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**“The Chosen Many: Population Growth and Jewish Childcare in
Central-Eastern Europe, 1500-1930”**

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Abstract:

The paper documents the growth of the Jewish and non-Jewish populations in the regions of Germany-Austria (GA) and Poland-Lithuania (PL) from 1500 to 1930. Although borders changed considerably, we attempt to maintain comparability throughout the period. We summarize evidence that a large proportion of the Jewish population in PL originated from GA and find no significant evidence for the immigration of Khazars or any other Jewish group from the East. While the proportion of Jews in the total population of PL was only 0.13% in 1500, this figure reached more than 17% by 1880 and the Jewish population in PL constituted more than 75% of the global Jewish population in that year. This population grew at an annual rate of about 1.4% from 1500 to 1930 while the Jewish population in GA grew at a rate of 0.88%. Meanwhile, the total populations of GA and PL grew at about the same annual rate of approximately 0.40%. The main reason for the higher growth rate of the Jews is their lower death rate. Thus, while their birth rate was about the same as that of non-Jews, infant and child mortality among Jews was much lower in both PL and GA. We claim that Jewish childcare, as manifested, for example, in the duration and methods of breastfeeding and in the Jewish practice of remarriage, is among the primary reasons for the exceptional population growth of the Jews. In future research, we will examine the question of why this occurred in the PL community rather than any other.

Keywords: breastfeeding, child mortality, Germany-Austria, infant death rate, Jewish population, Poland-Lithuania, total population

JEL: N00, N30, N33

1. Introduction

This paper documents the growth of the Jewish and total populations in the regions of Germany-Austria (hereafter: GA) and Poland-Lithuania (hereafter: PL) from 1500 to 1930. We divide the period into two sub-periods: a) 1500-1800 which is roughly the period prior to the collapse of the Polish-Lithuanian state; and b) 1800-1930 which was a period of changing borders, industrial revolution and large-scale migration of Jews out of Central-Eastern Europe.

We attempt to keep the geographic territories of GA and PL as constant as possible throughout the period. The territory of GA approximately corresponds to the area of the Holy Roman Empire or the Reich in around 1500 while the territory of PL approximately corresponds to the Polish-Lithuanian Commonwealth at the beginning of the 17th century. This demarcation of boundaries between GA and PL is consistent with the different property rights regimes in place in each region prior to 1800 and makes it possible to track the flow of internal migration and migration between the regions. We will also describe (in section 2) the historical background of GA and PL, which became the most important centers of world Jewry up until WWII. It is from here that Jews set off for America, Western Europe and Israel, which in turn became the main Jewish centers after the Holocaust.

The project is based on a comprehensive effort to collect and compare the available demographic data necessary for the analysis of Jewish demographic history and the understanding of long-term population trends. Since the data suffers from a number of limitations and the geographic comparibility of the data is beset with difficulties, our conclusions are subject to some unavoidable limitations and some uncertainty, part of which can perhaps be eliminated with further investigation. Regarding the period before statistics become available, the analysis is based primarily on secondary sources. We use the estimates provided by Germania Judaica and key historians of German Jewry (including Guggenheim, Toch, Battenberg, Israel and Bell) and the Holy Roman Empire (including Rabe, Schormann, Whaley, Hartmann), who collected data from the occasional local population counts, tax lists, church registers and other available primary sources. We are aware of the scarcity of reliable data and the problematic character of the estimates, but feel that the data is sufficiently reliable in order to grasp long-term trends.

Regarding early modern Poland-Lithuania, the data is gathered from YIVO and various widely accepted works by leading demographic historians of Polish Jewry (including Kupovetsky, Weinryb, Ettinger, Stampfer and Kalik) and Poland (including Gieysztorowa and Kuklo). Although we generally accept the numbers provided by Weinryb and Stampfer, we nonetheless describe the ongoing debates over various demographic issues and outline the problematic character of the sources.

For the modern period, we use a variety of secondary sources and the available statistical data.³ Since early tax-oriented censuses (such as the one in 1764) usually suffer from underrepresentation of the Jewish population, in addition to other inadequacies, we accept the corrections carried out by modern scholars (such as Mahler, Stampfer and Kalik). When possible, the analysis is supported with data gathered by government statistical offices and published in *Zeitschrift für Demographie und Statistik*, *Statistisches Jahrbuch für den Preussischen Staat* and reports of the Central Statistical Office of Poland (GUS). For the regions subject to Russian rule, we use critically adjusted figures published in authoritative secondary sources.

In 1500, there were only 10–15 thousands Jews in PL, which constituted less than 2% of the global Jewish population and only 0.13% of the population in PL. In section 3, we describe the origins of the Jewish populations in GA and PL and summarize evidence that the majority of the Jews in PL arrived from GA during the 12th to 15th centuries. The Jews in PL and GA shared the same religious, educational, and cultural background. In 1880, there were 4.7 million Jews in the former PL who accounted for about 75% of the global Jewish population and 17% of the total population in PL.⁴ In around 1500, there were only 40,000 Jews in GA and by 1880 their number had reached only 760,000 (1.35% of the total population in GA).

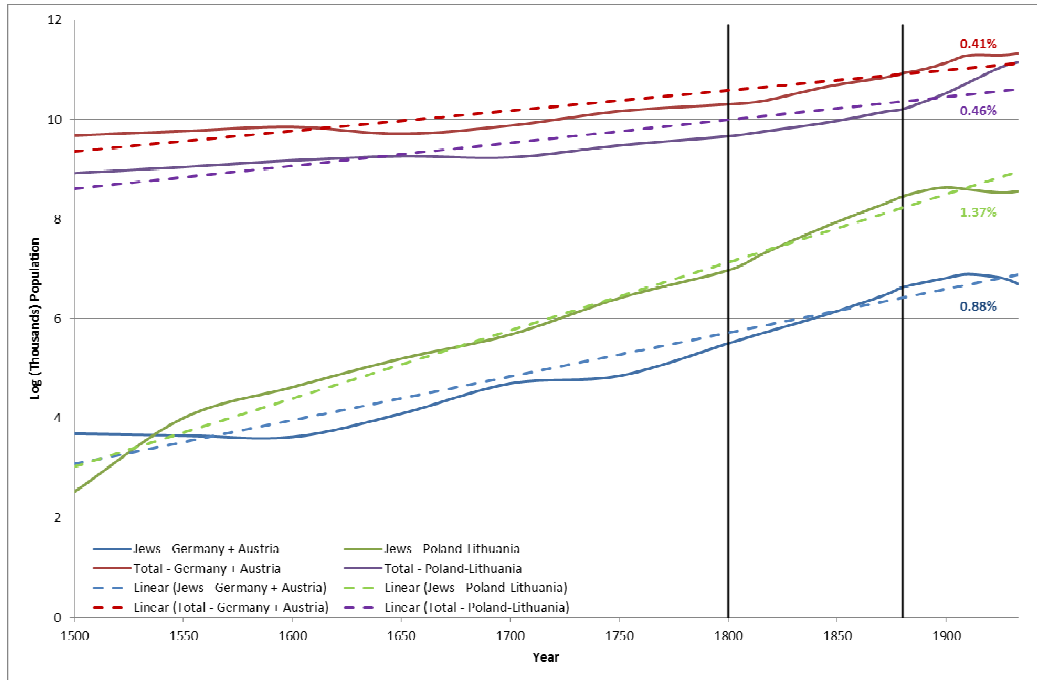
Figure 1.1 summarizes the population data collected for this study. The data shows that the total populations of GA and PL grew at almost the same rate of about 0.43

³In the Prussian kingdom, the censuses were usually conducted at three-year intervals (from 1816 till 1871) or five-year intervals (from 1871 until WWI). In Austria, comprehensive censuses were carried out in 1869 and every ten years during the period 1880-1910.

⁴ S. DellaPergola (2010, p. 56, table 3).

percent from 1500 to 1930 (during the earlier period of 1500-1880, the rate was about 0.20 percent; see Figure 4.1). The growth rate of the Jewish population was, in contrast, much higher in both regions and even more so in PL where the growth rate was about 1.4% for the entire period. In what follows, we will endeavor to explain the reasons behind this exceptional growth in the Jewish population of PL.

Figure 1.1: The Jewish and total populations of GA and PL, 1500-1930 (in logs)



This rapid growth of the Jewish population in PL is again generating interest, following the recent claim by Sand (2009) that the Jews of PL may have originated from the Khazars who converted to Judaism in the 8th century. In section 3, we summarize the studies that attempt to disprove the existence of a significant Jewish community in the Khazarian Kingdom. Even if there was a Jewish population in the Khazarian Kingdom and they indeed migrated westward to the PL region, either before or after the Mongol invasion in the 13th century, no traces can be found of them among the Jews of PL in around 1500. Jewish groups who settled in Christian areas of Europe, including Karaite Jews who migrated to the eastern frontiers of PL and remained there for generations, usually preserved their distinct practices and as a community were granted privileges by the king or the local ruler and paid taxes to him. No evidence of this can be found for the Khazars.

There is no indication of large-scale migration of non-Ashkenazi Jews to Poland from the East. There is a possibility, though no concrete evidence, of the migration of a small number of Jews to PL from the East following the Mongol invasions of the 13th century. Some migration westward, as well as the presence of small communities of non-Ashkenazi Jews on the eastern frontier of PL during the 15th century cannot be ruled out either. Nevertheless, these communities were insignificant and random and left no genetic or linguistic traces.⁵ Hence, the movement westward of Jews into PL cannot be compared in scale to the migration of Jews from GA eastward into PL.

The claim we wish to make is that the massive growth of the Jewish population in PL can be explained by birth and death rates and migration from GA. There is only limited data on births and deaths prior to the late 19th century. It indicates that prior to the demographic transition in 1870, the Jewish population in GA and PL had a birth rate of about 35 per 1000 which is similar to the overall rate for Europe. Yet the death rate among the Jewish population in GA and PL was only 20 per 1000 while that of the total population was between 25 and 30.

In the pre-modern period, the lower Jewish death rate in GA and PL relative to the total population cannot be due to their relatively higher concentration in urban centers and their relatively higher income since the death rate in urban centers was in fact much higher than in rural areas up until the 20th century. In contrast, the eastward movement of the Jews within PL and their concentration in small villages (shtetls) may partly explain their lower death rates. The demographic data indicate that the main explanation for the lower death rate among Jews is a lower rate of infant and child mortality. In section 5, we provide the existing evidence for this from the 19th and early 20th centuries, which is accepted as accurate by most demographers and historians. The lower rate of infant and child mortality among Jews can account for about 50% to 70% of the difference in death rates between the Jews and the total population.

Condran and Preston (1994), two demographers in the US, studied the Jews and other ethnic groups who arrived in the US during the period 1910-20. They found that the particularly low rate of infant and child mortality among the Jews was due to three

⁵ For more details, see section 3.

factors: i) a higher degree of parental devotion to their children and the practice of breastfeeding for longer periods; ii) a higher level of hygiene in food production; and iii) greater access and acceptance of medical knowledge.

Section 6 provides an extensive historical discussion of infant and childcare among Jews based on a critical assessment of evidence related to Jewish religious norms and practices and available historical sources. Whenever possible, halachic norms are supported with historic and contextual arguments. We compare childcare practices of Ashkenazi Jews and Christians for the period from 1500 to the late 19th century. Despite the risk implicit in generalization, the problematic nature of the sources and the question of whether religious norms actually determined everyday practice, we attempt to outline some general trends and show that breastfeeding and other related practices that were already adopted in earlier periods by the Jews are now known to be particularly effective in lowering infant mortality. The Talmud in fact requires 24 months of breastfeeding and the use of contraception in order to space between births.⁶ These rules, which were enhanced in medieval and early modern Jewish sources, were usually not common among the Christian communities in GA, PL and the rest of Europe, nor in the US later on. Clearly, the importance of childcare in Jewish culture is not the only explanation for the low infant mortality rates observed among Jews in PL and therefore the analysis should be viewed as a starting point for future research.

One of the puzzling questions that arises from the analysis is why the Jewish community grew so rapidly in PL but not in GA. This is even more striking given that birth and death rates were probably similar between the two populations, which were very similar in terms of culture and socioeconomic status. The answer to this puzzle will be the subject of future research. The hypothesis we put forward is related to the distinction between GA and PL with regard to the property rights regime, as will be discussed in section 2.

⁶ For more details see section 6.

2. The Historical Context: Germany and Poland, 1500-1930

In the section, we provide a brief history of Germany and Poland in order to make it clear to the reader how we have defined the two regions.. The borders and regimes of the geopolitical entities we have called GA and PL changed numerous times during the period from 1500 to 1930. Nonetheless, there is enough continuity in order to carry out a demographic analysis.

Germany-Austria and Poland-Lithuania

We divide the vast area of Central and Eastern Europe into Germany-Austria (GA), whose borders largely correspond to those of the Holy Roman Empire around 1500 and Poland-Lithuania (PL) whose borders largely correspond to the borders of the Polish-Lithuanian Commonwealth around 1600. This division is a combination of the territorial borders that existed in the 15th and 16th centuries and the traditional Elbe River demarcation between two different systems of property rights: the capitalist West and the feudal East. Feudalism was based on a complex system of land tenure, but we are interested in only one particular aspect of it, which is crucial to our division between GA and PL: *who had the right to own land* for the purpose of farming or production. We are not concerned with urban land used for commercial or residential purposes.

2.1 The historical context: GA, 1000-1930

For most of this period, the various German political entities were roughly grouped together under the name of the Holy Roman Empire and struggled "for a working compromise between uniformity and disruption."⁷ In the 16th century, its name was changed to the Holy Roman Empire of the German Nation, and in 1871 the unified nation-state of Germany was established.

⁷ Steinberg (1945, p. XI).



