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**THE POLISH-LITHUANIAN COMMONWEALTH
AS A LABORATORY FOR ANALYSING CONNECTIONS
BETWEEN CONFESSIONS,
THE DEMOGRAPHIC REGIME, AND HUMAN CAPITAL***

Abstract

Religion played a key role in the normative systems of early modern societies. This article is an introduction to a more extensive project, in which we will conduct a historical analysis of the role of religion in economic, demographic, and civilizational growth. We believe that the sources that have survived from the early modern period provide ample data to allow for quantitative studies on this subject. The Polish-Lithuanian Commonwealth appears to be an excellent laboratory because of its unique religious diversity, which allowed for the relatively peaceful coexistence of many religions on its territory. In this paper we analyse censuses from the second half of the eighteenth century which registered the mixed denomination/religious populations of villages (the Zabartowo parish), a small town (Kępno) and a big city (Warsaw). We try to show that these censuses can be used not only in typical demographic studies on family structures, but can also be successfully used in research on human capital in religiously diversified societies.

Keywords: religious diversity, household structures, human capital, the Polish-Lithuanian Commonwealth

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I INTRODUCTION

According to many theoreticians,¹ in historical times religion played a key role, and in some cases was even superior to other elements of the normative systems in existence.² Connections between economic and demographic development and the normative systems dominant in a given culture lies at the centre of attention of economists, anthropologists, cultural experts, and sociologists.

For many years, research into the links between religion and economic and demographic development has been heavily influenced by Max Weber's book *The Protestant Ethic and the Spirit of Capitalism*.³ It was thanks to this work that the question of religion/denomination became crucial in the examination of the causes underlying the rapid economic development of the countries in the North Sea area (the Netherlands, England), as well as in identifying the causes of European economic and political hegemony in early modern times. Under the influence of Weber, "[t]he role of culture in demographic behaviour has attracted increasing attention in recent years, as demographers have turned away from the economic models that once dominated the field of population studies."⁴ Economists have paid closer attention to the role of human capital and began to examine it in search of the reasons for the more rapid development of protestant regions and countries.⁵

Contemporary economic and demographic historians also study the influence of institutions on economic life.⁶ In accordance

¹ Daron Acemoğlu and James A. Robinson, *Why nations fail: The origins of power, prosperity, and poverty* (London, 2012).

² Niklas Luhmann, *Funktion der Religion* (Frankfurt am Main, 1977).

³ Originally published as a series of essays in 1904–5 and 1920: Max Weber, *Die protestantische Ethik und der Geist des Kapitalismus*.

⁴ Kevin McQuillan, *Culture, Religion, and Demographic Behaviour: Catholics and Lutherans in Alsace, 1750–1870* (Liverpool, 1999), 3.

⁵ Sascha Becker and Ludger Woessmann, 'Was Weber Wrong? A Human Capital Theory of Protestant Economic History', *Quarterly Journal of Economics*, cxxiv, 2 (2009), 531–96. Earlier, in the spirit of the theory of human capital an interpretation of the history of Jewish entrepreneurship was presented: Maristella Botticini and Zvi Eckstein, 'From farmers to Merchants. Conversions and Diaspora: Human Capital and Jewish History', *Journal of the European Economic Association*, v, 5 (2007), 885–926.

⁶ Jan Luiten van Zanden, *The long road to the Industrial Revolution: the European economy in a global perspective, 1000–1800* (Leiden, 2009); Sheilagh Ogilvie, *Institutions and European trade: Merchant guilds, 1000–1800* (Cambridge, 2011).

with the widespread practice in the ‘new institutional economy’, for the purposes of this article we use the term ‘institutions’ in its broad sense, as “a set of formal and informal rules, including their enforcement arrangements.”⁷ Institutions created and functioning in relation to religion are considered (along with such phenomena as inheritance systems or gender relations⁸) as key factors influencing the economy, marriage patterns, and household structures. In such studies, the Polish-Lithuanian Commonwealth has been treated either marginally and/or stereotypically. It has been placed behind the Elbe line (a crucial dividing line in the assessment of European countries’ economic conditions and development), or east of the Hajnal line (dividing Europe into two parts with different marriage patterns and different models of household structures).⁹

The stereotypical view of Eastern Europe is not surprising. Max Weber began his study of the importance of religion in economic development by comparing the socio-economic situation in different parts of the newly unified German state. They differed in terms of their religious denomination, yet were parts of the same organism. Unfortunately, Weber’s critics as well as his apologists have, in their own studies, tended to juxtapose data from different countries more or less homogenous in terms of religion, but often forgetting that the level of economic development in these countries was shaped by a number of factors: economic, cultural, legal and geographical.

The greater availability of statistical data has led to greater attention being given to the period after the industrial revolutions of the nineteenth century. The preindustrial era has been left for the historians of economic thought, culture, and philosophy. Consequently, although since Weber’s times a considerable number of works by historians,

⁷ Eirik G. Furubotn and Rudolf Richter, *Institutions and economic theory: the contribution of the new institutional economics* (Ann Arbor, 2005²), 7. Weber’s influence on this definition should be obvious to anybody familiar with his works – Richard W. Scott, *Institutions and Organizations* (Thousand Oaks, 1995).

⁸ Ester Boserup, *Woman’s role in economic development* (London, 2007).

⁹ John Hajnal, ‘European marriage patterns in perspective’, in David V. Glass and David E.C. Eversley (eds.), *Population in history* (London, 1965), 101–43; John Hajnal, ‘Two kinds of preindustrial household formation system’, in Richard Wall, Joan Robin and Peter Laslett (eds.), *Family forms in historic Europe* (Cambridge, 1983), 65–104; Peter Laslett, *Family and household as work group and kin group: areas of traditional Europe compared*, in *Family forms*, 513–64; Michael Mitterauer, *Why Europe. The Medieval Origins of Its Special Path* (Chicago and London, 2010).

culture experts, philosophers and economists have been published, the actual extent of available knowledge can hardly be described as satisfactory. The vast majority of publications focus on one hand on official statements and teachings of religious leaders, and on the other hand on economic and philosophical theories proposed by scholars who associate themselves with particular religions or denominations. Many of these works represent a stereotypical approach towards the issues, e.g. emphasizing the progressive character of the economy in Protestant England while ignoring the economic backwardness of equally Protestant Scotland. They also reflect some degree of confessionalisation of the academic world.

