014 (0.052)
Speaking mostly Ukrainian	0.002 (0.095)	0.084 (0.047) +	0.216 (0.081) **
Widowed	0.230 (0.076)	0.113 (0.038) **	0.250 (0.064) ***
Bad Health	0.032 (0.036)	-0.082 (0.179) ***	0.086 (0.030) ***
Voted for the pro-Russian parties	-0.218 (0.081) **	-0.031 (0.041)	-0.013 (0.070)
Tertiary education	-0.155 (0.060) **	-0.091 (0.030) **	-0.118 (0.052) *
Interactions between IDC in 1991 and:			
IDC*Speaking mostly Ukrainian	0.721 (1.680)	-0.451 (0.844)	0.256 (1.423)
IDC*Voted for the pro-Russian parties	1.178 (2.251)	-1.335 (1.333)	-3.097 (1.915)
Contextual level predictors			
Share of Ukrainian speakers in a context	3.844 (0.212) ***	2.321 (0.106) ***	5.073 (0.181) ***
Share of tertiary educated in a context	-0.702 (0.532)	-0.390 (0.267)	-0.107 (0.452)
Share of unemployed in a context	-2.209 (0.643) ***	-0.732 (0.323) *	-3.216 (0.548) ***
GDP per capita	-0.001 (0.0003) **	-0.0003 (0.0002) +	-0.0003 (0.0003)
Average salary	0.001 (0.0003) **	0.0004 (0.0002) *	0.0001 (0.0003)
Controls			
Male	-1.239 (0.054) ***	-0.615 (0.027) ***	-1.345 (0.046) ***
Age	0.012 (0.002) ***	0.003 (0.001) ***	0.014 (0.002) ***
N	9,733	9.712	9,220
Adjusted R-squared	0.133	0.151	0.237

Significance codes: '***' – < 0.001; '**' – < 0.01; "*" – < 0.05; "+" – < 0.10.

Therefore, drawing from these two sets of models for the ISNASU and ESS data respectively, it is possible to conclude firstly that IDC in Ukraine has contributed significantly to religious participation of individuals in terms of religious affiliations, church attendance, praying at home, and subjective religiosity; secondly, however, as it is only religious affiliations that were significantly exacerbated by national identities of

individuals. This suggests that the connection between national identity and religious affiliation is stronger than that the connection between national identity and religious behavior. This finding fits the existing knowledge about the Orthodox jurisdictions in Ukraine (Krindatch 2003; Mitrokhin 2001; Yelensky 2010). The narratives employed by these churches are connected with national sentiments. Therefore, national identities might invoke people's affiliation with a particular church regardless actual religious meaning behind such affiliation. It seems that nationalistic narratives of church competition do not necessary influence actual personal experience of religiosity among Ukrainians.

4.8. Discussion and conclusions

The main goal of this paper was to show how church competition affected religiosity in post-Communist Ukraine by looking into the role of intra-doctrinal competition (IDC). A central argument of this paper is that IDC of the Orthodox jurisdictions positively affected religious affiliations, church attendance, subjective religiosity, and praying at home among Ukrainians. The effect of IDC on religious affiliations was particularly strong for individuals who preferred Ukrainian language, although this was not the case for religious behavior.

Drawing on the literature on post-Communist transformations as well as Ukrainian religious revivals, this paper suggests that (i) religious groups became important actors of the political process in Ukraine; (ii) they exploited narratives about an idealized past as well as an utopian future of the nation to mobilize their congregation; (iii) this nationalistic competition contributed to the split within the Orthodox Church in Ukraine. This process was theorized to affect religious values and behavior of people in Ukraine. Therefore, the contribution of this paper to the literature on church competition and post-Communist religious revivals is twofold. First, it sheds

new light on previously understudied intra-doctrinal competition and points to the crucial dimension of national narratives. Second, in contrast to many previous empirical studies of post-Communist religious markets, this paper employs data on religious communities at the regional level in order to circumvent measurement errors.

Overall, these findings confirm some old ideas that religious markets are indeed strong predictors of religious participation once the relevant context is properly considered (Froese 2004; Froese and Pfaff 2001; Lechner 2007; McCleary and Barro 2006). However, this paper offers some new ideas as well. Most of the existing studies agree that religious markets are very complex and that they have multiple dimensions, some of which have never been brought to light. Intra-doctrinal competition based on political cleavages is one if these dimensions. Future studies could apply this framework to other Orthodox societies, which witnessed strong intra-doctrinal cleavages, i.e. Bulgaria, Moldova, and Macedonia. However, this framework does not have to be limited to Orthodox Churches only. One may think about competition of different streams of Protestantism in Western societies, Sunni and Shia in Middle East, and Greek Catholics and Roman Catholics in Eastern Europe. By bringing context into the study of religious markets, this paper contributes to reframing religious competition theory.