Map 2.1. The Holy Roman Empire in 1400⁸

In 962, Otto I became the first emperor of the Roman Empire, which then encompassed the area known today as Germany, as well as the neighboring kingdoms of Burgundy, Bohemia and Italy. It had a population of about 5 to 6 million people, the majority of whom were farmers in a state of serfdom who worked in various

⁸ https://en.wikipedia.org/wiki/Holy_Roman_Empire#/media/File:HRR_1400.png (accessed November 2015)

arrangements on lands distributed to lords as a fief.⁹ The 11th and 12th centuries can be characterized as an age of political confrontation and struggle against the papacy, as well as rapid urbanization, eastward colonization, long-distance trade revitalization (the Henseatic League), chartering of towns, and intellectual activity.¹⁰ While there developed an urban economy of commodity exchange controlled by merchants and organized into emerging guilds and corporations, the countryside relied on barter and the so-called open-field system controlled by nobles. Under this system, each manor or village had two or three large fields which were divided into numerous narrow strips of land rented out by the lord under various arrangements and cultivated by individuals or peasant families.¹¹

Despite the growing tension between the regional rulers and the emperors, which would inform political affairs in the Empire until its dissolution in 1806, Germany entered the High Middle Ages as one of the leading powers in Christian Europe.¹² Political conflicts, schism and war led to a deep political crisis. The feudal open-field system began to disintegrate with the growing use of money and the development of the exchange economy. Its demise followed the Black Death in 1350 which led to a shortage of labor and enabled the surviving peasants to command higher wages, which in turn made it possible to replace the traditional tenures with rental contracts.¹³ The land became a commodity that could be bought and sold. Manumissions multiplied and many peasants acquired enclosed (fenced) fields separate from the open communal fields. The reforms that followed fostered a proto-capitalistic economy and society. The economic change, however, brought no remedy to disunity and disorder. "Complexity of individual rights and privileges, the increasing differentiation of social classes, the opposition between princes and estates, friction between agriculture and the town crafts, between commerce and industry [...] involved the people as a whole in endless strife."¹⁴

⁹ Sharecropping in which the vassal and the owner split the crop production was highly popular. In another popular arrangement, the vassal worked certain days on the lord's lands and the rest on a small plot, whose entire yield could be used by him for either consumption or exchange. For further details on the emergence of medieval feudalism, see Anderson (1974, part one).

¹⁰ Coy (2011, pp. 38-39).

¹¹ See also: Anderson (1974, pp. 150-51).

¹² Coy (2011, p. 36).

¹³ Rice & Grafton (1994, p. 70).

¹⁴ Barraclough (1957, pp. 338-39).

In 1452, Frederick III was coronated as the Emperor and became the first of the Habsburg dynasty. Although his son Maximilian I was unable to stop the territorial fragmentation of the Empire, he did introduce imperial reforms, which included the establishment of the imperial supreme court, the levying of imperial taxes, and the strengthening of the Imperial Diet. Consequently, he achieved "a stable compromise between emperor and the estates."¹⁵ By 1500, German lands were free of the land ownership restrictions which characterized the feudal system. Landlords and tenants shared property rights to the land.¹⁶ The peasant used the land and in exchange paid rent to the landlord, thus supplying him with cash. Commerce and wage labor became dominant, while the profits from land used as pasture or leased to small farmers were usually invested in trade and industry or in aristocratic luxury consumption.¹⁷ In some parts of western Germany, peasant tenure became heritable. Throughout the 16th century, rich landlords in the territories of Pomerania, Brandenburg and Prussia, where labor was needed to grow grain, enlarged their demesnes, returned peasants back to serfdom and tied them to the land. This process was similar to the secondary serfdom in Poland-Lithuania. "The great dividing line of the Elbe solidified permanently in the 16th century."¹⁸

In the 16th century, the politics and social structure of the Holy Roman Empire were revolutionized by the Protestant Reformation. In 1524, the German Peasants' War broke out and like the preceding Hussite wars it consisted of a series of economic and religious revolts supported by religious reformers. Although it was the largest uprising in Europe up until the French Revolution, it ended in victory for the princely armies (1525). Viewed as a chance for secularization and political independence, the Reformation movement also attracted territorial princes and weakened the central institutions. The northern states adopted Luther's creed and became Protestant, while the southern and western states remained Catholic. The Peace of Augsburg (1555) formally recognized the Lutheran faith and ruled that a state's religion will be determined by its ruler.

¹⁵ Coy (2011, p. 46).

¹⁶ Rice and Grafton (1994, p. 72).

¹⁷ Wallerstein (1974, pp. 11-12).

¹⁸ Rice and Grafton (1994, p. 72).

The peace was a fragile one. The continuous imperial attempts to achieve political and religious unity under Catholic dominion led to the Thirty Years' War (1618–1648) between the two parts of the Holy Roman Empire. The war was ruinous for millions of citizens and set the German economy back a century. The year 1648 marked the end of the Holy Roman Empire¹⁹ and the beginning of the modern nation-state system. Germany became divided into numerous independent states. Netherlands and Switzerland became independent states; Alsace was annexed by France; Pomerania became temporarily Swedish; and France emerged as the dominant European power. Among the German princes who achieved sovereignty was Frederick William of Brandenburg, who founded the independent duchy of Prussia and was instrumental in creating the Prussian army. In 1701, his son Frederick I was crowned the first king of Prussia, which quickly turned into a powerful centralized and militarized state with a rapidly developing economy and the best army in Europe.²⁰ Between 1770 and 1830, Prussian serfs were peacefully emancipated.

The period of the Napoleonic Wars saw the beginning of unifying trends. The Congress of Vienna established the powerful German Confederation of 41 states under the leadership of Austria. In 1833, a German common market was created and in the 1840s a railroad system was developed. However, the lack of political unity continued to hinder full industrialization.

The European revolutionary movements of 1848 strengthened the feeling of German patriotism. It was after the Springtime of Peoples and during the 1850's and 1860's that the modern German nationalist ideology took shape.²¹ In 1866, as a result of the Austro-Prussian war, the German Confederation was partly replaced by the North German Confederation while Prussia became dominant in German politics. In 1871, Prussian victory in the war with France finally led to the unification and formation of the German Empire under the leadership of Prussia and its leader Chancellor Otto von Bismarck.

In the 19th century, Germany entered a stage of rapid economic growth and modernization, and the Unification in 1871 led to full-fledged industrialization. The

¹⁹ Krauski (1978, p. 17).

²⁰ Chapman (1998, p. 24).

²¹ Krauski (1978, p. 27).

rapidly advancing railway system fostered the development of the steel and coal industry and made Germany into the leading coal producer in Europe. In the latter part of 19th century, chemical and electrical industries developed.

The German Reich entered the 20th century as a powerful state with the largest economy in Europe and as a prominent member of the Triple Alliance. It had colonies in Africa and Oceania and was interested in further expansion and hegemony. It had the most powerful army in Europe and intended to establish a strong navy. Political tensions and the replacement of liberal traditions with aggressive nationalism, combined with risky foreign policy, universal conscription and imperialistic competition, led to enmity between Germany and the other European nations and the First World War ensued. Of all the Central Powers, Germany was the most involved in the war. Following the German defeat in 1918 and the November Revolution, the Republic of Weimar was established in 1919. Heavy post-war reparations and the Great Depression led to general discontent, support for a socialist economy and the rise of nationalism.

2.2 The historical context: Poland, 1000-1930

Historically, the Polish state came into being when the West Slavs, living in the area approximated by modern Poland, united their tribes under Mieszko I and accepted Christianity in 966. Within two centuries, through continuous Christianization of the population, establishment of a monarchy (in 1025) and political structures, regional economic advancement and territorial conquest, the country developed into a powerful kingdom under the Piast dynasty (966-1370) and was integrated into European culture as the eastern flank of Christendom. The processes of state centralization and institutional formation suffered several setbacks during the period of fragmentation (1138-1320), which contributed to the emergence of the feudal system.²² Although similar in structure and fundamental principles, the Polish system of authority and feudal hierarchy was somewhat different than that prevailing in Latin Europe.²³ Land became the most important factor in public law but the full ownership

²² In Polish history, this period is defined as early feudalism. For a more detailed description, see Anderson (1974, pp. 233-34) and Blum (1957, pp. 812-15). For a contrary opinion, see Manteuffel (1948, p. 67).

²³ Maćzak (1950, p. 269).

of land was granted only to the knights in exchange for military service.²⁴ While in Western Europe most land was not owned outright and shared property rights were the norm, in Poland-Lithuania land owned since ancient times or granted by kings and princes during the 12th and 13th centuries became an allodial property of the knight. Ownership was hereditary and the land could be sold or exchanged according to the "law of the land". Polish knights were not the king's vassals and their relationship to the king was not feudal. Rather, they were royal subjects, equal before the king. Land was organized according to the open-field system (see above) and was cultivated by peasants increasingly dependent on their feudal lords, namely the knights. By the 12th century, Polish peasantry could be divided into two groups: free peasants who had the right to relocate and bonded subjects who were tied to the land. Peasants who held the land of a feudal lord were obliged to perform certain services, most of which were considered to be payment of rent.

The period of fragmentation also contributed to regional development, the formation of an estate society (including the social class of the peasants), the growth of towns and the increase in wealth exploitation. Developing Polish cities became attractive to Western European immigrants, especially German ones.²⁵ The so-called "colonization movement" brought German city law, known as Magdeburg rights, to Polish towns and contributed to their further development. The same movement brought immigrants to Poland who were disenchanted with Western feudalism and thus interrupted, at least for a while, the process of peasantry enserfment. This supported the emergence of a rental economy.²⁶

In 1320, the country was unified under the strong rule of Casimir the Great (1333-1370) who "inherited Poland built of wood, but left it built of stone." Poland annexed fertile land in what is now modern-day Ukraine (then called the Duchy of Halicz) and thereby doubled its size. At the same time, Poznan, Cracow and Warsaw became important urban centers. Casimir died without an heir, thus beginning 400 years of elective monarchy. During this period, the nobility became increasingly powerful

²⁴ The burden of warfare was lighter on allodial knights. If the war was being fought outside the country, they were paid by the king, while the feudal vassals were subject to military service at their own expense. See Kutrzeba, (1902, p. 238).

²⁵ Traders, artisans, knights, peasants and clergy who lived in densely populated Western Europe and suffered from the changes in European feudalism. See Zaremska (2011, pp.114-15).

²⁶ Blum (1957, pp. 814-15).

through generous political and economic concessions and the king's position weakened.²⁷ Poland had become an increasingly important trading partner in West-East trade and a supplier of raw materials to European markets and in 1386 it formed a personal union with Lithuania. Under the rule of the Grand Duchy's Jagiellonian dynasty (1382-1572), it became one of the largest political and multi-ethnic entities in Europe during the next four centuries. Expansion and the colonization of eastern lands, peaceful Christianization and gradual polonization of Lithuanian institutional structures and nobility boosted economic growth, which was based on the grain trade, and brought cultural and spiritual calm as well. In the socioeconomic realm, the slow process of servile feudalization, which had been interrupted by colonization, was renewed. Thus, during the 14th and 15th centuries, an increasing number of peasants became tied to the land and in 1496 serfdom was formalized legally.

Poland was least influenced by the general European crisis of the 14th and 15th centuries. After the united armies defeated the Teutonic Knights in 1410 in one of the biggest medieval battles ever to take place, Poland came to dominate Prussia and Danzig (in 1466) through which the majority of foreign trade flowed. With the evolution of agricultural technology and the expansion of cultivated lands, Poland "became the granary of Europe" and entered its Golden Age. Polish became the universal language in lieu of Latin, while Renaissance literature, learning and culture flourished in Polish cities, especially in the royal capital of Cracow. Cracow's academy was in fact the alma mater of Nicolaus Copernicus, who proposed the revolutionary heliocentric model of the solar system.²⁸ In the sociopolitical realm, it was the period of "Golden Liberty", which marked the emergence of one of the first European parliaments (Sejm) and was characterized by the rule of the "free and equal" Polish nobility,²⁹ which continued to restrain the king's power.³⁰ While "the republic of nobles" saw some manifestations of religious tolerance (such as the Warsaw

²⁷ In order to assume the throne, to secure the nobility's support for a war or to assure their successors, monarchs granted concessions to the class that elected them. For example, in 1374, Casimir's successor, Louis I of Hungary, guaranteed the nobility their traditional rights and exemption from the payment of taxes to the crown without their explicit approval. See also Davies (1981, p. 91).

²⁸ The so-called *mitos* or dogma of granary which was popular among the nobles.

²⁹ Under John Albert's rule (1493), the king's council evolved into a bi-cameral general Sejm (parliament) which consisted of king, senate and the house of representatives, the majority of whom were regionally elected in public dietinies (*sejmiki*).

³⁰ See, for example, footnote 27 above.

Confederation of 1573), which was unique in a Europe plagued with religious wars, it evolved later into the "oligarchy of magnates".

One of the peaks of the Polish "golden age" was the evolution from personal to real union with Lithuania in 1569 in the form of the Commonwealth of the Two Nations. Following the wars with Sweden and Moscovy (1610), the Polish-Lithuanian Commonwealth reached its maximum boundaries, with a territory of 390,000 square miles stretching from the Baltic and the Silesian borders in the West almost to the Black Sea in the East. It was inhabited by a multi-ethnic and multi-religious population of about 11 million (see chapter 4). Numerous new private towns were founded, mostly on lands in the East which were granted, leased or sold to the nobles and magnates by the king. These were usually small towns which became the centers of the developing noble estates.



Map 2.2. The Polish-Lithuanian Commonwealth³¹

³¹ Halibutt.pl: www.polishorigins.com/public/pictures/maps/2000px-1Rzeczpospolita.png (accessed November, 2015).

In the economic realm, the East adhered to the feudal agrarian economy while in the West mercantilism predominated. During the 15th and 16th centuries, the peasantry of Eastern Europe was enserfed.³² In Poland, the feudal system evolved in parallel to the development of large noble manorial estates known as folwarks and of the export-driven grain trade. The folwarks developed from land owned by a feudal lord and worked by hired labor, servants, and peasants who in addition to cultivating rented lots had to work a certain number of days on the lord's demesne. The purpose of serf-based folwarks was to produce surplus produce that could be exported to Western Europe as well as being sold within the Commonwealth. Starting from the 16th century, as noble estates grew in size and a shortage of labor developed, the nobles increased the amount of mandatory free labor and supported legislation that limited peasants' mobility and rights.³³ In 1521, peasants lost their right to appeal to the royal court, and by the end of the 16th century landlords had obtained the right to execute peasants at will. While in Western Europe feudal property rights were on the decline and wage labor had become popular, in Poland noble privileges and royal statutes had led to greater subjection and exploitation of the peasantry. This is known in Polish historiography as the "second serfdom". The Polish serf-based system was not a unique phenomenon, but rather the relic of a structure that was once characteristic of the region and which had evolved in a rather unique way.³⁴

Despite some military successes, the continuous wars devastated the Commonwealth, emptied its treasury and strengthened the nobility's ever-growing opposition to the monarchy and, together with the worsening climatic conditions, famine, plague and a decline in Western European demand for Poland's grain, led to economic decline in the first half of the 17th century. The crisis affected both the cities and the folwarks. The folwark system did not develop since the export profits were not reinvested in agricultural improvements and the expansion was limited by noble rivalry and soil exhaustion. In order to increase production, the nobles enlarged the folwarks by expropriating peasant lands and adding to the peasant workload.

³² At the beginning of the 16th century, Bohemian feudalism was still at its height. The nobility outranked both the common people and royalty. Diets controlled the crown and chose the king. They voted on taxes and the administration of feudal properties. The situation changed with the coronation of Ferdinand of Hapsburg. He managed to centralize the functions of the diets and to consolidate the royal power. He solidified the agrarian system and reversed the balance of political power.

³³ This classic explanation was elaborated on by Dobb (1946, pp. 53-60).