To date hardly any archival research aimed at comparing the economic practices of particular religious communities has been undertaken. Demographic studies of religiously diversified communities, mainly in the eighteenth and nineteenth centuries, are somewhat more popular.¹⁰ However, studies that compare economic and demographic phenomena characteristic of different religious communities living in identical socio-political and legal conditions in the preindustrial era are very rare.¹¹

We believe that the sources that have survived from the early modern period provide ample data to enable quantitative studies into the influence of religion and religious denominations on the economic and demographic development of early modern societies. Owing to its unique religious diversity, the Polish-Lithuanian Commonwealth

¹⁰ Timothy G. Saunders, *Familie, Fortpflanzung und Bevölkerungsentwicklung im Hunsrück. Eine historisch-demographische Untersuchung der Lebensverhältnisse und gesellschaftlichen Strukturen in Kirchberg, Kastellaun und Gemünden 1650–1800* (Frankfurt am Main, 1995); Martina Rommel, *Die Wormser und ihre Stadt 1750–1875. Demographische, soziale und konfessionelle Aspekte des Wandels von der Ackerbürger- zur Fabrikarbeiterstadt* (Darmstadt and Marburg, 1996); Kevin McQuillan, *Culture, religion and demographic behaviour: Catholics and Lutherans in Alsace, 1750–1870* (Liverpool, 1999); Ariane Kemkes-Grottenthaler, 'More than a Leap of Faith: The Impact of Biological and Religious Correlates in Reproductive Behavior', *Human Biology*, lxxv, 5 (2003), 705–27; Ariane Kemkes-Grottenthaler, 'God, Faith and Death: the Impact of Biological and Religious Correlates on Mortality', *Human Biology*, lxxv, 5 (2003), 897–915; Peter Öri, 'Long-term demographic change and local socio-cultural patterns: marriages and household structures in 18–20th century Hungary', *Przeszłość Demograficzna Polski*, xxxvii, 3 (2016), 7–37; Peter Öri, 'Socioeconomic and religious differentials in marital fertility during the fertility transition: A micro-level study from western Hungary, 1850–1939', *Demográfia* [English Edition], lviii, 5 (2016), 5–37.

¹¹ Gregory Henlon, *Confession and Community in Seventeenth-Century France. Catholic and Protestant Coexistence in Aquitaine* (Philadelphia, 1993).

appears to be an excellent subject for such a detailed study because of its unique religious diversity, as it was characterised by a relatively peaceful coexistence of many religions on its territory. Unlike countries from the North Sea area, Poland has been perceived by western scholars as irrelevant to their research because of its feudal backwardness. We believe, however, that it is time to give greater attention to countries that have so far been largely underrepresented in historical studies.

Thus, this article is an introduction to a more extensive project, in which we will conduct a historical analysis of the key problems which arise in examining the circumstances governing economic, demographic, and civilizational growth. In addition, our investigation will not repeat the old pattern of studying the teachings of the intellectual elite of particular religious groups. Instead, we focus on the practical dimensions of people's economic and demographic behaviour. We base our argumentation on quantitative data, complementing or challenging former discourses based on qualitative analyses of narrative sources.

The still somewhat limited availability of source material and the character of our research strategy (creating empirical tests for the main hypothesis) are the main reasons why our investigation will take the form of a number of micro-studies in economic history and historical demography. As the majority of the population lived in the countryside and in small towns, our study will concentrate on these two locations, even though we shall also incorporate the statistics of big cities such as Warsaw or Vilnius. Our studies will focus on certain subjects: connections between religion and credit activities; connections between religion and the number of working days in a year; the economic effectiveness of institutions connected with particular religious groups; age at first marriage and number of children per family; different models of household organization; and differences in the level of development of human capital.

The demographic literature is dominated by the well-established view of more 'progressive' Protestants, whose marriage and procreational decisions allegedly demonstrated that they were more adjusted to the requirements of a capitalist economy. So far researchers have emphasized that Protestants applied various methods to limit fertility and delay marriage.¹² Also, it has been claimed so far that in some

¹² Alfred Perrenoud, 'Espacement et arrêt dans le contrôle des naissances', *Annales de démographie historique*, xxii, 1 (1988), 59–78; *idem*, *Aspects of Fertility*

'conservative' religious communities parents tended to limit their adolescent children's mobility in order to use them as a source of free labour in their own households. In contrast, households in some other, more 'progressive' religious communities were allegedly more likely to send the children off and employ hired labourers in their stead.¹³

Contrary to this view, the authors propose a radical working hypothesis that the religious factor did not lead to any significant differences in economic practices, marriage patterns and household structures between the various religious communities coexisting in a similar legal, social, and economic environment. Because of their great religious diversity, the Polish-Lithuanian-Ruthenian lands are in fact a perfect analytical laboratory for the study of the influence of religion on economic/demographic life.

To date, with the exception of Grażyna Liczbińska's study, such comparative analyses of religiously mixed communities have not been conducted with regard to Poland. Liczbińska's work, however, is concerned only with nineteenth-century Poznań's demography and is burdened by some methodological doubts.¹⁴ It should be noted that the subject of demographic differences between particular religious groups in Toruń was also taken up by Agnieszka Zielińska, but it was focused only on the demographic transformation at the turn of the twentieth century¹⁵

Decline in an Urban Setting: Rouen and Geneva, in Ad van der Woude, Akira Hayami and Jan de Vries (eds.), *Urbanization in History* (Oxford, 1990), 243–63; Frans van Poppel and Renzo Derosas (eds.), *Religion and the Decline of Fertility in the Western World* (Dordrecht, 2006).

¹³ Mikołaj Szoltysek, 'Life-cycle service and family systems in the rural countryside: A lesson from historical east-central Europe', *Annales de démographie historique*, cxvii, 1 (2009), 53–94.

¹⁴ Grażyna Liczbińska, *Umieralność i jej uwarunkowania wśród katolickiej i ewangelickiej ludności historycznego Poznania* (Poznań, 2009). The fundamental weak point of Liczbińska's study is her inclination to defend her preliminary hypothesis of a higher standard living for Protestants as a result of their higher cultural capital, even in the face of contradictory evidence based on her analysis of sources. For example, the relatively low mortality in one of Roman-Catholic parishes observed by the author is explained using the argument, raised *ad hoc*, referring to the quality of water intakes, without recognition of the evidence's potential to refute her preliminary hypothesis (p. 121).

¹⁵ Agnieszka Zielińska, *Przemiany struktur demograficznych w Toruniu w XIX i na początku XX wieku* (Toruń 2012).

Among other studies are works referring to the eastern areas of the early modern Commonwealth. One of them, by Zdzisław Budzyński, on the Polish and Ruthenian population of the south-eastern borderlands, provides general characteristics of the Roman-Catholic and the Greek-Catholic families,¹⁶ but without any in-depth demographic analyses of marriage, family, and household structures. More on the demographic similarities between the rites (i.e. the almost identical age of marriage in the country) can be found in the older study concerning the religiously mixed populations of Brzeżany by Bohdan Puczyński.¹⁷

A particularly useful role, in the context of the problem under examination, is played by Mikołaj Szoltysek's articles on peasant families in the historical Polish-Lithuanian Commonwealth, which he recapitulated in his book: *Rethinking East-Central Europe: family systems and co-residence in the Polish-Lithuanian Commonwealth*.¹⁸ Among the many elements affecting familial behaviours he named ethnic and religious factors.¹⁹ Despite his many precious observations, especially those which he includes in the description of family structures on the territories inhabited by the Ruthenian population (Ukrainian and Belarusian), it is important to note that the regions distinguished by the author and the sources used therefrom (Region 8 – Chełm Land, Region 10 – Żytomierz Poviát, Region 11S – Polesie, 11N – centre of Belarus) represent populations adhering to eastern rites, i.e. Uniate (and perhaps Orthodox).²⁰ In turn, the lists of the *status animarum* of five parishes of the Ruthenian and Podolian Voivodeships (Provinces) constitute a homogeneous Roman-Catholic region 9, making it an island on the territory dominated by Ruthenian settlements, and it is not compared with them in Szoltysek's work.²¹ Thus, the author's

¹⁶ Zdzisław Budzyński, *Kresy południowo-wschodnie w drugiej połowie XVII wieku, iii: Studia z dziejów społecznych* (Przemyśl and Rzeszów, 2008).