Appendix

Five different sources were employed in order to compile the final dataset:

- The reports of the Religious Informational Service of Ukraine (RISU);
- Publications in the magazine "Liudyna i Svit" (L&S);
- Publications in scientific volumes and textbooks (Yelensky, 2010);
- The State Committee on Nationalities and Religions for years before 2010 (State archives);
- The Department for Religions and Nationalities in the Ministry of Culture for years after 2010 (State archives).

Some of these resources provide information about religious communities on the level of regions (marked as "RegStat" in the final data file). Frequently, these sources overlap which provides an opportunity to compare the data. Almost always small discrepancies between the sources were observed. Such discrepancies can be attributed to several reasons: sometimes the documents covered different periods of time within the same years; not all Protestant churches were included in some of the sources; in rare cases typos were observed. Despite the observed discrepancies, virtually all sources indicated the same rates of growth for all communities.

All these sources are presented in Figure 3.4 with respect to the major church communities. The numbers are based on all communities, i.e. including those who received their state registration and those who were rejected by the state. In some years these numbers were provided separately, and in some years they were given as totals. Thus, a decision was made to collapse all the numbers in order to minimize possible misunderstandings. Finally, all different Protestant churches are collapsed here as well since in some years it was difficult to distinguish each church precisely.

Note that the final estimates presented in the paper in Figure 3.1 should be treated as a measure of change but not as a precise numerical indicator of the amount of religious communities in a given year. These estimates are obtained as a simple average of all the available data.

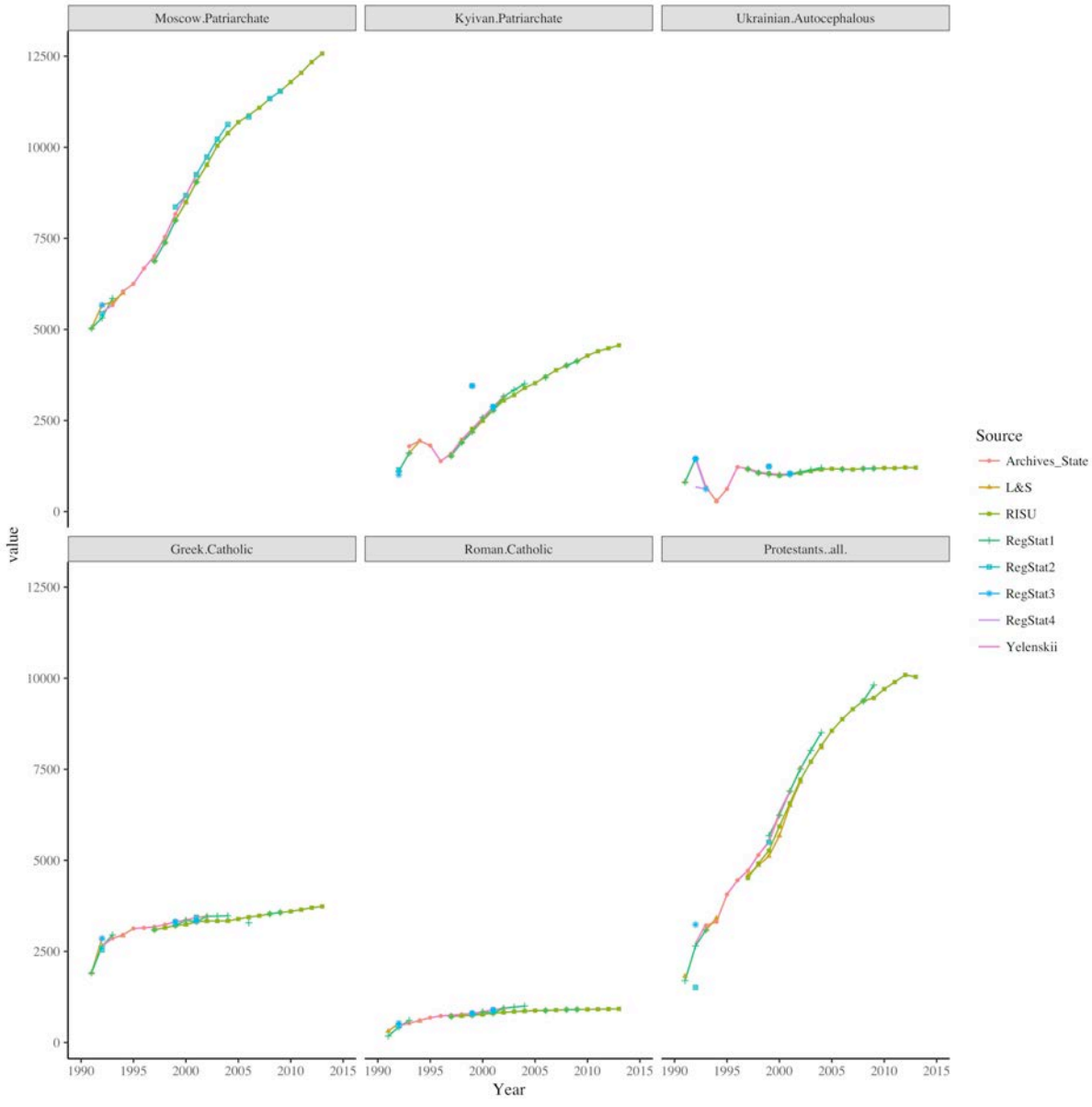

Figure 3.4. Religious communities at the country level for six major religious groups in Ukraine, 1991-2013.