³⁴ Maćzak (1995, p. 269).

The nadir of the crisis was reached with the Cossack Rebellion in Ukraine, known as the Khmelnitsky Uprising (1648-1657) followed by the Swedish Deluge (1655-1660) and the Polish-Russian War (1654-1667). Although victorious, the Commonwealth suffered terrible losses. Its territory shrank by 30 percent, while the amount of land under cultivation fell by 50 percent.³⁵ Its population was reduced to 6 million (also due to bubonic plague), while the populations of the major cities of Warsaw, Krakow, and Poznan fell by around half.³⁶ Grain production dropped to two-thirds of its former level and its export dropped by almost half.³⁷

The proud "Sarmatian" re-Catholicized and the increasingly backward nobility responded to the decline not by carrying out the necessary reforms but rather by acquiring the land of impoverished peasants, increasing peasant unfree labor services (*pańszczyzna*) and by exploiting the monopolies that were built in to the manorial economy.³⁸ On the one hand, the concentration of land in the hands of the nobility contributed to the growth of private noble towns and to a slow economic recovery in some areas,³⁹ but, on the other hand, it simultaneously stifled the development of cities and the emergence of the middle class. Furthermore, it accelerated decentralization, which further weakened the country.⁴⁰

The reign of John III Sobieski (1674-96) and the famous defense of Vienna against the Turks (1683) marked the last appearance of the Commonwealth in the international arena. The period of the Saxon kings (1697–1763), known as the "eclipse", gave Poland peace, though it brought no remedy to the country's economic and political problems.⁴¹ Although the population had grown to 12-14 million by 1771 and some attempts had been made to stimulate industrial production and revive foreign trade, the Commonwealth was already too weak and underdeveloped to oppose the emerging new power of absolutist and mercantilist Europe.⁴² The

³⁵ Polonsky (2010, p. 94).

³⁶ Polonsky (2010, p. 94); Lukowski (1991, p. 7).

³⁷ In the first half of the 17th century, Poland exported about 140,000 tons annually while in the second half this amount dropped to only 80,000 tons. Topolski (1982, p. 102).

³⁸ Cynarski, (1968, pp. 5-17).

³⁹ By that time, private towns made up two-thirds of all the towns in the Commonwealth and as much as four-fifths of those in the Ukrainian provinces.

⁴⁰ See, for example, Rosman (1990, p. IX).

⁴¹ Gierowski, J. and A. Kaminski (1970, p. 681-715).

⁴² See chapter 4 and Augustyniak (2014, pp. 252-53). Regarding the general situation of Poland, see Gierowski (1982, pp. 231-37).

decentralization, the political-military unions of nobles (confederations) and internal chaos continued to paralyze the state and expose it to interference from foreign diplomacy.⁴³

There were attempts to reform the state by the last king Stanislaw August Poniatowski (1764-95), the Enlightened writers and the elite. However, the Commonwealth—ruled by the "oligarchy of magnates"—was made "impotent by its fears and factions."⁴⁴ Without a strong standing professional army, it was too weak to protect its sovereignty.

In 1772, 1793 and 1795, the Commonwealth was progressively divided up among the neighboring powers of Russia, Prussia and Austria. The first partition deprived Poland of approximately half of its population and almost one-third of its land area (about 81,500 square miles). Russia received all of the Polish territory east of the Dvina and Dnieper rivers; Prussia received Royal Prussia, excluding the cities of Gdańsk (Danzig) and Toruń, and part of Great Poland; and Austria received Little Poland (south of the Vistula River), western Podolia, and a region which became known as Galicia.

⁴³ The nobility viewed political chaos as a part of the Polish uniqueness.

⁴⁴ Lukowski (1991, p. 11).



Map 2.3. The Partitions of Poland⁴⁵

In the Third Partition, Austria received the territories of Western Galicia and Southern Masovia, along with approximately 1.2 million people; Prussia received Podlachia, the remainder of Masovia, and Warsaw, with 1 million people; and Russia received the remainder, including the city of Vilnius and 1.2 million people. Prussia ended up with about 23% of the Commonwealth's population, Austria with 32%, and Russia with 45%. The king abdicated, and sovereign Poland ceased to exist. In 1807, Napoleon established the Duchy of Warsaw, but it was dissolved already in 1815 at the Congress of Vienna, which created Congress Poland within the tsarist empire. Poland in the 19th century was characterized by urbanization, affranchisement of the peasants (in 1864), the emergence of capitalism, uneven industrialization, the coming of the railways and large-scale emigration.

⁴⁵ www.britannica.com/event/Partitions-of-Poland (accessed November 10, 2015)

Towards the end of the 19th century, Congress Poland, with Warsaw at its center, became the most advanced industrial region in the Russian Empire. A new capitalistic class-oriented society evolved under the partitioning powers, which replaced the old feudal estates and encouraged the formation of political movements. Despite a strong nationalist movement and armed uprisings, which kept national identity alive throughout the 19th century, Poland gained back its independence only under the Treaty of Versailles. The initial years of the Second Republic were characterized by the creation of institutions, economic unification, agricultural reform (redistribution of land among the peasants), reconstruction of industry and the education system, financial reform, unemployment, and national and political conflicts that led to authoritarian rule. Despite the many problems, however, the Interbellum was also a period of cultural, scientific and social progress.

3. The Origins of German and Polish Jewry, 800-1500

This chapter describes the development of the Jewish population in Germany and Poland prior to the 16th century. It will present the currently available information on the origins of the Jewish communities in these two countries whose territories included most of Central and Eastern Europe during the period 1500-1930, which is the focus of this paper.

3.1 The arrival of Jews in Germany⁴⁶

During the early part of the 9th century, the growth of German Jewry was closely connected to the development of French Jewry, particularly in northern France.⁴⁷ The first Jews arrived in Germany from Italy and southern France during the reigns of Charlemagne (771–814) and Louis the Pious (814–40) and were composed primarily of itinerant merchants. The merchants were followed by their extended families and accompanied by servants and rabbis. By about a century later, organized Jewish communities had emerged, which were protected by the Christian elite.⁴⁸

By the late 11th century, large and thriving communities had developed in the most important economic and political centers of Germany, including Cologne, Magdeburg, Mainz, Regensburg, Trier, Worms and Speyer. By the time of the pogroms of the First Crusade (1096), there were about 1,000 Jews in Mainz and the same number in Worms. These two communities (along with Speyer later on) became the spiritual center of Ashkenazi Jewish life and the Pietists movement (Hasidei Ashkenaz). During and after this period of persecution, many Jews dispersed to other locations within Germany and the number of Jewish settlements grew rapidly (see map below). While in 1238 Jews lived in about 90 towns and villages, by 1348 there were already more than 1,000 Jewish communities in Germany.⁴⁹ The first half of the 14th century (until the Black Death) marks the high point of Jewish settlement in

⁴⁶ This section is based on Botticini and Eckstein (2013, Chapter 7, pp. 186-90).

⁴⁷ Sources indicate the presence of Jews in Cologne and Trier during Roman times. Nothing, however, indicates that these early Jewish communities were connected to the Jews living in Germany in the early Middle Ages. The record of German Jewry is scant during the 5th and 6th centuries and falls silent during most of the 7th and 8th centuries. See Baron (1952, vol. 4, chapters 20 and 22) and Toch (2000b, 2005, 2008, 2011a, 2012).

⁴⁸ Ben-Sasson et al. (2007). See also the discussion of migration to Christian Europe in Botticini and Eckstein (2013, Chapter 7).

⁴⁹ Toch (2005, 2008, 2011b, 2012); Abulafia (2011).

medieval Germany, with a geographical dispersion not seen again until the 19th century.

Map 3.1. Major Jewish Communities in Germany in the 13th Century⁵⁰



The dominance of professions related to trade and commerce among the early Jewish immigrants led them to settle in new towns and urban centers where the most profitable business opportunities existed. According to Hebrew records from the second half of the 10th century onward, shop keeping, local trade, long-distance commerce, toll collection, minting, and money changing were the main occupations of German Jewry. In addition, the Jews could and did own land, which they cultivated as orchards and vineyards by means of Christian tenants and agricultural laborers. Many German Jews also became heavily engaged in lending money at interest (see below).⁵¹

⁵⁰ Ben-Sasson et al. (2007, p. 521).

⁵¹ Baron (1952, vol. 4, chapters 20 and 22); Toch (2000a, 2000b, 2003, 2005, 2008, 2010, 2011a, 2012); Ben-Sasson et al. (2007).

As in other locations in Europe, the Jews in medieval Germany were often invited by local rulers, who sought to gain from the skills and potential income they would bring to their developing cities. The Jewish arrivals often received charters of privileges, such as the earliest one granted by the bishop Rudiger of Speyer in 1084, which specified their legal status and economic activities.⁵² On the one hand, the charters granted the Jews the right to own land and engage in trade (and later in money lending), as well as religious freedom and the ability to regulate internal matters according to their own laws.⁵³ On the other hand, these charters represented a fundamental downgrading of Jews' legal status, from permanent Roman residents free to live among Christians to a group that was dependent on the hospitality of Christian rulers.⁵⁴

German emperors also issued charters, which granted Jews a special legal status under exclusive imperial jurisdiction.⁵⁵ In return for imperial protection, the Jews became "serfs of the treasury" and the Emperor gained the right to exploit any potential income from them. In 1238, Duke Frederick II granted a charter to the Jews living in Vienna, which was later extended to all the Jews of Austria and served as one of the models for royal charters in Eastern-Central Europe.⁵⁶ On the one hand, the charter granted the Jews the right to travel throughout the duchy and exempted them from municipal and local tolls. It permitted them to lend money based on any collateral brought to them (except bloody or wet clothing), without questioning its origin. It specified severe punishment for violent theft from a Jew, the retraction of a pledge made to a Jew, or any attack on a Jew in his home. Furthermore, it recognized the Jews as moneylenders and allowed them to charge an annual interest rate of 173.333 percent on their loans (8 pence per talent or pound per week).⁵⁷ On the other hand, the Jews and their property became the possessions of the duke and they were totally at his mercy. They virtually became his serfs and could easily be exploited financially. The pre-Crusades High Middle Ages was a period that saw the consolidation of Jewish communal leadership in Germany. Although Jews increasingly restricted

⁵² Marcus (1938).

⁵³ Parkes (1934, 1938); Marcus (1938); Pakter (1988); Linder (1997). Examples include the charters of Trier (919), Magdeburg (965, 973, 979), Speyer (1084, 1090), Worms (1074, 1090, 1157), Ratisbon (1182, 1216, 1230), and Vienna (1238).

⁵⁴ Stow (1992, p. 101).

⁵⁵ Teller (2010, pp. 112-13).

⁵⁶ For the text, see Botticini and Eckstein (2013, Chapter 8, Annex, pp. 244-47).

⁵⁷ Baron (1952, vol. 4, chapter 22).

themselves to living in Jewish quarters, they had ongoing contact with Christian society and in particular money borrowers. The average community maintained a synagogue, a cemetery and a bathhouse. It was characterized by a uniformity of interests, homogeneity of family structure and a class structure, where the upper class included the wealthy, a scholarly elite, and a body of community leaders,⁵⁸ and often the same wealthy individuals were also the scholars and the leaders.⁵⁹ In parallel to the development of community institutions, there were irregular meetings (synods) of leading rabbis on fair days who issued rulings to establish general norms for Jewish behavior and also imposed regional taxes.⁶⁰ Throughout the Middle Ages, scholars continued to develop halacha and also wrote religious poetry. After the Black Death, the customs and traditions of the Rhine communities were carried on by "the Sages of Austria".

With the increase in anti-Jewish incidents, growing taxation and oppression by the authorities, followed by repeated episodes of temporary expulsion, Germany ceased to be a destination for Jewish immigration at some point, and in fact there began a net outflow of Jews. Although there was never a total expulsion of Jews from Germany and most Jews remained in the country and moved from one location to another, some Jews migrated first to Italy and, later on, eastward to Bohemia, Silesia and Poland. A large number of emigrants joined the German colonization movement whose destination was Polish cities (see below).⁶¹ Later on, the Plague Massacres of 1348-1349, which destroyed the majority of the German Jewish communities, led to accelerated migration eastward and brought to Poland "the German element [that] quickly left the most salient cultural and social imprint on the character of the East European Jewish community."⁶² This laid the foundation for the rise of the large and prominent Ashkenazi Jewish communities in Poland in subsequent centuries.⁶³

As to legal status, the Jews remained imperial serfs during the 14th and 15th centuries, although the tax revenues collected from them were transformed into a form of financial right (regale). The Emperor could and did transfer to his creditors and political allies the revenue owed by the Jews. As a result, the Jews had to turn to their

⁵⁸ Stow (1992, p. 90).

⁵⁹ Grossman (1975, pp. 177-78).

⁶⁰ Stow (1992, pp.172-73).

⁶¹ See Zaremska (2011, p. 116).

⁶² Ruderman, (2010, p. 30).

⁶³ Baron (1952, vol. 4, chapter 22); Toch (2005, 2011b, 2012).

local rulers (sometimes even the mayors of towns) for payment of taxes and the provision of justice and protection, and had no higher authority to turn to in the case of multiple payments, persecution or expulsion. Eventually, organized communal life disintegrated and the Jews' special group status was gradually replaced by fragile charters granted by local authorities, which only applied to individuals and their families and usually involved large payments for the privileges they provided.

The 15th century was marked by blood libels and expulsions. The emperors tried to retain their control over the Jews and the income from them, but were challenged by emerging local political and social forces who were themselves interested in Jewish tax revenues. The change in legal status and the expulsions brought about shifts in the occupational structure of the Jews. In the southern German communities, Jews worked not only as moneylenders and pawnbrokers but also as wine merchants, petty traders and intermediaries between the large agricultural producers and the emerging city merchant class, as well as between producer and buyer. However, this was on a small scale in comparison to the future economic role of Jews in Poland-Lithuania.

3.2 The origins of the Jews in Poland

The first Jews, who were probably involved in the slave trade, appeared on the trade routes of Central and Eastern Europe as early as the 10th century.⁶⁴ During the first decades of the Polish Kingdom, some small Jewish colonies were established in order to serve the needs of these itinerant Jewish traders. In the mid-12th century, following the collapse of the slave trade and the strengthening of the monarchy and state institutions, as well as the rise of towns, the Polish Kingdom became attractive to both German and Ashkenazi Jewish immigrants.⁶⁵ The Jews, like others, were attracted mainly by the burgeoning economic opportunities.⁶⁶

The first permanent communities, though small in size, were probably established in the 12th century by wealthy Jews who worked for the Polish kings as minters, bankers and commercial agents.⁶⁷ From the second half of the 13th century onward, waves of Ashkenazi immigrants, who were part of the large-scale migration from German-

⁶⁴ For a more detailed description of the early Jewish presence in Slavonic lands, see Gieysztor (1986, pp. 15-21).