¹⁷ Bohdan Puczyński, 'Ludność Brzeżan i okolicy w XVII i XVIII w.', *Przeszłość Demograficzna Polski*, iv, 1971, 177–214; *idem*, 'Ludność Brzeżan i okolicy w XVII i XVIII w. część 2: Ruch naturalny ludności', *Przeszłość Demograficzna Polski*, v (1972), 15–64; *idem*, 'Ludność Brzeżan i okolicy w XVII i XVIII w. część 3: Zaludnienie i struktura ludności według płci, wieku i stanu cywilnego', *Przeszłość Demograficzna Polski*, vi (1974), 3–52.

¹⁸ Mikołaj Szoltysek, *Rethinking East-Central Europe: family systems and co-residence in the Polish-Lithuanian Commonwealth* (Berlin, New York and Wien, 2016).

¹⁹ *Ibidem*, 217.

²⁰ *Ibidem*, 121.

²¹ *Ibidem*, 949–50.

samples are religiously homogeneous despite the fact that some of them come from religiously heterogeneous regions. For this reason it is not possible to state that Mikołaj Szołtysek's book (otherwise undoubtedly excellent) addressed the question of how the religious affiliation of family members affected household structures.

II THE SOURCES

The analyses conducted in the further part of this article are based on census-like materials from the second half of the eighteenth century. Their objective is, first and foremost, to indicate the broader possibilities of using these and similar materials, and they are not offered as a final exhaustion of the issue. Thus, the article represents a first tentative step in a more extensive project. However, it seems that even such selected examples will allow us to cast some light on the issue of the links between religion, human capital, demography, and the spatial distribution of the population inhabiting the Polish-Lithuanian Commonwealth. In our research we decided to use the same type of source material, i.e. census-like sources, which allows for scrutinizing the questions we focus on, both demographic ones and those connected with human capital. This is no novelty in the literature on the subject. John Mokyr has already noted the possibility of using the 'age-heaping' technique as an indicator of numeracy,²² characteristic for historical demographers. As Joerg Baten, one of the best specialists in this type of research, puts it: "[A]ge heaping-based numeracy estimates education and, in particular, is a proxy for numerical skills. As such, it is an important component of human capital and a precondition for more advanced skills."²³

²² John Mokyr, *Why Ireland Starved: a Quantitative and Analytical History of the Irish Economy* (London, 1983).

²³ Joerg Baten, 'Introduction', in *idem* (ed.), *A History of the Global Economy. From 1500 to the Present* (Cambridge, 2016), 8. See also different studies of that author: Jörg Baten, Dorothee Crayen and Hans-Joachim Voth, 'Numeracy and the Impact of High Food Prices in Industrializing Britain, 1780–1850', *Review of Economics and Statistics*, xlii, 3 (2014), 418–30; Joerg Baten and Dácil Juif, 'A story of large Land-owners and Math Skills: Inequality and Human Capital Formation in Long-run Development, 1820–2000', *Journal of Comparative Economics*, xlii, 2 (2014), 375–401; Jörg Baten and Johan Fourie, 'Numeracy of Africans, Asians and Europeans during the Early

As our research subject, we chose communities with a complex religious structure and inhabiting places of a different nature: a big city, Warsaw – the capital of the country, and a small town on the territory of historical Greater Poland, Kępno (Wieluń Land), as well as a village parish: Zabartowo at the border between Greater Poland and Pomerania.

The origins of the majority of the census-like sources used here are connected with the administrative reforms conducted towards the end of the Commonwealth, when the so-called Civil-Military Order Commissions, fulfilling the function of regional executors of the central authorities' regulations, began in the years 1790–2 to gather information concerning the population of the state.²⁴ Even though many of the censuses prepared as a result of these actions are not preserved today, a considerable number thereof may still be found in archives. Modelled on the censuses prepared earlier by the Catholic church, usually contain a list of the inhabitants of a particular town, together with their first names and surnames, sexes and ages, and including the function fulfilled by them in the household to which they belonged (e.g. parent, child, servant, etc.). Given that the people who directly prepared such censuses were first and foremost local clergymen, we can infer that they had a good knowledge of the population registered, and that the data prepared by them, even though burdened with certain errors, are relatively complete. In the context of our analyses, it is especially important that the censuses were to embrace the whole population, regardless of their confession, belonging to the particular estate, and its demographic qualities. In the case of the sources used here, this function was implemented by preparing separate, yet of nearly the same period, censuses of particular religious groups. Thus for example we have three lists for Kępno: of Catholics, Protestants, and Jews.²⁵ Thanks to this practice, matching a particular person with a particular denomination group does

Modern Period: New Evidence from Cape Colony Court Registers', *Economic History Review*, lxviii, 2 (2014), 632–56.

²⁴ Such censuses are the censuses of Kępno of 1790 and 1791, as well as the census of Warsaw Catholics of 1791.

²⁵ Warsaw, Central Archives of Historical Records (Archiwum Główne Akt Dawnych [hereinafter: AGAD]), Akta Komisji Porządkowej Cywilno-Wojskowej ziemi wieluńskiej i powiatu ostrzeszowskiego 1, 223–51, 261–81, 289–320. The censuses describe populations of 840 Catholics, 652 Protestants, and 581 Jews.

not create difficulties, and the nearly-identical form of the particular censuses allows us to compare them easily. Although identical in its nature, the census of the Warsaw Holy Cross parish, prepared in 1791, unfortunately refers exclusively to Catholics.²⁶ Persons of other confessions appear in it only if they cohabited in Catholic households, and their demographic characteristics are generally very abridged.²⁷

The list of the population of Zabartowo, prepared in 1766, is a classical *status animarum* book practically of the same form as the sources discussed above. In this case the representatives of both confessions living in the parish (Protestants and Catholics) were registered in one census. The clergymen who prepared it, however, precisely marked particular persons.²⁸

A bit more complex circumstances accompanied the origins of the censuses referring to Warsaw's Protestants and Jews. One of them, from 1791,²⁹ was prepared in connection with the debates of that period concerning the legal status of the Protestant denomination.³⁰ Even though in many respects it resembles the lists of the Order Commissions prepared at the same time, the structure of households was not presented very diligently; in particular it omits the Catholics cohabiting with the Protestants (mostly as servants). All this results in an opinion that the quality of this census should be considered as poorer than that of the corresponding census of Catholics and cannot always be reliably used for comparisons of the demographic characteristics of the both populations. An even more simplified form

²⁶ AGAD, Varia Grodu Warszawskiego 25. Our analysis will cover 12,734 Catholics included in the census. Due to Warsaw being the capital city, the document also contains over 2,000 persons residing at aristocrats' mansions and monasteries. However, since such institutions did not exist among the Jewish and Protestant communities residing in the city, the comparisons offered in this paper will omit them.