5. References

Abramitzky, Ran. "The limits of equality: Insights from the Israeli kibbutz." *The quarterly journal of economics 123, no. 3 (2008): 1111-1159.*

Achterberg, Peter, Dick Houtman, Stef Aupers, Willem De Koster, Peter Mascini, and Jeroen Van Der Waal. "A Christian Cancellation of the Secularist Truce? Waning Christian Religiosity and Waxing Religious Deprivatization in the West." *Journal for the Scientific Study of Religion 48, no. 4 (2009): 687-701.*

Akçomak, Semih, Dinand H. Webbink, and Bas Ter Weel, "Why did the Netherlands develop so early? The legacy of the brethren of the common life," *Economic Journal, no. 21 (2016): 821-860.*

Ammerman, Nancy T. 1997. *"Religious Choice and Religious Vitality: The Market and Beyond." Pp. 119-132 in Rational Choice Theory and Religion: Summary and Assessment, edited by Lawrence A. Young. New York: Routledge.*

Anna News. (2015). *A. Zakharcheno Otvechaet Na Vorpos Predstavitelya Tserkvi. Retrieved May 14 2017.* https://www.youtube.com/watch?v=hIm_eqhkd38

Balakireva, Olga, and Iuliia Sereda. "Religion and Civil Society in Ukraine and Russia." *In Religion and Civil Society in Europe, pp. 219-250. Springer Netherlands, 2013.*

Barro, Robert J., and Rachel M. McCleary, "Religion and Economic Growth across Countries," *American Sociological Review 68, no. 5 (2003): 760-81.*

_____. "Which countries have state religions?." *The Quarterly Journal of Economics 120, no. 4 (2005): 1331-1370.*

Barro, Robert, Jason Hwang, and Rachel McCleary. "Religious conversion in 40 countries." *Journal for the Scientific Study of Religion 49, no. 1 (2010): 15-36.*

Becker, Sascha O., and Ludger Woessmann, "Luther and the Girls: Religious

Denomination and the Female Education Gap in Nineteenth-century Prussia," *The Scandinavian Journal of Economics 110, no. 4 (2008): 777-805.*

_____. "Was Weber wrong? A human capital theory of Protestant economic history," *The Quarterly Journal of Economics 124, no. 2 (2009): 531-596.*

_____. "The effect of Protestantism on education before the industrialization: Evidence from 1816 Prussia," *Economics Letters 107, no. 2 (2010): 224-228.*

Becker, Sascha O., Steven Pfaff, and Jared Rubin, "Causes and consequences of the Protestant Reformation," *Explorations in Economic History 62 (2016): 1-25.*

Beekink, Erik, Onno Boonstra, Th Engelen, and Hans Knippenberg, *Nederland in verandering: maatschappelijke ontwikkelingen in kaart gebracht, 1800-2000. Aksant, 2003.*

Besnard, Philippe, *Protestantisme et capitalisme: la controverse post-Weberienne. Armand Colin, 1970.*

Blau, Peter M., and Otis Dudley Duncan, *"The American occupational structure," (1967).*

Boone, Christophe, Aleid Brouwer, Jan Jacobs, Arjen Van Witteloostuijn, and Matthijs De Zwaan, "Religious pluralism and organizational diversity: An empirical test in the city of Zwolle, the Netherlands, 1851–1914," *Sociology of Religion (2011): srr034.*

Bollen, Kenneth A. "Instrumental variables in sociology and the social sciences." *Annual Review of Sociology, 38 (2012): 37-72.*

Borowik, Irena. "Between orthodoxy and eclecticism: On the religious transformations of Russia, Belarus and Ukraine." *Social Compass 49, no. 4 (2002): 497-508.*

Bottero, Wendy, and Kenneth Prandy, "Social interaction distance and stratification," *The British journal of sociology 54, no. 2 (2003): 177-197.*

Bouma, Gary D., "Beyond Lenski: A critical review of recent "Protestant Ethic" research," *Journal for the Scientific Study of Religion (1973): 141-155.*

Breen, Richard, and Jan O. Jonsson, "Inequality of opportunity in comparative perspective: Recent research on educational attainment and social mobility," *Annual Review of Sociology, 31 (2005): 223-243.*

Breiner, Peter, "Weber's The Protestant Ethic as hypothetical narrative of original accumulation," *Journal of classical sociology 5, no. 1 (2005): 11-30.*