⁶⁵ Weinryb, (1972, p. 27); Bell, (2008, p. 55); Zaremska (2011, p.116).

⁶⁶ *Atlas* (2010, p. 32).

⁶⁷ Rosman (1990, p. 36).

speaking lands eastward (see above), established organized communities modeled on the Ashkenazi diaspora.

There is ample evidence of the Ashkenazi roots of Polish Jewry. Both diasporas had a common core of religious practice called *Minhag Ashkenaz*.⁶⁸ They had similar burial practices, as can be seen from a comparison between the oldest remaining Jewish tombstones in Poland and the typical late-medieval Ashkenazi sepulchral forms.⁶⁹ The new communities accepted the Ashkenazi rabbinic authority, consulted often with Ashkenazi rabbis via *responsa* and held in high esteem those who had studied under Ashkenazi scholars. For example, already in the mid-13th century Jacob of Cracow, a rabbi and scholar, consulted Ashkenazi rabbis in order to avoid censure. Both early settlers and early settlements had German-sounding names, and both diasporas spoke a common medieval Judeo-German dialect, an early form of the evolving Yiddish language.⁷⁰ Finally, the first charter granted to Polish Jewry, the Statute of Kalisz (1264), was largely based on a German prototype which was probably presented to Boleslaw the Pious by Jewish immigrants from the Holy Empire (see above).⁷¹

Jewish immigration and the establishment of permanent Jewish communities was by the consent of rulers and nobles who sought to utilize Jewish skills in the economic development of the country, which was largely populated by serfs (see chapter 2). In 1264, following the growth of Jewish settlement, the strengthening of the Roman Catholic Church and the acceptance of the Magdeburg model in Polish towns (*locatio*), the Jews received their first charter of privileges, the aforementioned Statute of Kalisz.⁷² Similar to the German and Central-European models, the charter granted the Jews freedom of worship, trade and travel, exempted them from city and church courts and placed them under the jurisdiction of the ruler or his representative, who would benefit from Jewish contributions to the treasury. However, in contrast to the situation in the Empire where Jews were given the status of serfs of the treasury (see above), the charter established Jews as an urban group, gave them rights parallel to other urban newcomers and integrated them within the economic and social life of

⁶⁸ Bartal (2005, p. 16); Ruderman (2010, pp. 30-1).

⁶⁹ Wodzinski (2010).

⁷⁰ Sources from the 14th and 15th centuries mention places with names using the Middle-High-German diminutive suffix *lin*, while series of appellations mention names with the Germanic element *man*. For more details, see Beider (2001, pp. 184-98; table and map pp. 212-13).

⁷¹ On the origins and further bibliography on the Statute of Kalisz, see Zaremska (2011, pp. 116-129).

⁷² Zaremska (2011, p. 133).

Polish towns.⁷³ As minters, bankers, moneylenders, merchants, tax farmers and toll collectors, lessees of royal salt mines, administrators, and royal creditors, Jews began to play a prominent role in the royal and national economies. While in the Empire Jews were appreciated first and foremost as a source of direct income, in Poland the rulers were more interested in the Jewish contribution to economic development. Hence, while in the Empire the fate of the Jews was determined by the commercialization of their taxation and its sale to local potentates, in Poland the Jews' situation depended on the power struggle between the king and the nobility (see chapter two).⁷⁴

In 1453, King Casimir the Jagiellon granted the Jews of Major Poland a detailed charter which strengthened Jewish physical security, religious freedom and economic rights, and formally recognized the structure of Jewish autonomy. Although the charter was canceled in 1454 due to the opposition of the nobility, it was reconfirmed later on by the early modern kings of the Polish-Lithuanian Commonwealth who buttressed the Jewish community as a source of economic benefits and a counterweight to increasingly autonomous municipalities.

By 1500, the Jewish community numbered between 10,000 and 30,000, dispersed in about 100 small communities (see chapter 4).⁷⁵ The Jews paid the poll tax to the State and were free to "travel, change residence, swear and sue in court, bear arms, and own homes and businesses; in principle, they were allowed to deal in any commodity and could sell retail as well as wholesale."⁷⁶ They enjoyed a status parallel to that of the burgher estate, and their occupational structure developed according to the economic and political changes in Polish cities.⁷⁷

The Jews lived in mostly urban communities and although their self-government combined Talmudic and Ashkenazi tradition with Polish influences, they became "religious ethnic corporations recognized by law and protected by the monarchy and [later by the] nobility."⁷⁸ The community (*kehila*) had a board (*kahal*), which was usually comprised of affluent merchants related to the developing rabbinic elite. The

⁷³ Teller (2010, p. 114).

⁷⁴ Teller (2010, pp. 114-116).

⁷⁵ Guldon (2000). See also Horn (1974).

⁷⁶ Rosman, (1990, p. 37).

⁷⁷ Lukowski (1991, p. 78).

⁷⁸ Ruderman (2010, p. 86).

board imposed taxes and collected them and maintained a synagogue, ritual bath house (*mikveh*), cemetery, and a Jewish court of law.

Although the Polish Church advocated an inferior status, physical segregation and various other restrictions on the Jews, it was never able to impose them and instead developed economic relations with Jewish communities and individuals. The strongest opposition to Jewish economic activities came from the Christian guild merchants and craftsmen. The increase in Jewish retail trade and crafts was met with complaints, accusations, municipal restrictions, and sometimes street violence. The conflicting interests were often resolved through the king's intervention or by means of agreements known as “pacts” between the Jewish community and the Christian municipality, which prescribed the limits of Jewish economic activity in the city. In spite of this complicated reality of power struggles between royalty and nobility and between royal privileges and municipal pacts, the Polish Jewish community began to grow and expand eastward.

4. The Jewish and Total Populations of Poland-Lithuania and Germany-Austria during the period 1500-1930

This chapter examines the population trends in Central and Eastern Europe during the period 1500-1930, during which the region gradually became the center of world Jewry. We divide this vast area into Germany-Austria (GA) whose borders correspond to those of the Holy Roman Empire around 1500, and Poland-Lithuania (PL) whose borders largely correspond to those of the Polish-Lithuanian Commonwealth around 1600 (see chapter 2). We make an effort to keep these two areas fixed although national borders changed dramatically over time.

The period under consideration is divided into two sub-periods: 1500 to 1800, which roughly covers the three centuries before Jewish Emancipation, the partition of the Polish-Lithuanian Commonwealth and the Industrial Revolution; and 1800 to 1930, during which this area became the center of Judaism and home to the majority of world Jewry.

The population estimates are based on existing secondary sources, most of which calculated the Jewish population based on the number of Jews who were members of an established community and subject to taxation.

The discussion is divided into two sections corresponding to GA and PL, each of which is divided into three subchapters: the Jewish and total populations from 1500 to 1750; those same populations during the period 1800 to 1930; and the populations of a number of specific cities with significant Jewish communities. In two appendices, we provide data on subregions of GA and of PL during the period 1800-1930. The populations of additional areas (such as Holland) are also of interest but will be left to future research.

4.1. The Jewish and total populations of GA: 1500-1750

Table 4.1 provides our estimates of the Jewish and total populations of GA, i.e. Germany-Austria corresponding to what was once the Holy Roman Empire (see Map 4.1). We explain below how the figures are calculated.

Table 4.1 The Jewish and total populations of GA: 1500-1750

Year	Jewish population (in thousands)	Total population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jewish population (%)	Annual growth rate of the total population (%)
1500	40	16,000	0.25		
1600	35-40	18,000-20,000	0.2	0.00	0.11 to 0.22
1650	60	16,000-17,000	0.35	0.81	-0.23 to -0.32
1700	110	19,000-20,000	0.55	1.21	0.34
1750	128	26,265 ^a	0.49	0.30	0.32-0.38

a) In 1786

We estimate that in 1500 there were approximately 40,000 Jews (or perhaps somewhat less) within a total population of 16 million in GA (see Map 4.1). This is based on Guggenheim (1989) who estimated that there were approximately 7,000-8,000 Jewish families, equivalent to about 40,000 individuals, in GA. This estimate applies to the period between the end of the 14th century and the beginning of the 16th.⁷⁹

More recently, Toch (2003) accepted Guggenheim's estimate of 40,000 Jews (7,000-8,000 families) in the early 15th century and allowed for the possibility that this number even shrank by the end of the 15th century. He does not agree with the excessive estimate of 80,000 Jews (in 1490) suggested by Salo Baron (1971) and cited

⁷⁹ Guggenheim (1989, pp. 130-31). His estimate is based on *Germania Judaica* III, particularly the first and second volumes which contain demographic information for over 1,000 Jewish communities.

by Stow (1992).⁸⁰ He also concurred with Guggenheim's estimate that Jews constituted about 0.25% of the total population.⁸¹

For the period 1350 to ca. 1530, Toch estimates that there were 1022 locations with a Jewish presence.⁸² For about half of these, there is some indication of the size of the Jewish population. Toch divided the communities according to size based on number of families. His diagram indicates that in the majority of locations there were only one or two Jewish families, in some there were between three and nine families and in only a small number were there communities of 30+ families.⁸³

We estimate the total population to be 16 million based on Rabe (1989)'s estimate for 1500. His estimate includes Netherlands (2 million) and the Swiss Confederation (550,000 to 600,000), but excludes parts of the Italian territory that were part of the GA at that time (see Map 4.1).⁸⁴

Based on Battenberg (2001), we estimate that the Jewish population of GA was about 35,000-40,000 in about 1600 (excluding Italy in order to maintain consistency) while the total population grew to about 18-20 million. Thus, the Jews constituted a mere 0.2% of the total population.⁸⁵ In the southeastern part of GA, the Jewish population was about 15,000.⁸⁶ The largest communities were in Prague (10,000-15,000 in 1600),⁸⁷ Vienna (2,400 in 1624)⁸⁸ and Nikolsburg (1,000 in the mid-17th century).⁸⁹ In the north and northwestern parts of GA (including the Netherlands), there were perhaps some 3,000 Jews.⁹⁰ In the midwestern part, there were some 15,000 Jews with the largest communities in Frankfurt (2,200 in 1600 and 3,000 in 1610), Friedberg (around 600 in 1600), Worms (over 600 Jews in 1610-1619), and Fulda (about 450 Jews in 1633).⁹¹ In the southwestern part, there were some 3,000 Jews, with a large community in Metz (about 400 Jews in 1620).⁹²

⁸⁰ Toch (2003 (1), p. 13); Stow (1992, p.7, table 1.1); Baron (repr. 2007).

⁸¹ Toch (2003 (1), p.13).

⁸² Toch (2003 (1), p. 12).

⁸³ Toch (2003 (1), p.12); (2003 (2) XIV, pp.81-83, fig. 5.4).

⁸⁴ Rabe (1989, p. 27).

⁸⁵ Battenberg (2001, p.10).

⁸⁶ Battenberg (2001, p. 10-11).

⁸⁷ Vobecka, following Brosche, estimated that there were 10,000-15,000 Jewish residents in 1600 (2013, p. 20).

⁸⁸ Battenberg (2001, p.10).

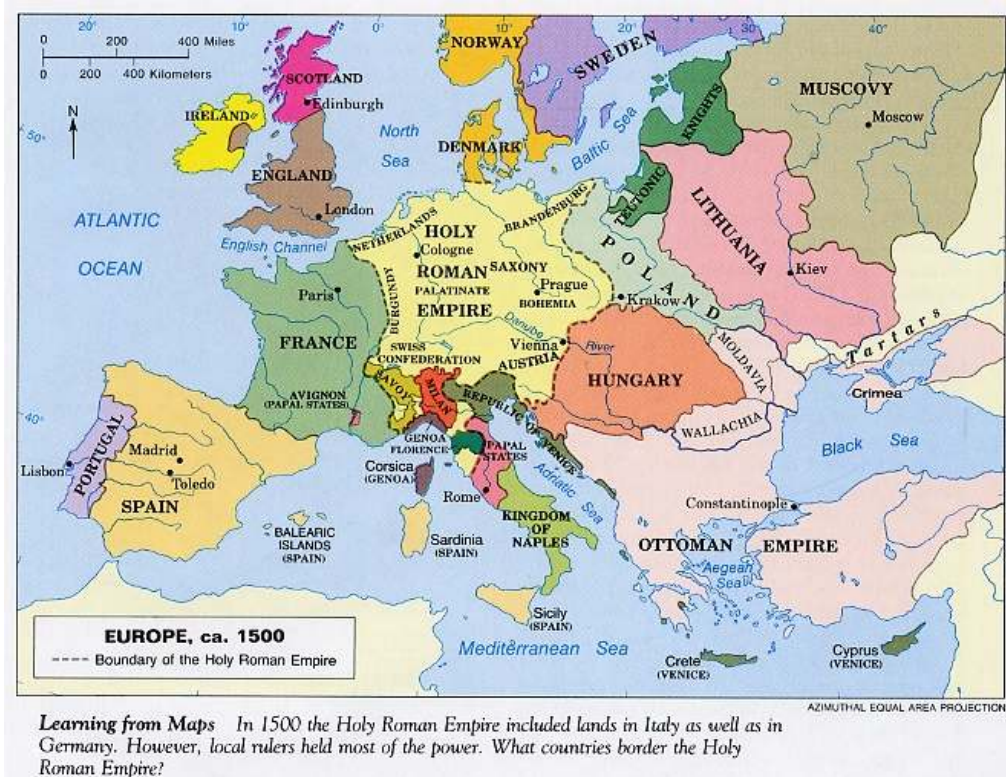
⁸⁹ Battenberg (2001, p.10).

⁹⁰ Battenberg (2001, pp.11-12).

⁹¹ Battenberg (2001, pp.12-13).

⁹² Battenberg (2001, p. 13).

Map 4.1: Europe in 1500⁹³



The Jewish population in GA is estimated to have reached about 60,000 in 1650 out of a total population of 16-17 million. Battenberg (2001) provides this estimate as of the end of the Thirty Years' War (1618-1648) and Bell follows his estimate.⁹⁴ For the total population, we adopt Schormann (2001)'s estimate.⁹⁵

According to various estimates, the decline in population as a result of the war was 15-30%. Battenberg estimates that the total population decreased by one-third.⁹⁶ Schormann (2001) mentions a 15-20% decrease in GA's population, from 20 million to 16-17 million.⁹⁷ Whaley (2012) summarizes various estimates of GA's population losses during this period, mentioning that "hard statistical evidence is [...] difficult to come by."⁹⁸

⁹³ www.thinglink.com/scene/665178251152326657 (accessed on November 12, 2015).

⁹⁴ Battenberg (2001, p. 33); Bell (2008, p. 48).

⁹⁵ Schormann (2001, p.269).

⁹⁶ Battenberg (2001, p. 32).

⁹⁷ Schormann (2001, p.269).