²⁷ Cezary Kukło, *The Population of the Holy Cross Parish in Warsaw in the 18th century* (Białystok, 2016), 80.

²⁸ Piotr Guzowski, 'Status animarum parafii Zabartowo z 1766 roku', *Przeszłość Demograficzna Polski*, xxxiii (2014), 65–103. The census includes 705 Catholics and 628 Lutherans.

²⁹ AGAD, Varia Grodu Warszawskiego 24. The census covered the population of 5,620 Protestants.

³⁰ Małgorzata Kubaś (ed.), *Rejestr warszawskiej ludności wyznania ewangelicko-augsburskiego z 1791 roku* (Warszawa, 1996), 3.

characterizes the census of the Warsaw Jewish population of 1778. It did not contain the age of those listed and the kinship relationships between them was presented in a very simplified form.³¹ Consequently, this census will be used in our further analyses to a limited degree only.

The small chronological difference between the particular sources, amounting at most to a quarter of a century, has no bearing on their usefulness and comparability, as we are dealing with the full continuum of the preindustrial demographic regime and the socio-economic system.

III THE STRUCTURE OF HOUSEHOLDS

Historical demographers and social historians have pointed out that the type of family household conducive to capitalism was based on a single nuclear family and its employed domestic servants. In the European geography of family forms proposed by Peter Laslett, this is dubbed the so-called 'Western model', characteristic of England and northern Netherlands (Table 1).

The territories of the Polish-Lithuanian Commonwealth, as demonstrated in Michał Kopczyński and Mikołaj Szoltysek's studies, are part of the Central European model, even though with a noticeable tendency toward a decreasing share of simple-family households as the area under study moves eastward. According to Szoltysek, in Western Poland solitary households made up 1.7 per cent, no family 0.3 per cent, simple households 78 per cent, extended households 11.2 per cent, and multiple family households 8.9 per cent.³² The explicit domination of simple households was also accompanied by a great role played by domestic servants. The populations analyzed here also came from the western parts of the Polish-Lithuanian Commonwealth. Scrutinizing the types of households dominant among them, it turns out that the differentiation between the particular denominations and religions (since we also have some data referring to Jews) is not considerable (Graph 1) and simple households dominated everywhere. The share of extended-family households or a married couple cohabiting with

³¹ Hanna Węgrzynek (ed.), *Regestr osób żydowskich spisany w miesiącu styczniu roku 1778 w Warszawie* (Warszawa, 2016). This census included 3,534 persons.

³² Szoltysek, *Rethinking East-Central Europe*, 610.

Table 1. Examples of household compositions in four European regions

Household type	Regions			
	West – Elmdon, England, 1861	Central – Grossenmer, Germany, 1785	Mediterranean – Bologna neig- bourhood, Italy, 1853	East – Krasnoe Sobakino, Russia, 1849
Solitaires (single persons in households)	6.1	1.4	0	0
No-family households (co-residents amongst whom no conjugal family unit can be discerned)	7.0	0.7	2.6	0
Simple-family households (conjugal family units only)	73.0	68.3	61	13.3
Extended-family units (conjugal family units having kin-linked individuals)	12.2	19.7	12.7	6.7
Multiple-family households (two or more kin-linked conjugal family units)	1.7	9.9	22.1	80

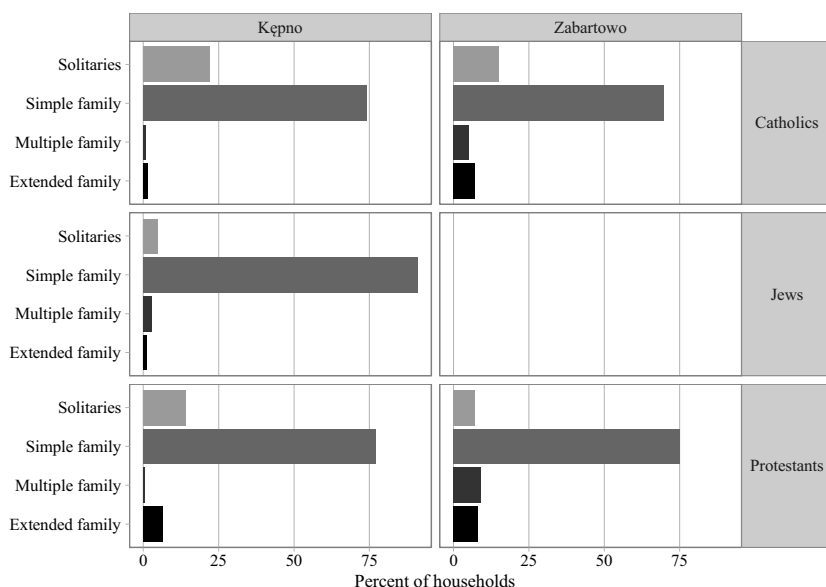
Source: Laslett, *Family and household*, 518–24.

at least one relative, or multiple-family households composed of at least two married couples (e.g. parents and adult children, or two married couples of a brother and a sister, or two brothers), is minimal. Obviously, the widespread domination of simple-family households visible in the graph did not result only from culturally determined decisions of the persons making such families. As Mikołaj Szołtysek noted,³³ the rare occurrence of extended households could sometimes be a consequence of the fact of the early death of the married couple's parents, who, one may say, 'did not make it' to become cohabiting grandparents. It is also important to bear in mind that the populations

³³ *Idem*, 'Komputerowa mikrosymulacja sieci krewniczej a wzorce współmieszkania: rzecz o demograficznych uwarunkowaniach rodziny chłopskiej w okresie staropolskim', *Przeszłość Demograficzna Polski*, xxxvii, 1 (2015), 107–61.

analysed here (except for the population in the parish of Zabartowo) were of an urban nature, which inevitably was accompanied by a greater mobility and, consequently, a difficulty in preserving extended family structures. Recognizing the significance of such phenomena, we wish to underscore that in the populations covered by our studies, these factors affected all households almost uniformly, with no confessional differences. Thus, when analysing the structure of households, the alleged, often described in literature as the ‘cultural and religious specificity of Jewish families’, and the so-called higher individualism of Protestants, turn out to be of little relevance, or even unimportant.

Graph 1. The structure of households in Kęпно and Zabartowo



Source: AGAD, Akta Komisji Porządkowej Cywilno-Wojskowej ziemi wieluńskiej i powiatu ostrzeszowskiego 1, 223–51, 261–81, 289–320; Guzowski, ‘Status animarum parafii Zabartowo’.