Bruce, Steve. "The Truth about Religion in Britain." *Journal for the Scientific Study of Religion 34, no. 4 (1995): 417-430.*

_____. "The Supply-Side Model of Religion: The Nordic and Baltic States." *Journal for the scientific study of religion 39, no. 1 (2000): 32-46.*

Cantoni, Davide, "The economic effects of the Protestant Reformation: testing the Weber hypothesis in the German lands," *Journal of the European Economic Association 13, no. 4 (2015): 561-598.*

Chaves, Mark, and Philip S. Gorski. "Religious Pluralism and Religious Participation." *Annual Review of Sociology 27, no. 1 (2001): 261-81.*

Cohen, Jere, "Protestant ethic and status-attainment," *Sociology of Religion 46, no. 1 (1985): 49-57.*

Coleman, James S., and James Samuel Coleman, *Foundations of social theory. Harvard university press, 1994.*

Cox, Robert H., *The development of the Dutch welfare state: from workers' insurance to universal entitlement. University of Pittsburgh Pre, 1993.*

Davie, Grace. "Believing without belonging: is this the future of religion in Britain?." *Social compass 37, no. 4 (1990): 455-469.*

_____. "Believing without belonging: Just how secular is Europe." *Pew Research*

Center, Washington. December 5 (2005).

Dekker, Paul, and Peter Ester. "Depillarization, Deconfessionalization, and De-Ideologization: Empirical Trends in Dutch Society 1958-1992." *Review of Religious Research 37, no. 4 (1996): 325-341.*

Delacroix, Jacques, and Francois Nielsen, "The beloved myth: Protestantism and the rise of industrial capitalism in nineteenth-century Europe," *Social Forces 80, no. 2 (2001): 509-553.*

De Rooy, Piet. *Republiek van rivaliteiten: Nederland sinds 1813. Amsterdam: Mets & Schilt, 2002.*

DIF. (2015). *Yak Ukraintsi Stavlyatsa do Tserkvy. Retrieved May 2017.* *http://dif.org.ua/article/yak-ukraintsi-stavlyatsya-do-tserkvi-infografika*

Dittmar, Jeremiah E., "Information technology and economic change: the impact of the printing press," *The Quarterly Journal of Economics 126, no. 3 (2011): 1133-1172.*

Engerman, Stanley L, (n.d.). *"Max Weber, The Protestant Ethic and the Spirit of Capitalism." Retrieved July 1, 2016* *http://eh.net/book_reviews/the-protestant-ethic-and-the-spirit-of-capitalism/*.

Erikson, Robert, and John H. Goldthorpe, *The constant flux: A study of class mobility in industrial societies. Oxford University Press, USA, 1992.*

Finke, Roger, Avery M. Guest, and Rodney Stark. "Mobilizing Local Religious Markets: Religious Pluralism in the Empire State, 1855 to 1865." *American Sociological Review 61, no. 2 (1996): 203-218.*

Frinking, B., and Frans WA van Poppel, *Een sociaal-demografische analyse van de huwelijkssluiting in Nederland. The Hague: Staatsuitgeverij, 1979.*

Froese, Paul. "Hungary for religion: A Supply-side interpretation of the Hungarian

religious revival." *Journal for the Scientific Study of Religion 40, no. 2 (2001): 251-268.*

_____. "After atheism: An analysis of religious monopolies in the post-communist world." *Sociology of Religion 65, no. 1 (2004): 57-75.*

_____. "Secular Czechs and devout Slovaks: Explaining religious differences." *Review of Religious Research (2005): 269-283.*

Froese, Paul, and Steven Pfaff. "Replete and desolate markets: Poland, East Germany, and the new religious paradigm." *Social forces 80, no. 2 (2001): 481-507.*

Ganzeboom, Harry BG, Donald J. Treiman, and Wout C. Ultee, "Comparative intergenerational stratification research: Three generations and beyond," *Annual Review of sociology 17, no. 1 (1991): 277-302.*

Gautier, Mary L. "Church attendance and religious belief in postcommunist societies." *Journal for the Scientific Study of Religion (1997): 289-296.*

Genlias. 2009. *Genlias-Zoek uw stamboom uit. Retrieved October 11, 2009.* http://www.genlias.nl/ *[website since replaced by https://www.wiewaswie.nl].*

Gorski, Philip S. "The Protestant ethic revisited: Disciplinary revolution and state formation in Holland and Prussia," *American Journal of Sociology 99, no. 2 (1993): 265-316.*

_____. "Historicizing the Secularization Debate: Church, State, and Society in Late Medieval and Early Modern Europe, ca. 1300 to 1700." *American Sociological Review 65, no. 1 (2000): 138-167.*

Greif, Avner, *Institutions and the path to the modern economy: Lessons from medieval trade. Cambridge University Press, 2006.*

Grim, Brian J., and Roger Finke. "Religious Persecution in Cross-National Context:

Clashing Civilizations or Regulated Religious Economies?" *American Sociological Review 72, no. 4 (2007): 633-58.*

Gruber, Jonathan, and Daniel Hungerman. "Faith-Based Charity and Crowd Out during the Great Depression." *Journal of Public Economics, 91 no. 5 (2005), 1043-1069.*

_____. "The Church vs the Mall: What Happens When Religion Faces Increased Secular Competition?. " *No. w12410. National Bureau of Economic Research, 2006.*

Harold Jr, B., "The protestant ethic: Weber s model and the empirical literature," *Human Relations 50, no. 7 (1997): 757-778.*

Hayward, R. David, and Markus Kemmelmeier, "Weber revisited: a cross-national analysis of religiosity, religious culture, and economic attitudes," *Journal of Cross-Cultural Psychology 42, no. 8 (2011): 1406-1420.*

Hendrickx, John, Jan Lammers, and Wout Ultee, "Religious assortative marriage in the Netherlands, 1938-1983," *Review of religious research (1991): 123-145.*

Hirschle, Jochen. "The affluent society and its religious consequences: an empirical investigation of 20 European countries." *Socio-Economic Review 9, no. 2 (2011): 261-285.*

_____. "“Secularization of Consciousness” or Alternative Opportunities? The Impact of Economic Growth on Religious Belief and Practice in 13 European Countries." *Journal for the Scientific Study of Religion 52, no. 2 (2013): 410-424.*

Hornung, Erik, "Immigration and the diffusion of technology: The Huguenot diaspora in Prussia," *The American Economic Review 104, no. 1 (2014): 84-122.*

Hox, Joop J., Mirjam Moerbeek, and Rens van de Schoot, *Multilevel analysis:*

Techniques and applications. Routledge, 2010.

Huijsmans, D. P., *IISG-LINKS Dataset Historische Nederlandse Toponiemen Spatio-Temporeel 1812–2012, Release 2013.2, 2013.*

Hungerman, Daniel M. "Are church and state substitutes? Evidence from the 1996 welfare reform." *Journal of Public Economics 89, no. 11-12 (2005): 2245-267.*

Iannaccone, Laurence R. "Sacrifice and stigma: reducing free-riding in cults, communes, and other collectives." *Journal of political economy 100, no. 2 (1992): 271-291.*

Iannaccone, R., Finke R., and Stark, R. "Deregulating religion: The economics of church and state." *Economic Inquiry 35, no. 2 (1997): 350-364.*

Iannaccone, Laurence R., Colleen E. Haight, and Jared Rubin. "Lessons from Delphi: Religious markets and spiritual capitals." *Journal of Economic Behavior & Organization 77, no. 3 (2011): 326-338.*

Immerzeel, T., and F. Van Tubergen. "Religion as Reassurance? Testing the Insecurity Theory in 26 European Countries." *European Sociological Review 29, no. 2 (2011): 359-372.*

Inkeles, Alex, "Industrial man: The relation of status to experience, perception, and value," *American Journal of Sociology 66, no. 1 (1960): 1-31.*

IRF. (2015). *Human rights activists published evidences of religious persecution in the occupied Donbas. Retrieved May 14 2017.* *http://www.irf.in.ua/eng/index.php?option=com_content&view=article&id=431:1&catid=36:com&Itemid=55*

Jones, Harold B., "The Protestant Ethic: Weber's Model and the Empirical Literature," *Human Relations, 50:7 (1997), 757-778.*

Kaelble, Hartmut, *Social mobility in the 19th and 20th centuries: Europe and America*

in comparative perspective. Berg Publishers, 1985.

Kalberg, Stephen, "On the neglect of Weber's Protestant ethic as a theoretical treatise: demarcating the parameters of postwar American sociological theory." *Sociological Theory (1996): 49-70.*

_____. "Should the 'Dynamic Autonomy' of Ideas Matter to Sociologists? Max Weber on the Origin of Other-Worldly Salvation Religions and the Constitution of Groups in American Society Today," *Journal of Classical Sociology 1, no. 3 (2001): 291-327.*

Karpov, Vyacheslav. "The Social Dynamics of Russia's Desecularisation: a Comparative and Theoretical Perspective1." *Religion, State and Society 41, no. 3 (2013): 254-283.*

Kelley, Jonathan, and Nan Dirk De Graaf. "National Context, Parental Socialization, and Religious Belief: Results from 15 Nations." *American Sociological Review 62, no. 4 (1997): 639-659.*

Kerr, Clark, Frederick H. Harbison, John T. Dunlop, and Charles A. Myers, "Industrialism and industrial man," *Int'l Lab. Rev. 82 (1960): 236.*

Knigge, Antonie, Ineke Maas, and Marco HD van Leeuwen, "Sources of Sibling (Dis) similarity: Total Family Impact on Status Variation in the Netherlands in the Nineteenth Century 1," *American journal of sociology 120, no. 3 (2014): 908-948.*

Knigge, Antonie, Ineke Maas, Marco HD Van Leeuwen, and Kees Mandemakers, "Status attainment of siblings during modernization," *American sociological review 79, no. 3 (2014): 549-574.*

Kok, Jan, and Jan Van Bavel, *"Stemming the tide. Denomination and religiousness in*

the Dutch fertility transition, 1845–1945," In Religion and the Decline of Fertility in the Western World, pp. 83-105. Springer Netherlands, 2006.