⁹⁸ Whaley (2012, vol. 1 p. 633). Whaley mentions that the estimates depend on the geographical focus of the demographic studies, i.e. whether the focus is on the German borders of 1871-1914 (the Second Reich) or on those of the early Reich. Schormann's estimate (fn. 26) refers to the early Reich.

The Jewish population of GA was less affected, according to Battenberg. This is partly because there was some migration of Jews from PL to GA in the wake of the Khmel'nitsky Uprising.⁹⁹

In 1700, we estimate the Jewish population in GA to have been about 110,000 and the total population to have been 19-20 million. These figures are based primarily on Battenberg (2001), who followed Jonathan Israel in estimating that there were about 50,000 Jews in Bohemia and Moravia out of a total population of about 4 million and about 60,000 in the rest of GA out of a total population of 15 million.¹⁰⁰ The numbers for Bohemia and Moravia may have been somewhat lower since according to Vobecka (2013)'s research their Jewish populations only reached 50,000 in 1726.¹⁰¹

In 1750, we estimate the Jewish population of GA to have been about 128,000 and the total population to have been about 26 million. These figures are based on Israel (1985) who provided an estimate of 70,000 Jews in Germany in 1750 and on Thon, whose estimates for 1776 suggest that there were about 58,000 Jews in Austria (in which we include Bohemia and Moravia but exclude Galicia).¹⁰² A less recent study by Kolb (1875) provides an estimate of 26,265,000 for the total population of GA in 1786.¹⁰³

Hartmann (1995) provides an analysis of the population of GA at the end of the 18th century and estimates the total population to have been 27,499,678 in 1796.¹⁰⁴ He also analyzes the confessional breakdown of the GA's population; however, he is mainly interested in the Catholic and Protestant communities and the information he provides on Jews is only partial. Nevertheless, he claims that Jews comprised 1% of the total population (i.e. they numbered approximately 275,000) by the end of the 18th century.¹⁰⁵ This estimate is close to our estimate of the Jewish population in Germany and Austria in 1816 (see tables 4.2 and 4.3).

⁹⁹ Battenberg (2001, pp. 32-33).

¹⁰⁰ Israel (1985, p. 170); Battenberg (1990, part 2, pp. 1-2); see also Battenberg (2001, pp. 32 ff).

¹⁰¹ Vobecka (2013, p. 22).

¹⁰² Israel (1995, p. 303); Thon (1908, p. 5).

¹⁰³ Kolb (1875, p. 36). Kolb also provides a breakdown of the population of the Reich by region (ibid.). His figures are also quoted by Dann (1996, pp. 401-3, table 1).

¹⁰⁴ Hartmann (1995, p. 348).

¹⁰⁵ Hartmann (1995, p. 369, diagram 6).

The key fact emerging from table 4.1 is that the Jewish population of GA was stagnant during the 16th century, while it grew by more than by one percent per annum during the 17th century, mainly during the second half. While the total population collapsed during the Thirty Years' War in the mid-17th century, the Jewish population remained stable. During the first half of the 18th century, we observe a moderate growth rate of 0.3% percent per annum which is below that of the non-Jewish population. However, by the mid-18th century the Jewish population was 0.5% of the total population, which is twice what it was in 1500.

4.2 Germany-Austria: the Jewish and total populations, 1800-1930

Europe's geopolitical map underwent major changes during the last thirty years of the 18th century as well as in 1815, following the Congress of Vienna (see chapter 2).

In 1871, the German states were united to form the German Empire or the Second Reich, also known as the *Kaiserreich*, which lasted until 1918. On Map 4.2, the boundary of the *Kaiserreich* is marked by the red line, while the dashed red line demarcates the territory of the German Confederation.

In Table 4.2, we attempt to estimate the Jewish and non-Jewish populations of Germany for the period 1800-1930. The estimates include the following areas: Prussia, Bavaria, Württemberg, Kingdom of Saxony, Duchy of Baden, Duchy of Hesse, Mecklenburg, Brunswick, Anhalt, the Thuringian states, Schaumburg-Lippe, Oldenburg and Hohenzollern. The Kingdom of Prussia is defined according to the administrative boundaries of the *Kaiserreich* (1871). Thus, Hannover, Schleswig-Holstein and Hesse-Nassau are included as Prussian provinces. Alsace-Lorraine, which was part of the Empire until 1918, when it was returned to France, is excluded from Table 4.2. West Prussia and Posen (Map 4.2) were part of the German Confederation under the settlement of 1815 and part of the German Empire in 1871. However, since they were part of Poland before the partitions, they are excluded from Table 4.2 and instead are included within the population of Poland (see Table 4.6). The Jewish and total populations of Austria, including Bohemia and Moravia, are presented separately in Table 4.3.

Map 4.2 The German Empire of 1871 (red line) and the German Federation of 1815 (dashed red line)¹⁰⁶



The starting point for the calculations is 1816 since at this point the borders become more stable and the calculations can be based on censuses during the 19th century.

¹⁰⁶ http://education.randmcnally.com/images/edpub/Unification_of_Germany.jpg (accessed on November 12, 2015).

Table 4.2: The Jewish and total populations of the German Empire, 1816-1930*

Year	Jewish Population (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jewish population (%)	Annual growth rate of the total population (%)
1816	210	22,130	0.95		
1846	304	30,760	0.99	1.23	1.10
1871	383	36,612	1.05	0.92	0.70
1880	439	40,569	1.08	1.51	1.14
1890	467	44,639	1.04	0.62	0.95
1900	501	51,197	0.98	0.70	1.37
1910	544	59,248	0.92	0.82	1.46
1925	568	61,666	0.90	0.28	0.42
1933	503	65,218	0.76	-1.51	0.55

* According to the borders of 1871, excluding Austria (see Table 4.3), Alsace-Lorraine, West Prussia and Posen.

The Jewish population in Prussia is based on calculations made by Herbert Philipsthal (1928) who compiled the data for the Jewish population in the Prussian provinces for the period 1816-1925 according to the 1871 borders of the Prussian Kingdom. For the year 1816, we subtract from his calculation of 164,000 the populations of the provinces of West Prussia (12,630) and Posen (51,960) to obtain a Jewish population of 99,410. Philipsthal does not provide separate numbers for West and East Prussia though Jersch-Wenzel does.¹⁰⁷ For the Jews in other German states, we therefore use his data for Bavaria (53,200), Baden (17,600), Saxony (1,000), and Württemberg (8,300) to arrive at 80,100 Jews.¹⁰⁸ We use Schmelz (1996) for the Hessen region. Schmelz provides the figure 19,500 for 1822 in Hesse-Darmstadt (within the borders of 1866) and we extrapolate this back to 1816 according to the annual rate of growth

¹⁰⁷ Philipsthal (1928, p. 11, table 2); Jersch-Wenzel (1996, p. 54 table 2.1).

¹⁰⁸ Jersch-Wenzel (1996, p. 54 table 2.1).

of 1.3-1.5% provided by Schmelz for subsequent years.¹⁰⁹ Thus, in 1816 there were an estimated 18,000 Jews in Hesse-Darmstadt. In the rest of the smaller German states, which had small Jewish populations, Jersch-Wenzel (1996) estimated a Jewish population of 12,300 in 1816.¹¹⁰ Thus, the number of Jews in Prussia and the other German states is estimated by us at around 209,810, which we round to 210,000.

In order to estimate the total population, we use Hubert's research on the demography of Germany since the year 1815. Hubert estimates the total population in 1816 at 23.522 million (excluding Alsace-Lorraine).¹¹¹ From that figure, we subtract the provinces of Posen and West Prussia (820,176 and 571,081, respectively) to obtain 22.13 million. The figures for the Prussian provinces of Posen and West Prussia are taken from *Jahrbuch für die amtliche Statistik des preussischen Staates*.¹¹²

For 1846, Philipsthal (1928) estimated that there were 267,000 Jews in all of the provinces of Prussia within the borders of 1871.¹¹³ We subtract from his figure the provinces of West Prussia (ca. 22,300) and Posen (81,299) and obtain an estimated Jewish population of 163,299. The figure for Posen is taken from Philipsthal's table.¹¹⁴ The figure for West Prussia is based on Silbergleit who provides an estimate of 21,341 for 1843 and 24,386 for 1852.¹¹⁵ This yields an estimate of 22,300 for 1846. For the Jewish population in other German states, we use Barkai (1985)'s estimate for Bavaria (of around 57,000 for 1847-1848)¹¹⁶; Segall (1913)'s estimate for Württemberg (12,356)¹¹⁷ and Saxony (988);¹¹⁸ Jersch-Wenzel (1996)'s estimate for Baden (23,500 for 1848) and Schmelz (1996)'s estimate for Hesse-Darmstadt (28,058).¹¹⁹ In the rest of the smaller German states with small Jewish populations, Jersch-Wenzel estimates there were 19,000 Jews in 1848,¹²⁰ which is similar to

¹⁰⁹ Schmelz (1996, p. 46, table 2.6).

¹¹⁰ Jersch-Wenzel (1996, pp. 54, table 2.1).

¹¹¹ Hubert (1998, p. 45, table 3; p. 331, table 2).

¹¹² *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883, p. 74, table 4).

¹¹³ Philipsthal (1928, p. 11, table 2).

¹¹⁴ Philipsthal (1928, p. 11, table 2).

¹¹⁵ Silbergleit (1930, p. 18, table 9).

¹¹⁶ Barkai (1985, p. 309, table 4).

¹¹⁷ Segall (1913, p. 51).

¹¹⁸ Segall (1914, p. 33).

¹¹⁹ Schmelz (1996, p. 46, table 2.6).

¹²⁰ Jersch-Wenzel (1996, p. 54 table 2.1)

Toury's estimate of 21,384 Jews for 1842-1844.¹²¹ Thus, in 1846 the Jewish population numbered some 304,201, which we round to 304,000 in the table.

For the estimated total population in 1846, we use Hubert (1998)'s estimate of 34.61 million and then subtract Alsace Lorraine (around 1.45 million) to obtain 33.15 million.¹²² From that figure, we subtract the provinces of Posen (1,364,399) and West Prussia (1,019,105) to obtain an estimate of 30.76 million. The numbers for the Prussian provinces of Posen and West Prussia are taken from *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883).¹²³

In 1871, the Second Reich conducted the first imperial census. According to its results, the total population was 41.06 million while the Jewish population numbered 512,153. We utilize the summary provided by Monica Richarz whose numbers are based on Bruno Blau's research.¹²⁴ Accordingly, the Jews of Alsace-Lorraine numbered 40,918¹²⁵ and the Jews of West Prussia and Posen numbered 26,632 and 61,982, respectively.¹²⁶ Thus, by subtracting Alsace-Lorraine, West Prussia and Posen we obtain 382,621 Jews in 1871, which is rounded to 383,000.

The total population in 1871 according to Richarz's summary is rounded to 41.06 million. From this we subtract Alsace Lorraine's population of 1.55 million (according to Hubert (1998))¹²⁷ and the populations of West Prussia (1,314,611) and Posen (1,583,843) following *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883).¹²⁸ We thus obtain a figure of 36.612 million.

Starting with the first imperial census in 1871, regular censuses were conducted in the Second Reich every five years between 1875 and 1910.¹²⁹ We use Linfield (1931)'s summary for the years 1880-1925 and show the population of the Reich at ten-year intervals for the period 1880-1910, a period of substantial emigration among both Jews and the non-Jews.

¹²¹ Toury (1977, p. 19, table 10).

¹²² Hubert (1998, p. 330 table 1 with footnotes).

¹²³ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883, p. 75 table 4).

¹²⁴ Richarz (1997, p. 8, table 1.1) following the unpublished manuscript of B. Blau.

¹²⁵ Richarz (1997, p. 27, table 1.8).

¹²⁶ Richarz (1997, p. 27, table 1.8).

¹²⁷ Hubert (1998, p. 45, table 3).

¹²⁸ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883, p. 76, table 4).

¹²⁹ Ehmer (2004, p.4).

In 1880, according to Linfield, the number of Jews in GA was 561,612 while the total population was 45,234,119.¹³⁰ According to a study of Alsace-Lorraine carried out by Caron (1988), Jews numbered 39,278 out of the total population of 1,566,670.¹³¹ This number is then subtracted, as is the Jewish populations of West Prussia (26,547) and Posen (56,609) according to Silbergleit (1930).¹³² Thus, after subtracting Alsace-Lorraine, West Prussia and Posen we obtain an estimated Jewish population of 439,178.

From the total population, we subtract the populations of Posen (1.703 million) and West Prussia (1.405 million),¹³³ as well as that of Alsace-Lorraine (1,566,670) provided by Caron (1988).¹³⁴ This yields a total of 40,569,449, which we round to 40.569 million.

For 1890, we again follow Linfield (1931)'s information on the results of the 1890 census. The number of Jews in GA in 1890 was 567,884 and the total population was 49,428,470.¹³⁵ For the Jewish population, we subtract West Prussia (21,750) and Posen (44,346), according to Silbergleit's aforementioned study of Prussia¹³⁶ and Caron (1988)'s figure for Alsace-Lorraine (34,645).¹³⁷ We thus obtain a Jewish population of 467,140.

From the total population of 49,428,470 in 1890 according to Linfield (1931),¹³⁸ we subtract the population of Alsace-Lorraine (1,603,506) following Caron (1988)¹³⁹ and the populations of West Prussia (1.434 million) and Posen (1.752 million) according to the data of the Central Statistical Office of Poland (GUS) which provides information on the population living in the former pre-partition Polish regions.¹⁴⁰ We thus obtain an estimated total population of 44.639 million for Germany in 1890.

¹³⁰ Linfield (1931, p. 45, table 34).

¹³¹ Caron (1988, p. 76, table 4.1).

¹³² Silbergleit (1930, pp. 18-19, table 9).

¹³³ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883, p. 76, table 4).

¹³⁴ Caron (1988, p. 76 table 4.1).

¹³⁵ Linfield (1931, p. 45, table 34).

¹³⁶ Silbergleit (1930, pp. 18-9, table 9).

¹³⁷ Caron (1988, p. 76, table 4.1).

¹³⁸ Linfield (1931, p. 45, table 34).

¹³⁹ Caron (1988, p. 76, table 4.1).

¹⁴⁰ Jezierski & Wyczański (2003, p. 174, table 30 (182)).

Linfield (1931) provides the figure of 586,833 for Jews in GA in 1900.¹⁴¹ Silbergleit (1930)'s data show that Posen had 35,327 Jews and West Prussia had 18,226.¹⁴² Coran provides an estimate of 32,264 Jews in Alsace-Lorraine.¹⁴³ Thus, in 1900 the number of Jews in Germany after subtracting the aforementioned provinces is 501,016.