This should not be surprising. Although some historians have written about the significance of parents in the first years of young people’s married life,³⁴ since the classic publication of Jacob Katz most

³⁴ David Biale, ‘Childhood, marriage and the family in the Eastern European Jewish enlightenment’, in Steven M. Cohen and Paula E. Hyman (eds.), *The Jewish family: Myths and reality* (New York, 1986), 45–61; Michael Toch, ‘Aspects of

scholars have in fact emphasized the predominance of nuclear families in Jewish communities of the past.³⁵ According to Jakub Goldberg, who also used sources prepared by Civil-Military Order Commissions in 1791, married couples living in their parents' households (multiple family households) constituted only 13.3 per cent of all Jewish households (13.6 per cent in towns and 5.8 per cent in villages). Simultaneously though, he established that as many as 30.7 per cent of Jewish couples in which a husband was under 30 years of age lived with their parents.³⁶ Rafał Mahler, Zenon Guldon and Waldemar Kowalski are also convinced of the predominance of simple family households, even though they have not applied Peter Laslett's demographic typology of households to their research.³⁷ The further east in Europe one goes, the larger the number of extended and multiple families, both among Jews and Christians. Among the Jews in Courland, at the end of the eighteenth and the beginning of the nineteenth centuries simple households made up 68.3 per cent of households.³⁸ The structure of Kejno Jewish households was similar to that in early modern Marburg in Germany, as described by Gerald Soliday, who concluded that Jewish households were not more complex than others in the community.³⁹

Moreover, domestic servants constituted a similar percentage of the population of Protestants and Catholics in Kejno and Zabarowo, although, as the examples of Kejno and Warsaw demonstrate, the share of servants in the Jewish community is considerably lower

stratification in early modern German Jewry: Population history and village Jews', in R. Po-Chia Hsia and Hartmut Lehmann (eds.), *In and out of the ghetto: Jewish-Gentile relations in late medieval and early modern Germany* (Cambridge, 1995), 77–89.

³⁵ Jacob Katz, *Tradition and Crisis. Jewish Society at the End of the Middle Ages*, trans. Bernard D. Cooperman (New York, 1993), 113.

³⁶ Jakub Goldberg, *Żydzi w społeczeństwie, gospodarce i kulturze Rzeczypospolitej szlacheckiej* (Kraków, 2012), 174.

³⁷ Zenon Guldon and Waldemar Kowalski, 'The Jewish population and family in the Polish-Lithuanian Commonwealth in the second half of the 18th century', *History of the Family*, viii (2003), 525.

³⁸ Andrejs Plakans and Joel M. Halpern, 'An historical perspective on eighteenth-century Jewish family households in Eastern Europe. A preliminary case study', in Paul Ritterband and Jacob Neusner (eds.), *Modern Jewish fertility. Studies in Judaism in modern times*, i (Leiden, 1981), 22–5; Andrejs Plakans, 'Age and family structures among the Jews of Mitau, Kurland, 1833–1834', *History of the Family*, viii (2003), 555.

³⁹ Gerald L. Soliday, 'The Jews of early modern Marburg, 1640s–1800. A case study in family and household organization', *History of the Family*, viii (2003), 508.

(Graph 2). The analysis of the percentage of households employing at least one servant indicates, however, weaker differences between the populations. In Kęпно, while the Jews working as servants made up only about 3.5 per cent of all followers of Judaism, the percentage of Jewish households employing domestic servants was twice higher. This value still deviated from that observed among the Catholics and the Protestants (where servants were employed by, respectively, 13 and 18 per cent of households), but this twice as high difference is, however, a little lower than when comparing the number of servants alone. An even clearer similarity of the situations among followers of the different religions can be observed in the case of Warsaw. While the actual percentage of domestic servants among the Jews was almost three times lower than among Catholics, the comparison of the frequency of employing servants by both groups of households indicates considerable similarities between both religious groups. Households with servants constituted 25 per cent of all Catholic households, and 29 per cent of Jewish households. Thus, even though the Jews employed fewer servants per household, they did so with a similar frequency. The Catholic and Lutheran population of the rural parish of Zabartowo is, to the same degree in respect of the composition of the household, an element of the cluster WEST in Mikołaj Szołtysek's studies, and we can say after him that the percentage of domestic servants and households employing them were, respectively, almost identical and significantly higher than the comparable shares in England.⁴⁰ We can also add that in Anglican England and Lutheran Münsterland in central Germany the percentage of domestic servants in the population was 9 per cent.⁴¹ A slightly higher percentage of servants in the overall population characterized the Catholic Austrian parishes examined by Michael Mitterauer.⁴² It seems that in the case of the parish of Zabartowo, the decisive factor in terms household composition was the economic demand for manpower, especially the male workforce. This economic necessity equally concerned the representatives of both denominations residing in the parish. Domestic servants resided in 36 per cent of households with Catholic heads,

⁴⁰ Szołtysek, *Rethinking East-Central Europe*, 337.

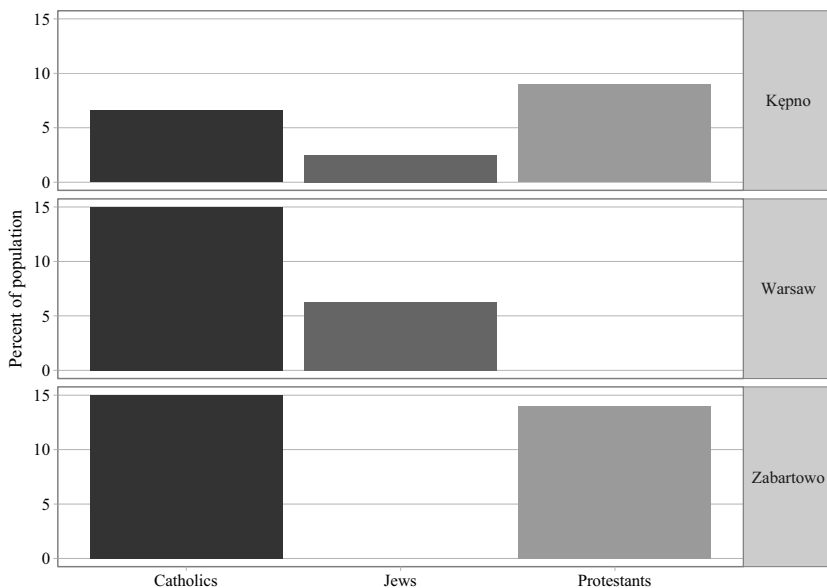
⁴¹ *Ibidem*, 337.

⁴² Michael Mitterauer, 'Peasant and non-peasant family forms in relation to the physical environment and the local economy', *Journal of Family History*, xvii (1992), 144–7.

and 33 per cent of Protestant households. Such small differences are completely insignificant.