Krindatch, Alexei D. "Religion in Postsoviet Ukraine as a factor in regional, ethno-cultural and political diversity." *Religion, State & Society 31, no. 1 (2003): 37-73.*

Kulyk, Volodymyr. "Constructing common sense: Language and ethnicity in Ukrainian public discourse." *Ethnic and Racial Studies 29, no. 2 (2006): 281-314.*

_____. "Language identity, linguistic diversity and political cleavages: evidence from Ukraine." *Nations and Nationalism 17, no. 3 (2011): 627-648.*

Lambert, Paul S., Richard L. Zijdeman, Marco HD Van Leeuwen, Ineke Maas, and Kenneth Prandy, "The construction of HISCAM: A stratification scale based on social interactions for historical comparative research," Historical Methods: *A Journal of Quantitative and Interdisciplinary History 46, no. 2 (2013): 77-89.*

Lechner, Frank J. "Catholicism and Social Change in the Netherlands: A Case of Radical Secularization?" *Journal for the Scientific Study of Religion 28, no. 2 (1989): 136-147.*

_____. "Secularization in the Netherlands?" *Journal for the Scientific Study of Religion 35, no. 3 (1996): 252-264.*

_____. 2007. Rational choice and religious economies. *Beckford, J. e Demmerath III. NJ (0rgs.) The Sage Handbook of the Sociology of Religion. London: Sage, 81-97.*

Lenski, Gerhard, James W. Smith, and A. Leland Jamison, *"The religious factor," (1963).*

Lehrer, Evelyn L., "Religion as a determinant of economic and demographic behavior in

the United States," *Population and development review 30, no. 4 (2004): 707-726.*

Levinger, Matthew, and Paula Franklin Lytle. "Myth and mobilisation: the triadic structure of nationalist rhetoric." *Nations and Nationalism 7, no. 2 (2001): 175-194.*

Lijphart, Arend, *The politics of accommodation: Pluralism and democracy in the Netherlands. Vol. 142. Univ of California Press, 1975.*

Lipset, Seymour Martin, and Reinhard Bendix, *Social mobility in industrial society. Transaction Publishers, 1991.*

Maas, Ineke, and Marco HD Van Leeuwen, "Industrialization and intergenerational mobility in Sweden," *Acta Sociologica 45, no. 3 (2002): 179-194.*

_____. "Toward Open Societies? Trends in Male Intergenerational Class Mobility in European Countries during Industrialization 1," *American Journal of Sociology 122, no. 3 (2016): 838-885.*

Martin, Terry Dean. *The affirmative action empire: nations and nationalism in the Soviet Union, 1923-1939. Cornell University Press, 2001.*

Mcbride, Michael. "Religious Pluralism and Religious Participation: A Game Theoretic Analysis." *American Journal of Sociology 114, no. 1 (2008): 77-106.*

_____. "Religious Market Competition in a Richer World." *Economica 77, no. 305 (2010): 148-171.*

McCleary, Rachel M., and Robert J. Barro, "Religion and economy," *The Journal of Economic Perspectives 20, no. 2 (2006): 49-72.*

McCloskey, Deirdre N., *Bourgeois dignity: Why economics can't explain the modern world. University of Chicago Press, 2010.*

Meulemann, Heiner. "Enforced secularization—spontaneous revival? Religious belief,

unbelief, uncertainty and indifference in east and west European countries 1991–1998." *European Sociological Review 20, no. 1 (2004): 47-61.*

Miles, Andrew, *Building European society: occupational change and social mobility in Europe 1840-1940. Manchester University Press, 1993.*

Miller, Alan S., and Rodney Stark. "Gender and Religiousness: Can Socialization Explanations Be Saved? 1." *American Journal of Sociology 107, no. 6 (2002): 1399-1423.*

Mitch, David Franklin, *The rise of popular literacy in Victorian England: the influence of private choice and public policy. Philadelphia: University of Pennsylvania Press, 1992.*

Mitrokhin, Nikolai. "Aspects of the religious situation in Ukraine." *Religion, State & Society 29, no. 3 (2001): 173-196.*

Mokyr, Joel, *A Culture of Growth: The Origins of the Modern Economy. Princeton University Press, 2016.*

Montgomery, James D. "A formalization and test of the religious economies model." *American Sociological Review (2003): 782-809.*