For the total population, Linfield (1931) provides the figure of 56,367,178.¹⁴⁴ The data for Posen (1,887,275) and West Prussia (1,563,658) is taken from *Statistisches Jahrbuch für den preussischen Staat* (1904).¹⁴⁵ According to Coran, the total population of Alsace Lorraine was 1,719,470.¹⁴⁶ Thus, the total population for Germany in 1900 is 51,197 million.

For GA, Linfield (1931) estimates the Jewish population to be 615,021 in 1910.¹⁴⁷ Silbergleit (1930)'s data shows that Posen had 26,512 Jews, while West Prussia had 13,954.¹⁴⁸ Caron estimates that there were 30,482 Jews in Alsace-Lorraine.¹⁴⁹ Thus, the number of Jews in Germany in 1910 is 544,073.

According to Linfield (1931), the total population was 64,925,993 in 1910.¹⁵⁰ The data for Posen (2.1 million) and West Prussia (1.704 million) are taken from the figures of the Central Statistical Office of Poland.¹⁵¹ According to Caron, the total population for Alsace-Lorraine is 1,874,014.¹⁵² Thus, the total population of Germany in 1910 is 59.248 million.

As a result of World War I, Germany lost most of the provinces of Posen and West Prussia, which were returned to the newly established Second Republic of Poland. The remaining part of Prussian Posen was merged with the remaining parts of German West Prussia to form the administrative unit of Posen-West Prussia. In addition, part of former West Prussia was joined to the Province of East Prussia. Silbergleit (1930)

¹⁴¹ Linfield (1931, p. 45, table 34).

¹⁴² Silbergleit (1930, pp. 18-9, table 8).

¹⁴³ Caron (1988, p. 76, table 4.1).

¹⁴⁴ Linfield (1931, p. 45, table 34).

¹⁴⁵ *Statistisches Jahrbuch für den Preussischen Staat*, (1904, p. 2, table 2).

¹⁴⁶ Caron (1988, p. 76, table 4.1).

¹⁴⁷ Linfield (1931, p. 45, table 34).

¹⁴⁸ Silbergleit (1930, table 8, pp. 18-19).

¹⁴⁹ Caron (1988, p. 76, table 4.1).

¹⁵⁰ Linfield (1931, p. 45, table 34).

¹⁵¹ Jezierski & Wyczański (2003, p. 174, table 30 (182)).

¹⁵² Caron (1988, p. 76, table 4.1).

indicates that the Jewish population in the remaining fragments of the former West Prussia and Posen provinces was reduced to 4,795.¹⁵³ We include this number in the German Jewish population.

In addition, Germany lost part of the province of Silesia to Poland and another smaller part to newly formed Czechoslovakia. According to Silbergleit's table, this resulted in some 8,500 Jews now finding themselves outside of Germany.¹⁵⁴ We follow Silbergleit's table for the population of the diminished province of Silesia in 1925.¹⁵⁵ Germany also lost North Schleswig to Denmark but according to Silbergleit's table this included only a handful of Jews (perhaps 32).¹⁵⁶ A more substantial number lived in the area of Saar in the Rhineland which was handed over to France. Silbergleit excludes the Jewish population in this area but we include it in our calculations. According to Linfield (1931), in 1922 there were 4,218 Jews in Saar and 4,038 in 1927.¹⁵⁷ Germany also lost some territory to Belgium but Silbergleit doesn't mention any resulting Jewish population losses in his table. Finally, Alsace-Lorraine was also returned to France. Thus, according to Linfield, in 1925 there were 564,379 Jews in Germany in 1925. With the addition of the 4,038 from Saar in 1927 we obtain that there were 568,417 Jews in Germany in 1925.¹⁵⁸

The total population in Germany in 1925, according to Linfield (1931), was 62,410,619 and we calculate the population of Saar to have been 745,000 in 1925, according to an annual growth rate of 1.5% (Linfield provides the figures of 713,105 for 1922 and 770,030 for 1927).¹⁵⁹ Thus, we obtain that the total population of Germany in 1925 was 61.666 million.

The census of 1933, according to Ezra Bennathan (1965)'s summary, determined the Jewish population (not including Saar) to be 499,682¹⁶⁰ which represents 0.8% of the total population. In 1933, Saar had a Jewish population of 3,117 according to Düwell

¹⁵³ Silbergleit (1930, pp. 18-19, table 8 including footnote 4).

¹⁵⁴ Silbergleit (1930 pp. 18-19, table 8; data on Silesia for 1910 according to the pre- and post-war borders).

¹⁵⁵ Silbergleit (1930 pp. 18-19, table 8, including footnote 4, data on Silesia for 1910 and 1925).

¹⁵⁶ Silbergleit (1930, pp. 18-19, table 8, including footnote 4, data on Schleswig-Holstein for 1910 according to the pre- and post-war borders).

¹⁵⁷ Linfield (1931, p. 51, table 49).

¹⁵⁸ Linfield (1931, p. 45, table 34 and p. 51 table 49).

¹⁵⁹ Linfield (1931, p. 45, table 34 and p. 51 table 49).

¹⁶⁰ Bennathan (1965, pp. 88, 90 table 1).

(1968), which represents 0.38% of the total population of about 820,000.¹⁶¹ Thus, in 1933 the Jewish population in what we call Germany (including Saar) was 502,800. The total population of Germany according to Hubert (1998) was 65.218 million.¹⁶²

Table 4.3: The Jewish and total populations of Austria, 1784-1930

Year	Jewish Population (in thousands)	Total Population (in thousands)	Proportion of Jews in the Total Population (%)	Annual growth rate of the Jewish population (%)	Annual growth rate of the total population (%)
1785	70	7,724	0.90		
1830	106	11,065	0.96	0.92	0.80
1857	172	13,006	1.32	1.79	0.60
1869	246	14,128	1.74	2.98	0.69
1880	319	15,180	2.10	2.36	0.65
1890	371	16,144	2.30	1.51	0.62
1900	413	17,587	2.35	1.07	0.86
1910	442	20,546	2.15	0.68	1.55
1934*	308	17,433	1.77		

*Includes the Austrian republic (post-WWI), Bohemia, Moravia and Silesia (part of Czechoslovakia).

This table is based on Jacob Thon (1908). We exclude Galicia from the data which was annexed from Poland, since it is included in the figures for Poland. Apart from Galicia, which accounted for 70-80% of Austrian Jewry, the regions of Moravia and Bohemia also had significant Jewish populations.

¹⁶¹ Düwell (1968, p. 63, table 2, p. 62 fn. 17).

¹⁶² Hubert (1998, p. 330, table 1).

Until 1850, general censuses were conducted by the military in Austria and the data from these censuses is not always reliable. Starting from the census of 1880 and as a result of the introduction of universal conscription, the population figures for both the Jewish and total populations become more reliable.¹⁶³

In 1785, according to Thon (1908), there were 26,665 Jews living in Moravia and 42,129 in Bohemia.¹⁶⁴ Only 1097 Jews lived in other areas of the Austrian state (as mentioned, we include the 212,000 Jews of Galicia in the population of Poland). Thus, we obtain that there were 69,870 Jews in Austria in 1785 and that the total population of Austria without Galicia (3,017,059) numbered 7,723,691.¹⁶⁵

According to the census of 1830, as reported by Thon (1908), there were 355,695 Jews in Austria.¹⁶⁶ However, Thon does not provide the breakdown by region. According to *Wróbel* (1994), there were 250,000 Jews in Galicia in 1830 which constituted 6% of the total population of about 4,167,000.¹⁶⁷ Thus, without Galicia there were 105,700 Jews in Austria in 1830. The total population cited by Thon for 1830 is 15,232,447 and with the subtraction of Galicia we obtain 11,065,450 for the total population of Austria.¹⁶⁸

In 1857, there were 620,896 Jews in Austria and 448,973 in Galicia.¹⁶⁹ Thus, without Galicia the Jewish population was 171,920. The total population of Austria was 17,603,604 and excluding Galicia we obtain 13,005,730.

The census of 1869 reported a Jewish population of 822,220 in Austria and a total population of 19,572,760.¹⁷⁰ Excluding Galicia, the Jewish population numbered 246,300 and the total population numbered 14,128,070.

The census of 1880 reported a Jewish population of 1,005,394 in Austria and a total population of 21,138,850.¹⁷¹ Excluding Galicia, the Jewish population numbered 318,800 and the total population numbered 15,179,940. The figures for 1890 and 1900 are derived in the same manner.

¹⁶³ Thon (1908, p. 5).

¹⁶⁴ Thon (1908, p. 6).

¹⁶⁵ Thon (1908, p. 6).

¹⁶⁶ Thon (1908, p. 6).

¹⁶⁷ *Wróbel* (1994, p. 4).

¹⁶⁸ Thon (1908, p. 6).

¹⁶⁹ Thon (1908, p. 7).

¹⁷⁰ Thon (1908, pp. 6 and 9, table 1).

¹⁷¹ Thon (1908, pp. 6 and 9, table 1).

For the year 1910, we follow Theodore Haas (1912) who uses the census data for 1910 taken from the 1912 October edition of *Zeitschrift für Demographie und Statistik der Juden*. Thus, the Jewish population in Austria was 1,313,698 and excluding Galicia was 441,700.¹⁷² The total population according to *Österreichische Statistik* was 28,571,934 and excluding Galicia was 20,546,260.¹⁷³

The figures for 1934 are taken from the American Jewish Year Book. Thus, there were 191,408 Jews remaining in the diminished territory of Austria following the defeat in WWI, with a total population of 6,759,062.¹⁷⁴ In the former Austrian regions, which were now part of the new state of Czechoslovakia, there were 76,301 Jews out of a total population of 7,109,376 in Bohemia and 41,250 Jews out of a total population of 3,565,010 in Moravia and part of Silesia, according to the 1930 census data cited by Vobecka (2013).¹⁷⁵

¹⁷² Haas (1912, p. 149).

¹⁷³ *Österreichische Statistik*, Neue Folge (1910-1915, vol 1 (1), p. 36).

¹⁷⁴ *American Jewish Year Book* (Vol. 37 (1935-1936), p.360, table 8).

¹⁷⁵ Vobecka (2013, for Bohemia, p. 47, table 4.1; for Moravia p. 219).

4.3 The Jewish and total populations of large cities in Germany and Austria, 1500-1930

The following tables provide population figures for large cities in the territory of the unified Reich.

Table 4.4a Prague¹⁷⁶

Year	Jewish Population	Total Population	Proportion of Jews in percent
1522	600	25,000-30,000 ^a	2-2.4
1541	1,200	40,000 ^b	3
1600	10,000-15,000	53,600-70,000 ^c	14.3-18.7
1729	10,507	38,000 ^d	27.7
1830	6,858	73,000 ^e	9.4
1857	6,217	200,722	3.1
1880	20,508	314,442	6.52
1890	23,473	397,268	5.91
1900	27,289	514,345	5.31
1910	29,107	587,566	4.72
1921	31,751	676,657	4.69
1930	35,463	848,081	4.17

a) 1500-1530; b) 1550-1580; c) 1600; d) 1700; e) 1800.

¹⁷⁶ Sources: for Jews in 1522, 1541, 1880, 1890, 1900, 1910, 1921 and 1930, see Herman et al. (2007, pp. 448-56); for Jews in 1541 and 1729, see Pařík (2010); for Jews in 1600, 1830 and 1857, see Vobecka (2006, table 1). For the total population in 1500-1600, see Miller (2008, pp. 25-6, table 2.2) and for 1700-1900 see McCagg (1992, p. 165).

Table 4.4 b: Vienna¹⁷⁷

Year	Jewish Population	Total Population	Proportion of Jews in percent
1512	12 families (around 60)	20,000	0.3
1670	500 families (around 2,500)	123,500 ^a	20.2
1752	452	175,000 ^b	0.3
1777	520		
1790	842	249,380 ^c	0.3
1830	2,536	317,768	0.8
1857	15,600	476,222	3.3
1869	40,230	875,460	4.6
1880	72,590	1,147,260	6.3
1890	118,495	1,404,800	8.4
1900	146,926	1,742,720	8.4
1910	182,700	2,057,140	8.9
1923	201,513	1,865,780 ^d	10.8
1934	176,034	1,935,881	9.1

a) 1700; b) 1750; c) 1800; d) 1930.

¹⁷⁷ For the Jewish population in 1512-1777, see Bato, Adunka and Lehman (2007, pp. 518-23); for 1790 and 1869-1910, see McCagg (1992, pp. 227-8, tables 1-3); for 1830-1857, see Rozenblit (1983, p. 17, table 2.1); for 1923, see the American Jewish Year Book (1933-1934, vol. 35, p. 250, table 13). For the total population in 1500 and 1750, see Bairoch, Batou and Pierre (1988, p. 10); for 1700 and 1800-1910 see McCagg (1992, p. 165, table: Principal Habsburg Cities. 1700-1910); for 1931, see the American Jewish Year Book (1933-1934, vol. 35, p. 250, table 13). For both the Jewish and total populations in 1934, see American Jewish Year Book (1935-1936, vol. 37 p. 364, table 13).

Table 4.4c: Frankfurt¹⁷⁸

Year	Jewish Population	Total Population	Proportion of Jews in percent
1520	250	12,000 ^a	2.1
1569	900		
1580	1,200		
1600	2,200	20,000	11
1703	2,426	28,000 ^b	8.7
1817	3,928	48,000 ^c	8.2
1852	5,300	62,000	8.5
1861	6,700	71,600	9.4
1871	10,009	91,000	11
1880	13,856	136,800	10.1
1890	17,426	180,000	9.7
1900	21,974	289,000	7.6
1910	26,228	414,600	6.3
1925	29,385	467,500	6.3
1933	26,158	555,900	4.7

a) For the year 1500; b) For the year 1700; c) For the year 1800.

¹⁷⁸ For the Jewish population in 1520-1600 and 1817, see Breuer et al. (2007, pp. 207-12); for 1703, see Kasper-Holtkotte (2010, p. 20). For the total population in 1500-1800, see Bairoch, Batou, and Pierre (1988, p. 5). For both the Jewish and total population in 1852-1933, see Schmelz (1996, p. 41, table 2.1).

Table 4.4 d:Wroclaw (German name - Breslau)¹⁷⁹

Years	Jewish Population	Proportion of Jews in percent
1348	70 families	1.1
1455	0	1.1
1722	775	
1747	534	1.1
1775	2,607	5.2
1780	1,898	3.8
1790	2,476	4.1
1800	2,844	4.8
1810	3,255	5.2
1867	12,574	7.3
1910	3,800	0.9
1925	23,240	4.2

¹⁷⁹ Source: Wodziński (2010, table: Jewish Population of Wrocław).