In the case of urban populations, calculation of the average percentage of households employing domestic help characteristic for Central and Eastern Europe is much more difficult. The studies concerning the Polish lands indicate that such numbers may considerably differ depending on the size of particular centres and their economic and administrative functions. At the end of the eighteenth century, in the small city of Wieluń 25 per cent of households employed domestic servants, whereas in Cracow, i.e. the central part of the Cracow agglomeration, the same figure was circa 50 per cent. At the same time, in Austrian Salzburg, domestic servants resided in slightly over 30 per cent of households.⁴³

Graph 2. Domestic servants and the percentage of the population of Kęпно, Warsaw and Zabartowo

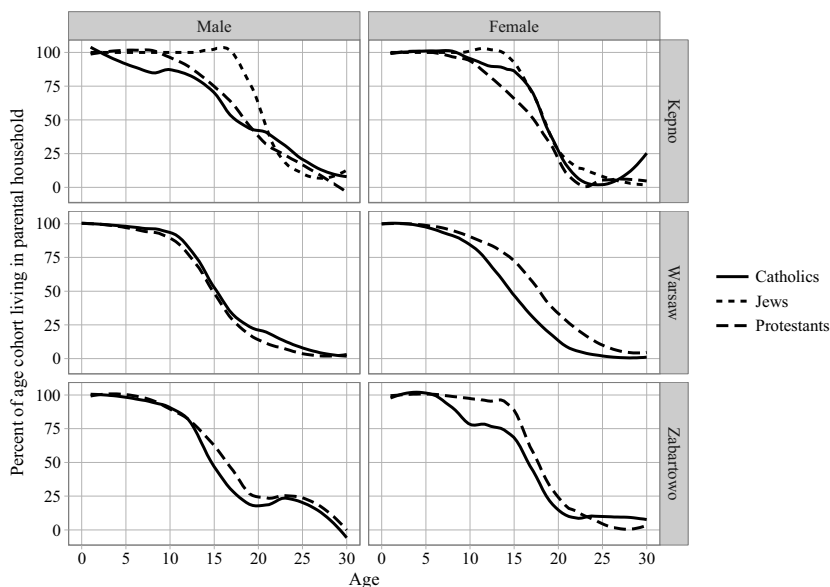


Source: AGAD, Akta Komisji Porządkowej Cywilno-Wojskowej ziemi wieluńskiej i powiatu ostrzeszowskiego 1, 223–51, 261–81, 289–320; Guzowski, 'Status animarum parafii Zabartowo'; AGAD, *Varia Grodu Warszawskiego* 25; Węgrzynek (ed.), *Regestr osób żydowskich*.

⁴³ Radosław Poniat, *Służba domowa w miastach na ziemiach polskich od połowy XVIII do końca XIX wieku* (Warszawa, 2014), 181–4.

With respect to domestic servants, their age of leaving the household is of particular significance. The earlier children and the youth left their parents' household, the more it proves modern mobility. In the case of the communities under scrutiny, religious differences in the men's model are not visible, but noticeable differences occur among women. Maids in Lutheran households left them later than young Catholic girls.

Graph 3. The age of leaving households in Kęпно, Warsaw and Zabartowo



Source: AGAD, Akta Komisji Porządkowej Cywilno-Wojskowej ziemi wieluńskiej i powiatu ostrzeszowskiego 1, 223–51, 261–81, 289–320; Guzowski, 'Status animarum parafii Zabartowo'; AGAD, Varia Grodu Warszawskiego 24, 25.

The percentages presented and their division by sex and confession also demonstrate the share of the persons who did not come into own among all the members of a particular group in a certain age. To prepare the graph we used all the information in the censuses on the belonging of particular individuals to households managed by their parents or guardians. In practice this may be reduced to dividing the persons described in the sources into two categories. The group of dependents includes those persons defined in the censuses as: son,

daughter, granddaughter, grandson, foster-son or foster-daughter, or else some close, less frequent, terms of similar meaning. The group of independent resident includes those residents who were heads of their own households or were these heads' spouses, elderly relatives cohabiting with them (the most numerous group being widowed mothers), and journeymen and servants. Even though with respect to the status of individuals in families the sources under examination are certainly not perfectly accurate (this refers in particular to Warsaw Protestants, in whose case the households were not precisely registered), the information collected in this way may be used to describe the age of independence of the representatives of the communities under scrutiny. First, children of five and younger, even if registered in a way suggesting their independence in the censuses in question, were recognized as those under someone's custody. Second, the graph ignores persons over 30. In the light of the literature concerning the age of those leaving households in modern Europe, clearly indicating a relatively early independence of the population, such a decision will not have any bearing on the results, but will facilitate the interpretation of the data.

The percentage distribution visible in graph 3 indicates the exceptional situation of Protestant women, who left their family households at a different age than the representatives of all the remaining groups. Whereas the half of the Catholics and male Protestants became independent around 15, 50 per cent of women in this group remained under their parents' custody until the age of 17 (the small town of Kępno being an exception in this regard). Female Protestants were characterized by a lower mobility also with reference to older individuals. At the age of 20, nearly 1/3 of them still stayed at their family households (in Warsaw), while in the case of all remaining groups this phenomenon concerned fewer than 20 per cent of those examined. The exceptional features of Protestant women did not cease until 30, when the phenomenon of staying under parents' custody ceased almost totally in all the sub-populations.

While the age at which Jewish women from Kępno left their parental households was similar to that of women from other religious groups, the difference between male Jews and Christians was more pronounced. Young Jews tended to stay longer in their parents' households. Most of them did not become financially independent until the age of 20, and even then more than a half of them still dwelled in their parents'

houses. This can be explained by the specificity of the process by which young male Jews entered the labour market. Studies based on the recorded testimonies of the criminal court in Warsaw reveal that at the beginning of their professional careers many Jews worked for their parents, helped them in their trade or learned a craft under the supervision of their own fathers. Finding employment as servants, which usually entailed leaving the parental house earlier in life, was not very common among male Jews, which distinguished them from their Christian counterparts.

The aforesaid differences between the groups, which are relatively small and generally amount to only 2–3 years, again indicate the specificity of Protestant women's situation and, consequently, the whole Protestant community, especially in Warsaw.⁴⁴ Protestant men, as was the case with Catholics, were mostly migrants, whereas a considerable proportion of women originated from Warsaw. This is suggested not only by the structure of their ages, described above, but also the fact of their remaining longer under their parents' custody. The very act of migration was usually connected with abandoning the old household, but the move of whole families arising from a necessity must have been quite rare. The persons remaining at their place of birth could count on prolonged stays at their family households.

IV HUMAN CAPITAL AND THE WHIPPLE INDEX

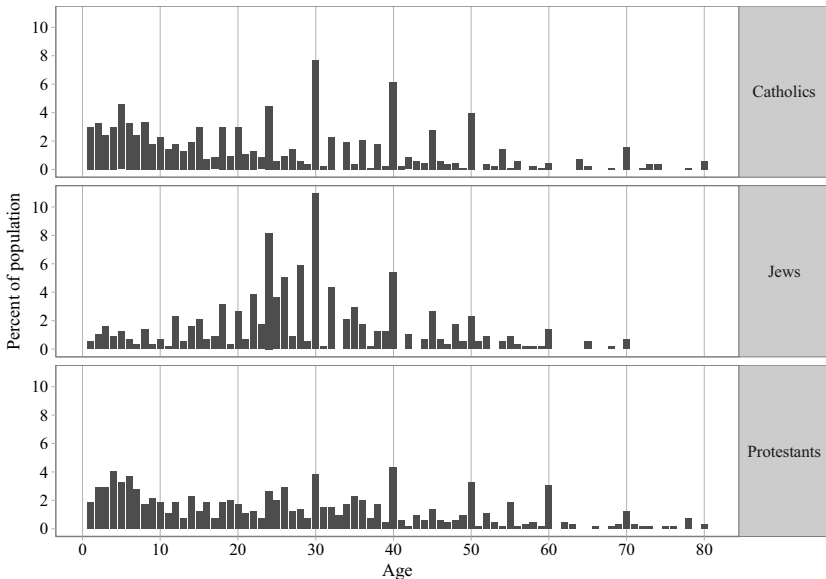
An interesting possibility of comparing the levels of human capital in the populations under scrutiny is provided by the phenomenon, well-known to demographers and historians, of inaccuracies in registering the people covered by the census. In historical, and sometimes even in contemporary populations, many persons did not know their exact ages and, when it was necessary to declare their age for census or administrative purposes, gave approximate values, especially including numbers connected with the calculation system dominating in a particular community. Thus, depending on cultural circumstances, they could be in multiples of five, ten, six, or two. A consequence of this practice is the occurrence in many censuses of the so-called 'age