Müller, Olaf. "Secularization, individualization, or (re) vitalization? The state and development of churchliness and religiosity in post-communist Central and Eastern Europe." *Religion and Society in Central and Eastern Europe 4, no. 1 (2011): 21-37.*

Müller, Tim, and Anja Neundorf. "The role of the state in the repression and revival of religiosity in central eastern Europe." *Social forces 91, no. 2 (2012): 559-582.*

Northmore-Ball, Ksenia, and Geoffrey Evans. "Secularization versus religious revival in Eastern Europe: Church institutional resilience, state repression and divergent paths." *Social science research 57 (2016): 31-48.*

Norris, Pippa, and Ronald Inglehart. *Sacred and secular: Religion and politics worldwide. Cambridge University Press, 2011.*

Olav Aarts Agatha Joka. *Religious diversity and religious involvement: A study of religious markets in Western societies at the end of the twentieth century. ICS, 2010.*

Parashevin, Maksym. “Teorija sekularizatsii v evropejskom nauchnom diskurse”. *Sociology: theory, methods, marketing, no. 2 (2006): 90-102.*

Panych, Olena. "Memory and identity among post-Soviet Evangelical Christians–Baptists in contemporary Ukraine." *Religion, State & Society 42, no. 4 (2014): 354-373.*

Pew Research Center. *“Religious Belief and National Belonging in Central and Eastern Europe”. Numbers, Facts and trends Shaping the World (2017). Retrieved on May 25 2017.*

Pfaff, Steven. "Religion under communism: State regulation, atheist competition, and the dynamics of supply and demand." *The Oxford handbook of the economics of religion (2012).*

Pickel, Gert, and Kornelia Sammet. "Introduction–Transformations of Religiosity in Central and Eastern Europe Twenty Years after the Breakdown of Communism." *In Transformations of Religiosity, pp. 7-20. VS Verlag für Sozialwissenschaften, 2012.*

Pollack, Detlef. "Modifications in the religious field of Central and Eastern Europe." *European Societies 3, no. 2 (2001): 135-165.*

_____. "Religiousness inside and outside the church in selected post-communist countries of Central and Eastern Europe." *Social Compass 50, no. 3 (2003): 321-334.*

Poppel, Frans van, Jona Schellekens, and Aart C. Liefbroer, "Religious differentials in infant and child mortality in Holland, 1855–1912," *Population Studies 56, no. 3 (2002): 277-289.*

Post, Harry, *Pillarization: An analysis of Dutch and Belgian society. Gower Pub Co, 1989.* Posterijen (1880-1916). *Verslagen aan den koning betrekkelijk de dienst der posterijen en der telegrafen in Nederland. The Hague: s.n.*

Ribberink, Egbert, Peter Achterberg, and Dick Houtman. "Deprivatization of Disbelief?: Non-Religiosity and Anti-Religiosity in 14 Western European Countries." *Politics and Religion 6, no. 01 (2013): 101-120.*

RISU. (2015). *Vid UPC MP Do UPC KP: Interaktyvna Karta Perehodiv. Retrieved May 2017* http://risu.org.ua/ua/index/expert_thought/analytic/62395/

Ruijs, Wilhelmina LM, Jeannine LA Hautvast, Koos van der Velden, Sjoerd de Vos, Hans Knippenberg, and Marlies EJL Hulscher, "Religious subgroups influencing vaccination coverage in the Dutch Bible belt: an ecological study," *BMC Public Health 11, no. 1 (2011): 102.*

Ruiter, Stijn, and Frank Van Tubergen. "Religious Attendance in Cross-National Perspective: A Multilevel Analysis of 60 Countries." *American Journal of Sociology 115, no. 3 (2009): 863-895.*

Scholen, *1862-1917. Verslag van den Staat der Hooge-, Middelbare en Lagere Scholen. The Hague: s.n.*

Schulz, Wiebke, Ineke Maas, and Marco HD van Leeuwen, "Occupational career attainment during modernization. A study of Dutch men in 841 municipalities between 1865 and 1928," *Acta Sociologica 58, no. 1 (2015): 5-24.*

Schellekens, Jona, and Frans Van Poppel, "Religious differentials in marital fertility in

The Hague (Netherlands) 1860–1909," *Population studies 60, no. 1 (2006): 23-38.*

Spohn, Willfried. "Europeanisation, Multiple Modernities and Religion–The Reconstruction of Collective Identities in Post-Communist Central and Eastern Europe." *In Transformations of Religiosity, pp. 29-50. VS Verlag für Sozialwissenschaften, 2012.*

Stark, Rodney, and Bainbridge, William. 1987. *A theory of religion (Vol. 2). New York: Lang.*

Stark, Rodney, and Roger Finke. *Acts of faith: Explaining the human side of religion. Univ of California Press, 2000.*

_____. "A Supply-Side Reinterpretation of the "Secularization" of Europe." *Journal for the Scientific Study of Religion 33, no. 3 (1994): 230-353.*