4.6 Poland-Lithuania: the Jewish and total populations, 1500-1764

We divide the demographic history of Poland-Lithuania into two periods: 1500-1764 and 1764-1930. With regard to the first period, the year 1500 marks the first attempts by historians to estimate the size of the Jewish population in Poland while the first Jewish census in Poland-Lithuania was carried out in 1764-1765. The second period, begins after the census and the partitions of Poland-Lithuania (1772-1795) between Prussia, Russia and Austria (see chapter two) and ends with the outbreak of World War II, well after the establishment of the Second Republic of Poland in 1918.

By around 1500, the Jewish population in Poland had reached a level of 10-15 thousand,¹⁸⁰ which is based on the estimates of a number of leading historians derived from tax collection data. The year 1648 marks the beginning of a decade of wars, including the Khmelnitsky Uprising, which caused serious damage to the Polish economy, reduced its population and resulted among other things in a temporary interruption of the rapid growth of the Jewish population in Poland. The year 1764 is a milestone due to the comprehensive census carried out by the Polish State of all Jews over the age of one. Furthermore, it is only a few years prior to the first partition of the Polish Commonwealth in 1772.

Table 4.5 provides an estimate of the Jewish and total populations of the geographic region we call "Poland-Lithuania", which comprises all of the territory belonging to the Polish-Lithuanian Commonwealth at its peak in the beginning of the 17th century (see Map 4.3).

¹⁸⁰ Rosman (1991, (1-2), p. 40).

Map 4.3 Poland-Lithuania at its territorial peak after the Polish-Muscovite wars (1618)¹⁸¹



¹⁸¹ http://en.wikipedia.org/wiki/Truce_of_Deulino (accessed November 15, 2015).

Table 4.5: The Jewish and total populations in Poland-Lithuania, 1500-1764

Year	Jewish population (in thousands)	Total population (in thousands)	Proportion of the Jewish population in percent	Annual growth rate of the Jewish population in percent	Annual growth rate of the total population in percent
1500 ^a	10-15	7,500	0.13	--	--
1550	55	8,500 ^b	0.65	2.6-3.4	0.25
1648	185	11,000	1.68	1.24	0.26
1660	163	8,000 or 9,000	1.81-2.03	-1.05	-2.0
1764 ^c	750	14,000	5.36	1.5	0.4-0.5

a) The year is approximate. The estimate is in fact for the end of the 15th century. (b) Second half of the 16th century. (c) 1764-1765.

The figures for 1500 are according to the estimates of Weinryb (1972), Stampfer (1997) and Kupovetsky (2010) which are mostly based on limited fiscal registers that mention the existing Jewish communities. The earliest of them is the Coronation tax register of 1507, which lists 54 communities: 29 in Great Poland, 10 in Mazovia, 10 in Red Russ and 5 in Lesser Poland.¹⁸² A number of leading scholars have attempted to complement the information in the registers using various methods. Schiper (1932) counted 61 communities in the Kingdom of Poland and estimated that there were 17-18,000 Jews in Poland and 6,000 in Lithuania.¹⁸³ Salo Baron (1976) reported 50 communities in the Crown and 4 in Lithuania and estimated the Jewish population at 30,000.¹⁸⁴ In contrast to them, Weinryb (1972) provided a much lower estimate of

¹⁸² Horn (1974, pp.11-15).

¹⁸³ Schiper (1932, p.31). His estimate is based on the hearth (chimney) tax. He calculated that there were 28-38 residents in a brick house charged with a tax of 4 zloty, while there were only 15 residents in a wooden house charged with a tax of 2 zloty.

¹⁸⁴ Baron (1976, p. 207). Among other studies, Smasonowicz (1989, p.36) reported 89 communities (excluding Silesia) and estimated the Jewish population of Poland at 4,500. Guldon (2000) presented the longest list which consisted of 106 Jewish settlements established in Poland before 1507. However, since many of those communities

6,000-8,800 Jews in the Kingdom of Poland and an unknown number in Lithuania, which amounts to some 10,000 Jews.¹⁸⁵ Stampfer (1997) prefers Weinryb's figure of 10,000 to Salo Baron's figure of 30,000 because the annual growth proposed by Weinryb (1972) (of about 2%) seems to more closely fit the known data for the later period (18th-19th centuries).¹⁸⁶

The total population of Poland-Lithuania was estimated by Gieysztorowa (1968, 1981) to be 7,500,000 people in 1500 (total area of 1,140 km²; population density of 6.6 per km²).¹⁸⁷ Her estimate was adopted more recently by Jezierski and Leszczyńska (2003).¹⁸⁸

For the year 1550, we follow Kupovetsky (2010) who estimates the Jewish population to be 55,000.¹⁸⁹ According to Weinryb (1972), the capitation tax (of one zloty per head) collected from the Jews in 1579 in Poland proper totaled 10,000 zloty.¹⁹⁰ In his opinion, the capitation tax may reflect the actual number of Jews in Lithuania but could hardly reflect the actual number of Jews in Poland proper who numbered many more than 10,000 in 1579. Weinryb thinks that the implementation of the capitation tax was lax and in many places it was collected per family and not *per capita*.¹⁹¹ Kupovetsky does not explain how he arrived at his estimate of 55,000. However, given Weinryb's assessment that the tax was often collected per family, the figure of 55,000 Jews seems to correlate to some extent with the amount of tax collected in Poland proper in 1579 (i.e. 10,000 zloty) and also probably reflects the ongoing migration from the West.

The estimated total population of about 8.5 million is adopted by us from *The History of Poland in Numbers* (2014).¹⁹² The territory of Poland in the second half of the 16th

were only temporary, his list is not a reliable basis for calculating population. For a critique of Guldon's list, see, for example, Zaremska (2011, pp. 241-42).

¹⁸⁵ Weinryb (1972, pp. 309-11).

¹⁸⁶ Weinryb (1972 p. 320); Stampfer (1997, pp. 263-67).

¹⁸⁷ Gieysztorowa (1968, table 1, n.p.); (1981, p. 430, table 1).

¹⁸⁸ Jezierski & Leszczyńska (2003, p. 41, table 2.1).

¹⁸⁹ Kupovetsky (2010, table 1).

¹⁹⁰ Weinryb (1972, p. 315).

¹⁹¹ Weinryb (1972, p. 315).

¹⁹² *History of Poland in Numbers* (2014, p.49, table 2).

century was 867,000 km² and the average population density increased from 6.6 per km² in 1500 to 10 per km² in 1550.¹⁹³

For the year 1648, we follow Kupovetsky (2010) who estimates the Jewish population to be 185,000 on the eve of the period of wars that included Khmel'nitsky's uprising.¹⁹⁴ He essentially adopts Weinryb (1972)'s original estimates with a slight deviation. Weinryb in turn derives his estimates from Ettinger's study of the Jewish demography of Ukraine and his comparison with the census of 1764.¹⁹⁵ According to Ettinger, there were 51,325 Jews in Ukraine in 1648.¹⁹⁶ In 1764, the Jews constituted 30.7% of the total Jewish population of Crown Poland, excluding Lithuania, which numbered 430,009. Weinryb then applied that proportion to the year 1648 to arrive at the figure of 170,000 for the Jewish population of Poland, excluding Lithuania.¹⁹⁷ Kupovetsky's estimate of 185,000 includes Lithuania.¹⁹⁸

The total population of Poland-Lithuania in 1648 is estimated by Gieysztorowa (1968; 1981) at 11 million with a density of 11.1 persons per km² (based on Poland-Lithuania's territory of 990,000 km²).¹⁹⁹

Contrary to the significant decline in the Jewish population reported by contemporary chroniclers as a result of Khmel'nitsky's uprising (over 100,000 killed and hundreds of communities destroyed),²⁰⁰ Stampfer (2003)'s study shows that the number of Jewish casualties was in fact much lower, most likely in the range of 18,000-20,000.²⁰¹ Kupovetsky (2010) follows Stampfer's assessment of the losses and estimates that 163,000 Jews were probably living in Poland-Lithuania after the period of the wars in 1660 (i.e. a decrease of 22,000 since 1648).²⁰² Thus, the annual rate of population growth was -1.05 % during the period 1648-1660 (see table 4.5).

¹⁹³ *History of Poland in Numbers* (2014, p.49, table 2).

¹⁹⁴ Kupovetsky (2010, table 1).

¹⁹⁵ Weinryb (1972, pp.316-18).

¹⁹⁶ Ettinger (1956, p.124).

¹⁹⁷ Weinryb (1972, pp. 316-17). Although her estimate is based on the problematic assumption that the ratio of Jews in Ukraine to the total number of Jews in Poland remained stable during the period 1648-1764, it still provides us with an approximation for 1648.

¹⁹⁸ Kupovetsky (2010, table 1).

¹⁹⁹ Gieysztorowa (1968, n. p. table 1; 1981, p. 430, table 1).

²⁰⁰ See Weinryb (1972, p. 194). Dubnov seems to accept the enormous scale of losses (1916, vol. 1, pp. 156-7) while Weinryb's estimate is more moderate (1972, p. 197).

²⁰¹ Stampfer (2003, pp. 218-22).

²⁰² Kupovetsky (2010, table 1).

The decline in the total population of Poland-Lithuania resulting from the multiple wars, the uprising, the loss of eastern territories and famine were estimated by Kuklo (2009) to be 20-30%.²⁰³ Thus, the total population probably dropped from 11 to 8-9 million which implies a negative annual growth of about -2% during the period 1648-1660. Thus, the decline in the Gentile population was much more severe than that in the Jewish population.

As mentioned, the special Jewish census of 1764-5 provides the most important milestone for estimating the Jewish population of Old Poland. The results of the census are reported by Mahler who added 6.35% for children under the age of one who were not included and also increased the figures by a factor of 20% to compensate for the underreporting due to tax evasion.²⁰⁴ The original census data showed a Jewish population of 587,658 (430,009 in Poland and 157,649 in Lithuania).²⁰⁵ Following Mahler's corrections, this figure increases to 750,000.²⁰⁶ Stampfer (1985) feels that Mahler's conclusions are generally accurate since they correspond reasonably well to the data and the annual rate of growth during the 19th century.²⁰⁷

Mahler's corrections of the census results received further support from Judith Kalik's recent book on the Jewish poll tax lists.²⁰⁸ After examining the newly discovered tax lists for Crown Poland for the period 1717-1764, Kalik concluded that the poll tax was never collected from all of the Jewish communities in every year.²⁰⁹ Kalik compared the lists with the results of the 1764 census and concluded that the amount paid by each community was never fully detached from the actual number of its members. In order to estimate the total "tax potential" for the year 1764, Kalik complemented the data with numbers for the missing communities from the poll-tax lists for the years prior to the census. The results show that 521,011 zloty could have

²⁰³ Kuklo (2009, p. 212). Kuklo follows Gieysztorowa's study of the three main provinces of Poland (1981, pp. 432-33).

²⁰⁴ Mahler (1958, ch. 1).

²⁰⁵ Mahler (1958, pp. 45-46).

²⁰⁶ Mahler (1958, ch. 1). See discussion in Stampfer (1985).

²⁰⁷ Stampfer (1985).

²⁰⁸ Kalik (2009, pp. 4-5).

²⁰⁹ See Kalik (2009, ch. 3, esp. pp. 44-46, table 1).

been potentially collected in 1764, whereas the census shows 429,589 Jews.²¹⁰ The difference of 21.28% is close to the correction factor suggested by Mahler and corroborated by Stampfer.²¹¹

The total population of Poland in 1772 was estimated by Gieysztorowa (1968; 1981) at 14,000,000 and Poland's territory, after 16% losses during the 17th century, was 733,500 km², so that the population density was 19.1 per km².²¹² The Jewish rate of population growth for the period 1660-1764 is calculated to be 1.5% while that of the non-Jewish population is calculated to be 0.5% (Table 4.5).

The increase in the Jewish population during the period 1500-1648 from about 10,000-15,000 to 185,000 according to Weinryb's estimates, implies an annual growth rate of about 1.7-2.0%. This is very high relative to the growth rate of 0.25% for the total population, which was due to both the high rate of natural increase among the Jews and the moderate, yet continuous, migration of Jews from West to East.²¹³ Weinryb estimates the number of Jews at 163,000 in 1660. A rate of growth of 1.5% yields a Jewish population of approximately 750,000 in 1764-5, a figure that is commonly accepted by scholars. As will be discussed below, 1.5% appears to be the natural rate of increase of the Jewish population during the latter part of the 18th century and during the 19th century (see section 5).

4.7 Poland-Lithuania: the Jewish and total populations, 1765-1930

As mentioned above, there were three partitions of Poland-Lithuania: in 1772, in 1793 and in 1795 (see chapter 2). As a result of the Congress of Vienna, the former Jewish population of Poland was now mainly to be found in the provinces of Posen and West Prussia, which belonged to Prussia; in Galicia, which belonged to Austria; in the Pale of Settlement (regions within the Russian Empire where Jews were permitted to reside); and in the Kingdom of Poland (or Congress Poland) which was subject to the Russian Empire. Map 4.4 shows the Pale of Settlement, the Kingdom of Poland as

²¹⁰ Kalik (2009, p. 46, table 1).

²¹¹ Kalik's data consistently shows a higher tax potential than that indicated by the census results not only for Crown Poland as a whole but also for individual fiscal units (2009, p. 42).

²¹² Gieysztorowa (1968, n. p. table 1 and 1981 p. 430, table1).

²¹³ See, for example, Stampfer (1977, pp. 263-67).

well as Galicia, Posen and West Prussia. The areas within the Pale of Settlement that were annexed from Poland approximately correspond to the following Russian governorates: Vilna, Vitebsk, Grodno, Kovno, Minsk, Mogilev, Podolia, Volhynia and Kiev.²¹⁴ Congress Poland was part of Russia but was not formally part of the Pale even though Jews were, of course, residing there.

Map 4.4 Poland-Lithuania after the partitions and the Pale of Settlement²¹⁵



Table 4.6 provides the estimated Jewish and total populations of the Pale of Settlement, Congress Poland, Galicia, West Prussia and Posen based on the existing historical and demographic studies.

²¹⁴ The city of Kiev as well as the left-bank Ukraine was ceded by Poland-Lithuania to the Tzar and the Muscovy state under the armistice of Andrusovo in 1667. The Jewish settlement was reintroduced there after the first partition. See Meir (2010, p. 23 ff).