⁴⁴ Radosław Poniak, 'Protestants and Catholics in late eighteenth-century Warsaw: a demographic comparison', *Almanach Warszawy*, ix (2015), 189–202.

heaping', which consisted in a too frequent (in comparison with what could be expected), registration of declaring an age ending in 'popular' digits. Obviously, the concentration at certain values entails shortcomings at others: it may, for example, turn out that along with a great number of 40-year-olds in the population, people of 39 or 41 hardly 'existed'.

From a demographer's point of view, the occurrence of age heaping involves serious analytical problems. The high intensity of the phenomenon impedes the calculation of many demographic indicators, or even regular age averages, and the potentially skewed results of such actions may raise considerable doubts. The practice of 'rounding off', observable in the populations under scrutiny, may be seen in the age structure of the inhabitants of Kępno in the eighteenth century, as presented in graph 4. It is clearly visible that the members of all religious groups were too often registered as 30- or 40-year-olds, whereas other age cohorts turn out either too small or even non-existent (e.g. Catholics and Jews aged 33).

Graph 4. The age structure of Catholics, Jews and Protestants in Kępno



Source: AGAD, Akta Komisji Porządkowej Cywilno-Wojskowej ziemi wieluńskiej i powiatu ostrzeszowskiego 1, 223–51, 261–81, 289–320.

Thus, it should come as no surprise that demographers developed indicators to identify this phenomenon. The most popular measure is the Whipple index. In order to calculate it, it is necessary to divide the sum of the persons declaring their ages ending in digits 0 and 5 by the whole population under examination. The result obtained is subsequently multiplied by 500. Consequently, an index value of 100 would indicate that persons of the age ending in the 'popular' digits constitute 20 per cent of all, which should reflect the real age structure in the population. Other results suggest, in turn, the occurrence of age heaping. If all the persons under scrutiny had declared an age ending in 0 and 5, the index would reach the maximum value 500. Even though the Whipple index may be calculated for the whole population or any subgroup thereof, in practice the analysis usually covers exclusively persons between 23–62, which allows us to avoid the problem of high inaccuracy of the registration of elderly people's ages.⁴⁵

A useful modification of the Whipple index has been proposed by Thomas Spoorenberg. In accordance with his formula, relevant indices are calculated not only for digits ending in 0 and 5, but for all possible endings of the age. In this way we obtain the index for one (where all the years ending in this digit are compared with those ending in 9, 0, 2, 3), two (compared with the endings in 0, 1, 3, 4) etc. Ten fragmentary indices obtained as a result of this operation are subsequently combined in one collective index (marked by the author as W_{tot}). A result of 0 or close thereto would mean a lack of age heaping in the population under examination, while a value 16 would be the equivalent of the maximal result under the Whipple index: i.e. that all the persons under scrutiny gave ages ending in 0 or 5. What is important, however, is that the Spoorenberg index also detects age concentration at every random digit, which may be of considerable importance, in particular in the case of populations using systems other than decimal.⁴⁶

In accordance with the proposals put forward by Baten and other researchers, age heaping as detected by the Whipple index or similar measures allows us not only to determine the quality of

⁴⁵ Frank Hobbs, 'Age and sex composition', in Jacob S. Siegel and David A. Swanson (eds.), *The methods and materials of demography* (Bingley, 2008), 125–73.

⁴⁶ Thomas Spoorenberg, 'Quality of age reporting. Extension and application of the modified Whipple's index', *Population. English Edition*, lxii (2007), 729–41.

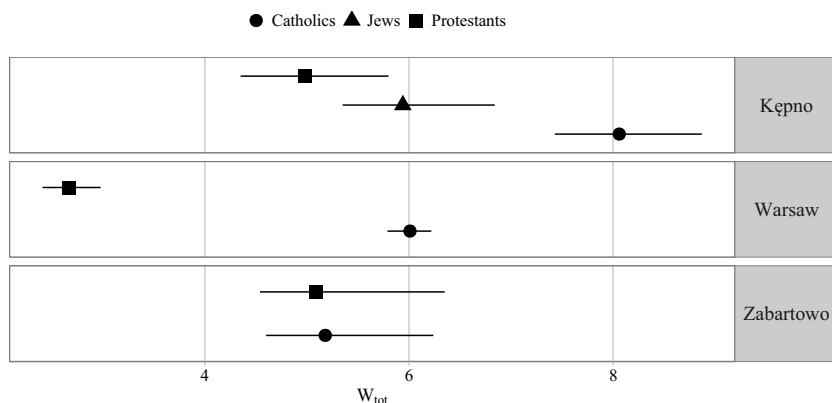
the censuses, but also provide insight into the mathematical competence (numeracy) of the particular population. Numeracy describes the degree of the particular community members' familiarity with numbers, their skill in doing simple calculations, and the sense of importance given to precise calculations of certain values. We can guess that persons who did not know their ages well, or who gave them with a low accuracy, were characterized by low numeracy, and that numbers and calculations were of little importance in their lives. Even if the inaccurate age resulted not from an error of the individual but an error of those carrying out the census, who inaccurately noted the date they were provided with, the age heaping is still indicative of the fact that the population in question did not attach much importance to numbers. For if those registered had not paid attention to such inaccuracies, and those registering, being members of local elites with at least partial education, made such obvious mistakes, the general level of numeracy in the population must have been low. According to many researchers, since numeracy is correlated with literacy, it becomes a convenient indicator of human capital development, and is available even for many ancient populations.⁴⁷

Graph 5 presents the comparison of the occurrence of age heaping in the populations under examination. In accordance with the nature of the modified Whipple index (or W_{tot}) used here, higher values mean lower accuracy of the age registration, and, consequently, poorer numeracy of the particular population. However, because the phenomenon presented here may be characterized by a certain randomness, especially problematic in the case of small populations, beside the W_{tot} values alone (rendered by means of points), the graph also shows sections describing 95 per cent confidence intervals. Their interpretation is simple: if the sections determined for two populations