_____. Stark, Rodney, and Laurence R. Iannaccone. "Response to Lechner: Recent Religious Declines in Quebec, Poland, and the Netherlands: A Theory Vindicated." *Journal for the Scientific Study of Religion 35, no. 3 (1996): 265-372.*

Stock, James H., and Motohiro Yogo. "Testing for weak instruments in linear IV regression." *In: Andrews DWK Identification and Inference for Econometric Models. New York: Cambridge University Press; 2005. pp. 80-108.*

Tawney, Richard Henry, *Religion and the Rise of Capitalism. Vol. 23. Transaction publishers, 1926.*

Tomka, Miklós. "Secularization or anomy? Interpreting religious change in communist societies." Social Compass 38, no. 1 (1991): 93-102.

_____. "Is conventional sociology of religion able to deal with differences

between Eastern and Western European developments?." *Social compass 53, no. 2 (2006): 251-265.*

Treiman, Donald J., "Problems of concept and measurement in the comparative study of occupational mobility," *Social Science Research 4, no. 3 (1975): 183-230.*

Van Bavel, Jan, and Jan Kok, "Birth spacing in the Netherlands. The effects of family composition, occupation and religion on birth intervals, 1820–1885," *European Journal of Population/Revue Européenne de Démographie 20, no. 2 (2004): 119-140.*

_____. "The role of religion in the Dutch fertility transition: Starting, spacing, and stopping in the heart of the Netherlands, 1845–1945," *Continuity and Change 20, no. 02 (2005): 247-263.*

_____. "Pioneers of the Modern Lifestyle?," *Social Science History 34, no. 01 (2010): 47-72.*Van der Meer, A., and Boonstra, O.W.A. 2006. *Repertorium van Nederlandse gemeenten 1812-2006. DANS Data Guide 2, Den Haag.*

Van Ingen, Erik , and Nienke Moor. 2015. "Explanations of changes in church attendance between 1970 and 2009. " *Social science research 52: 558-569.*

Van Tubergen, Frank, and Jórunn Í. Sindradóttir. "The Religiosity of Immigrants in Europe: A Cross-National Study." *Journal for the Scientific Study of Religion 50, no. 2 (2011): 272-288.*

Van Leeuwen, Marco HD., "Giving in early modern history: philanthropy in Amsterdam in the Golden Age," *Continuity and Change 27, no. 02 (2012): 301-343.*

Van Leeuwen, Marco HD, and Ineke Maas, "Historical studies of social mobility and stratification," *Annual Review of Sociology 36 (2010): 429-451.*

Van Leeuwen, Marco HD, Ineke Maas, and Andrew Miles, *HISCO: Historical*

international standard classification of occupations. Leuven: Leuven University Press, 2002.

Van Leeuwen, Marco HD, Ineke Maas, Danièle Rébaudo, and Jean-Pierre Pélissier. "Social Mobility in France 1720–1986: Effects of Wars, Revolution and Economic Change." *Journal of Social History 49, no. 3 (2016): 585-616.*

Van Poppel, Frans, Aart C. Liefbroer, and Jona Schellekens, "Religion and social mobility in nineteenth-Century The Hague," *Sociology of Religion 64, no. 2 (2003): 247-271.*

Voas, David, and Mark Chaves. "Is the United States a Counterexample to the Secularization Thesis?" *American Journal of Sociology 121, no. 5 (2016): 1517-556.*

Voas, David, Alasdair Crockett, and Daniel V. A. Olson. "Religious Pluralism and Participation: Why Previous Research Is Wrong." *American Sociological Review 67, no. 2 (2002): 212-230.*

Warner, R. Stephen. "Work in Progress Toward a New Paradigm for the Sociological Study of Religion in the United States." *American Journal of Sociology 98, no. 5 (1993): 1044-1093.*

Weber, Max, *The Protestant ethic and the spirit of capitalism. Allen & Unwin, 1976.*

Wintle, Michael, *An economic and social history of the Netherlands, 1800–1920: demographic, economic and social transition. Cambridge University Press, 2000.*

Woodberry, Robert D., "The missionary roots of liberal democracy," *American Political Science Review 106, no. 02 (2012): 244-274.*

Yaish, Meir, and Robert Andersen, "Social mobility in 20 modern societies: The role of

economic and political context," *Social Science Research 41, no. 3 (2012): 527-538.*

Yelensky, Viktor. "Religiosity in Ukraine according to sociological surveys." *Religion, State & Society 38, no. 3 (2010): 213-227.*

Zijdeman, Richard Lindert, *Status attainment in the Netherlands, 1811-1941: Spatial and temporal variation before and during industrialization. Vol. 164. Richard L. Zijdeman, 2010.*

Zrinščak, Sinišsa. "Generations and atheism: Patterns of response to communist rule among different generations and countries." *Social Compass 51, no. 2 (2004): 221-234.*

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