⁴⁷ Brian A'Hearn, Joerg Baten and Dorothee Crayen, 'Quantifying quantitative literacy. Age heaping and the history of human capital', *Journal of Economic History*, lxiii (2009), 783–808; Dorothee Crayen and Joerg Baten, 'Global trends in numeracy 1820–1949 and its implications for long-term growth', *Explorations in Economic History*, xlvii (2010), 82–99; Ralph Hippe and Joerg Baten, 'Regional inequality in human capital formation in Europe, 1790–1880', *Scandinavian Economic History Review*, lx (2012), 254–89; Kirstin Manzel, Joerg Baten and Yvonne Stolz, 'Convergence and divergence of numeracy: the development of age heaping in Latin America from the seventeenth to the twentieth century', *Economic History Review*, lxxv (2012), 932–60.

overlap even slightly, we cannot talk about a significant W_{tot} difference. Thus, despite the fact that the W_{tot} of the Protestants living in Kęпно was clearly lower than that of the Jews, because of the overlapping ranges of confidence intervals it is not an important phenomenon at the level of significance we adopted. Only the Kęпно Catholics differed considerably, and to their disadvantage, from the representatives of the other religions. The clearly worse results of the Catholics (in comparison to the Protestants) may be also observed in Warsaw (the census of the Warsaw Jewish population fails, unfortunately, to provide information about age). The only exception to the phenomena of clearly more accurate age registration among Protestants than Catholics is in Zabartowo, where both populations have a nearly identical W_{tot} value.

Graph 5. Age heaping in the populations under examination



Source: see graph 3.

The analyses presented above, which could be reduced to comparisons between denominations in particular places, can be enriched thanks to the use of logistic regression. The models presented in Table 2 depict the probability of the age of a person registered in the lists under scrutiny ending with the digit zero.⁴⁸ Whereas the joint analysis covered persons of 23–62 belonging to all the populations described here, it was necessary to apply the weights allowing for minimizing the importance of the most populous collectivities at

⁴⁸ A similar technique was used in: Szołtysek, *Rethinking East-Central Europe*, 866–76.

the cost of the smallest. Due to these weights the collectivities of the representatives of particular confessions from different census-like lists are of equal importance in the model, and the final results do not foremost describe the regularities occurring in the biggest population, which was Warsaw. In addition, thanks to the application of mixed-effects models, the specificity of lists from different places is controlled. As Model 1 demonstrates, as regards the inclination to round off their age, both the Protestants and the Jews differ considerably from the Catholics, treated here as the reference category. There was clearly a lower probability that the representatives of these two religions gave their age ending with figure 0. Obviously, some of those people really were 30, 40, 50 or 60 years old, since statistically speaking, approximately 10 per cent of the population should be of this age, but in all of the groups under scrutiny there was a considerable overrepresentation of such declarations, as can be observed in Graph 4. The comparison of confidence intervals indicates that although the Protestants and the Jews considerably differed from the Catholics, even slight differences in odds ratios between the last two groups are insignificant.

Model 2, placed beside, includes additional demographic variables. They allow for, above all, controlling potential differences in the age structure of the populations under examination. Including new variables does not change the regularities observed in Model 1. Inclinations to end ones given age with digit 0 clearly more frequently occurred among the Catholics than the representatives of other religions, and the differences between the Protestants and the Jews proved insignificant. Not surprisingly, the inclination to rounding off one's age turns out to be higher among the representatives of older age groups. Similarly, women, a little more often than men (being the group of reference) gave their ages ending with the digit 0. Even though the analyses presented here suggest the occurrence of considerable differences in age as between the Catholics and the representatives of the remaining confessions, who in turn seem quite homogeneous with respect to the question under scrutiny, they should still be treated with caution. First, although the data referring to the Catholics and the Protestants came from the three populations under examination, the information describing the age structure of the Jews came from one parish only: Kępno. Thus, it is possible that the local specificity of the one collectivity could become here a basis for formulating too far-reaching

generalizations. It is also important to remember that the diversification seen between the Catholics and the Protestants, even though better documented, in one of the parishes under examination (Zabartowo) proved insignificant. In the light of this not so unequivocal result, a more thorough analyses of the connections between age heaping (thus also numeracy and human capital) would require extending the source base to include other censuses.

Table 2. Age heaping in the populations under examination

	Age ending with 0 – Model 1			Age ending with 0 – Model 2		
	Odds Ratio	CI	p	Odds Ratio	CI	p
Fixed Parts						
(Intercept)	0.52	0.45–0.59	<0.001	0.39	0.33–0.45	<0.001
Religion: Catholic (ref.)						
Religion: Protestant	0.69	0.63–0.76	<0.001	0.7	0.64–0.77	<0.001
Religion: Jewish	0.65	0.56–0.74	<0.001	0.7	0.61–0.80	<0.001
Sex: Male (ref.)						
Sex: Female				1.1	1.01–1.20	0.026
Age: 23–32 (ref.)						
Age: 33–42				1.62	1.46–1.79	<0.001
Age: 43–52				1.28	1.13–1.44	<0.001
Age: 53–62				1.29	1.10–1.51	0.002
Random Parts						
τ_{00} Town		0.011			0.01	
N_{Town}		3			3	
ICC_{Town}		0.003			0.003	
Observations		11907			11907	
Tjur's D		0.015			0.022	
AIC		12270.177			12190.86	
Deviance		14609.659			14512.99	

Source: see graph 3.

V CONCLUSIONS

This article is an introduction to a larger research project, thus it neither aims at providing conclusive answers to the question of the role of religion in the economy, nor does it present any definitive explanations of the issues examined. All this will be possible only after considerably extending the source material database and diversifying it geographically. At this stage, the authors of the article sought to indicate the great research potential of the available sources from the Polish-Lithuanian Commonwealth in the study of connections between religion and the economy. The coexistence of several different religious communities (not only Christian) in this area, each of which managed to create relatively stable organizational structures and had its specificity acknowledged, yields the opportunity to study the influence of religion on social and economic choices made by the members of particular communities. What's more, the territorial diversity of the Commonwealth provides an opportunity for scholars to study differences between the same religious communities in different regions. This may make it possible to not only make general comparisons between, for instance, Catholics and Jews, but also to compare Jewish populations living in different parts of the Commonwealth and see whether, for example, Jews from the north of the Grand Duchy of Lithuania were, in terms of household structures, more similar to Jews in western Greater Poland or to their Catholic neighbours. The authors claim that the results and research techniques presented in this article will make it possible to make such comparisons relatively easily. The most important factor here is the widespread availability of census-like material, created according to similar rules and procedures and applying to many different communities and regions. This article's second aim is to point out the usefulness of such sources and encourage historians studying censuses to expand their lists of research questions.

In this article, the authors call for a revision of the common belief in Polish historiography that religious populations differed considerably between one another. Although there are a number of prescription texts whose authors were firm in establishing specific family models for Jewish or Christian (sometimes also denominational) communities, analysis of the census data indicates that such

models should be treated with some reserve. Comparisons between communities made up of representatives of various religions also reveal some similarities in their household structures and their use of servants' labour.

The findings presented here are far from conclusive and confirm the importance of further research. Such research ought to include such questions as the natural movement of populations (age at marriage, fertility, age profiles, sex profiles), household size, and the percentage of single people in populations. It is also crucial that the database enabling the analysis of human capital is expanded in the future.

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