²¹⁵ Topographic Maps of Eastern Europe. <http://easturotopo.org> (accessed on November 15, 2015)

Table 4.6 Poland-Lithuania: Jewish and total populations, 1800-1939

Year	Jews (in thousands) ^a	Old/new total population (in thousands) ^b	Share of Jews ^c (%)	Annual growth rate Jews (%)	Annual growth rate Total Population (%)
1800	1,066/9	15,747/19,735	6.77	1.00	0.49
1834	2,176/27	19,198/24,784	11.33	2.09	0.58
1850	2,811/41	21,402/27,740	13.13	1.60	0.68
1865	3,654/??	24,523/32,188	14.90	1.75	0.91
1880	4,702/155	27,121/34,687	17.34	1.68	0.67
1897	5,739/315	35,151/46,286	16.33	1.17	1.52
1926	5,037	64,300	7.83	-0.45	1.13
1939	5,377	74,590	6.75	0.50	1.14

a) Where two numbers appear in this column, the first is the number of Jews in the territories of former Poland-Lithuania together with the non-Polish areas of the Pale of Settlement which became populated by Jews during and after the partitions of Poland-Lithuania. The second (following the slash) is the number of Jews in the Russian Empire residing outside the Pale of Settlement. The figures are based mainly on the Shorter Jewish Encyclopedia (SJE in Russian).²¹⁶

b) The "old total" only includes those provinces that were part of the pre-partition areas of Poland. The "new total" is the total population in all the provinces of the Pale of Settlement (see fn. 139).

c) The proportion of Jews based on the "old total".

Based on the estimates appearing in the Shorter Jewish Encyclopedia (SJE), the Jewish population of the Pale of Settlement (including the Kingdom of Poland) was 811,000 in 1800²¹⁷ and there were 9,000 Jews in other parts of Russia outside of the Pale. According to Rosenfeld (who follows Luca), the number of Jews in Galicia was 201,277 in 1803.²¹⁸ Kupovetsky estimated that there were 45,000 Jews in Posen in 1800.²¹⁹

The calculation for West Prussia is based on the census data provided by Silbergleit, who suggests 12,629 for 1816 and 15,850 in 1825.²²⁰ The growth rate between 1816 and 1825 would therefore be 2.52%. Extrapolating back to 1800, we obtain a Jewish population of 8,442 Jews. Thus, if we now add up the populations of the Pale, Galicia, Posen and West Prussia, we find that the Jewish population of Poland-Lithuania is approximately 1,066,000 in 1800.

²¹⁶ SJE (vol. 7, col. 382–90, table 7).

²¹⁷ SJE (vol. 7, col. 382–90, table 7).

²¹⁸ Rosenfeld (1914, p. 140).

²¹⁹ Kupovetsky (2010, table 3).

²²⁰ Silbergleit (1930, p. 7, table 5; pp. 18-19, table 9).

The second column shows two numbers for the total population until 1897: "Old Total Population" and "New Total Population" (see above). The former includes only those provinces that were part of pre-partition Poland.²²¹ This figure for the total population in 1800 is based on Rashin (1956)'s data for the population of the Russian provinces. Rashin reports a total population of 8,663,000 for 1811 and 9,278,700 for 1838.²²² These figures generate an annual growth rate of 0.25%. Extrapolating back from 1811 to 1800 yields an estimated population of 8,428,000 in the Russian territory that belonged to Poland before the partition.

Gieysztorowa estimated the population of the Kingdom of Poland to be 3,520,000 in 1820 and estimated the annual rate of population growth to be 1% during the period 1820-1850.²²³ If the same growth rate is applied to the period 1800-1820, we obtain an estimated population for the Kingdom of Poland of approximately 2,882,000 in 1800.²²⁴

Zamorski estimates the total population of Galicia to be 3,574,410 in 1807 and suggests an annual rate of growth of 1.06% for the period 1780-1807.²²⁵ Therefore, we calculate the total population of Galicia in 1800 to be approximately 3,319,000.

The population of Posen is calculated to be 909,000 in 1820, based on Gieysztorowa's estimates. According to her, the annual growth rate was 1.3% during the period 1820-1850.²²⁶ Extrapolating backwards, we arrive at a population of 701,000 in Posen in 1800. Based on census data, the population of West Prussia is estimated to be 571,081 in 1861 and 804,155 in 1834.²²⁷ These numbers imply an annual growth rate of 1.9%. Extrapolating backwards we arrive at a population of about 421,000 for West Prussia in 1800. The "old total" of 15,751,000 is the sum of the populations of the aforementioned territories.

²²¹ Rashin (1956, pp. 44-5, table 10). The provinces included in the "old total" are Vilna, Vitebsk, Grodno, Kovno, Minsk, Mogilev, Podolia, Volhynia and Kiev. We also add Courland which had been subject to Poland-Lithuania prior to the partitions.

²²² Rashin (1956, pp. 28-9, table 10).

²²³ Gieysztorowa (1968, table 2).

²²⁴ Kabuzan provides an estimate of 2,679,000 for 1795, according to the fifth revision data (1992 p. 124, table 4).

²²⁵ Zamorski (1989, p.45, table 1, p.46, table 2).

²²⁶ Gieysztorowa (1968, table 1).

²²⁷ *Jahrbuch für die amtliche Statistik des Preussischen Staates* (1883, p. 74, table 4).

The "new total population" includes all fifteen provinces in the Pale of Settlement²²⁸ (without the Kingdom of Poland) and is estimated by Rashin to be 13,140,300 in 1811.²²⁹ This figure grew to 15,066,400 in 1838, which implies an annual growth rate of 0.51%. Extrapolating backward, we obtain a population of 12,412,000 in 1800. The numbers for the Kingdom of Poland, Galicia, Posen and West Prussia are stated above. Thus, the "new total population" is 19,735,000.

The estimated Jewish population of 1,773,000 in 1834 is based on the numbers given in the SJE for the Pale of Settlement and the Kingdom of Poland for 1834.²³⁰

Based on Himka (1999), the Jewish population for Galicia is estimated to be 270,000 in 1825 and based on census data to be 448,973 in 1857.²³¹ Using the annual growth rate of 1.58% between 1825 and 1857, we can calculate that the Jewish population in Galicia was 311,000 in 1835. Silbergleit (1930) reported that the Jewish population of West Prussia was 17,714 in 1834.²³² For Posen, Kemlein reported a Jewish population of 74,000 in 1835.²³³ Adding up all these figures, we obtain a Jewish population of about 2,176,000 in Galicia in 1834-5.

The "old total population" for 1834-5 is based on Rashin (1956) who estimated that the total population of the relevant provinces was 8,663,000 in 1811 and 9,278,700 in 1838.²³⁴ This yields an annual growth rate of 0.25% and from this we can calculate the population in 1834 as being an estimated 9,176,000. Guesnet estimates the population of the Kingdom of Poland to be 4,059,517 in 1834.²³⁵ Zamorski reports the population of Galicia to be 4,038,101 in 1834.²³⁶ According to census data, the population of Posen was 1,120,000 in 1834 and that of West Prussia was 804,000.²³⁷ Combining the figures for all of the aforementioned regions, we obtain that the "old total population" was about 19,198,000 in 1834.

²²⁸ Vilna, Vitebsk, Grodno, Kovno, Minsk, Mogilev, Podolia, Volhynia, Kiev, Chernigov, Poltava, Tavrida, Kherson, Bessarabia and Ekaterinoslav,

²²⁹ Rashin (1956, pp. 28-9, table 10).

²³⁰ SJE (vol. 7, col. 382-90, table 7).

²³¹ Himka (1999, p. 26, table 1).

²³² Silbergleit (1930, pp. 18-19, table 9).

²³³ Kemlein (1997, p. 58, table 2).

²³⁴ Rashin (1956, pp. 28-9, table 10).

²³⁵ Guesnet (1998 p. 31 table 1).

²³⁶ Zamorski (1989, p.45, table 1, p.46, table 2).

²³⁷ *Jahrbuch für die amtliche Statistik des preussischen Staates*, (1883 p. 74, table 4).

The "new total population" in 1838 is based on Rashin's estimate of 15,066,000 for the population of the fifteen provinces of the Pale.²³⁸ Extrapolating backwards at the rate of 0.51% (see above) yields a population of 14,762,000 in 1834. Combining the aforementioned estimates, we obtain a "new total population" of 24,784,000 in 1834.

The estimated Jewish population of 2,309,000 in 1850 is based on SJE. This includes the Pale and Congress Poland.²³⁹ The calculation for Galicia is based on Himke (1999) who estimates a figure of 270,000 for 1825 and on the census data for 1857 which reports a Jewish population of 448,973.²⁴⁰ Using the growth rate of 1.58% that is calculated for the period 1825-1857, we obtain that in 1850 there were about 401,000 Jews in Galicia. In the case of Posen, we follow Kemlein's estimate of 77,000 Jews in 1849.²⁴¹ In the case of West Prussia, we follow Silbergleit's estimate of 24,386 Jews in 1852.²⁴² Therefore, the Jewish population was around 2,811,000 in 1850. The figure of 41,000 is the number of Jews in other parts of Russia in 1850, according to SJE.²⁴³

The "old total population" for 1850 is based on Rashin's figure of 9,657,200 for 1851.²⁴⁴ Gieysztorowa estimates the population of the Kingdom of Poland to be 4,811,000 in 1850.²⁴⁵ Zamorski estimates the population of Galicia to be 4,555,477 in 1850.²⁴⁶ According to Gieysztorowa, the population of Posen was 1,353,000 in 1850.²⁴⁷ According to the *Jahrbuch für die amtliche Statistik des preussischen Staates*, the population of West Prussia was 1,025,713 in 1849.²⁴⁸ Summing up the aforementioned figures, we arrive at an "old total population" of 21,402,000 in 1850.

²³⁸ Rashin (1956, pp. 28-29, table 10).

²³⁹ SJE (vol. 7, col. 382-90, table 7).

²⁴⁰ Himka (1999, p. 26, table 1).

²⁴¹ Kemlein (1997, p. 58, table 2).

²⁴² Silbergleit (1930, pp. 18-19, table 9).

²⁴³ SJE (vol. 7, col. 382-90, table 7).

²⁴⁴ Rashin (1956, pp. 28-29, table 10).

²⁴⁵ Gieysztorowa (1968, table 2).

²⁴⁶ Zamorski (1989, p.45, table 1).

²⁴⁷ Gieysztorowa (1968, table 2).

²⁴⁸ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883 p. 74, table 4).

Using Rashin's data, we can calculate the "new total population" of the fifteen provinces of the Pale to be 15,995,000 in 1851.²⁴⁹ Combining this figure with those for the other territories, we obtain a total of 27,740,000.

The estimate of the Jewish population in 1865 is based on the SJE. The Jewish population of the Kingdom of Poland and the Pale of Settlement is 2,309,000 in 1850 and 3,932,000 in 1881.²⁵⁰ The annual rate of growth during this period is 1.71% which enables us to calculate a Jewish population of about 2,984,000 for 1865. Based on census data, the Jewish population of Galicia is estimated at 448,973 for 1857 and, based on Rosenfeld, at 575,433 for 1869.²⁵¹ Using the growth rate of 2.06% during this period yields a Jewish population of 519,000 in 1865 in Galicia. Silbergleit estimates the Jewish population of West Prussia to be 26,730 in 1861 and 26,623 in 1871, thus showing no change during this period.²⁵² The population of Posen according to Silbergleit is 74,172 in 1861 and 61,982 in 1871 yielding about 69,000 in 1865.²⁵³ Combining these figures, we obtain an estimate of 3,654,000 for the total Jewish population in 1865.

The figure for the "old total population" in 1865 is calculated from Rashin's estimates of 9,657,200 for the relevant provinces in 1851 and 11,032,200 in 1863.²⁵⁴ The calculated annual growth rate during this period is 0.6%. Based on that rate, the population was 11,165,000 in 1865. Guesnet reports a figure of 5,336,112 for the population of the Kingdom of Poland in 1865.²⁵⁵ Zamorski estimates the population of Galicia to be 4,597,470 in 1859 and 5,444,689 in 1869.²⁵⁶ This implies that the annual growth rate is 1.53%, which yields a population of 5,196,000 in Galicia in 1865. According to census data, the population of Posen was 1,573,129 in 1864 and that of West Prussia was 1,253,118.^{257,258} Adding up these figures yields an "old total population" of 24,523,000.

²⁴⁹ Rashin (1956, pp. 44-45, table 10).

²⁵⁰ SJE (vol. 7, cols. 382-90, table 7).

²⁵¹ Rosenfeld (1914, p. 142).

²⁵² Silbergleit (1930, pp. 18-19, table 9).

²⁵³ Silbergleit (1930, pp. 18-19, table 9).

²⁵⁴ Rashin (1956, pp. 44-45, table 10).

²⁵⁵ Guesnet (1998 p. 31 table 1).

²⁵⁶ Zamorski (1989, p. 69, table 12A).

²⁵⁷ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883 p. 76, table 4).

²⁵⁸ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883 p. 76, table 4).

To calculate the "new total population", we use Rashin's figures for the fifteen provinces of the Pale of 15,995,000 in 1851 and 18,599,000 in 1863.²⁵⁹ The annual growth rate is calculated to be 0.68% and therefore we can extrapolate ahead to obtain an estimate of 16,214,000 in 1865. Thus, the total population of the Pale in 1865 was 18,830,000 and with the addition of the other territories we obtain 32,188,000 for the "new total population".

The estimate for the Jewish population in 1880 is based on the SJE's figure of 3,932,000 for the Jewish population of the Pale of Settlement and the Kingdom of Poland in 1881.²⁶⁰ The census data for Galicia report a Jewish population of 686,596 in 1880.²⁶¹ Silbergleit estimates that there were 56,609 Jews in Posen in 1880²⁶² and 26,547 Jews in West Prussia.²⁶³ Adding up these figures yields a total Jewish population of about 4,702,000.

The figure for the "old total population" in 1880 is based on Rashin's estimate of 11,032,200 for the Russian provinces that were formerly part of Poland.²⁶⁴ Guesnet's figures for the Kingdom of Poland are 5,336,012 in 1865 and 7,414,656 in 1883.²⁶⁵ This implies a growth rate of 1.83% and therefore we can calculate the population as being 7,021,511 in 1880. According to Zamorski, the population of Galicia was 5,958,907 in 1880.²⁶⁶ According to census data, the population of Posen was 1,703,000 in 1880²⁶⁷ and that of West Prussia was 1,405,000.²⁶⁸ Adding up these figures yields an "old total population" of 27,121,000 in 1880.

The "new total population" is calculated using Rashin's data which suggests that the population of the fifteen provinces of the Pale was 18,598,500 in 1880.²⁶⁹ Combining this estimate with those of the other territories, we obtain a "new total population" of 34,687,000 in 1880.

²⁵⁹ Rashin (1956, pp. 28-29, table 10).

²⁶⁰ SJE (vol. 7, cols. 382-90, table 7).

²⁶¹ Zamorski (1989, p. 69, table 12A).

²⁶² Silbergleit (1930, pp. 18-19, table 9).

²⁶³ Silbergleit (1930, pp. 18-19, table 9).

²⁶⁴ Rashin (1956, pp. 44-45, table 19).

²⁶⁵ Guesnet (1998, p. 31 table 1).

²⁶⁶ Zamorski (1989, p.45, table 1).

²⁶⁷ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883 p. 76, table 4).

²⁶⁸ *Jahrbuch für die amtliche Statistik des preussischen Staates* (1883 p. 76, table 4).

²⁶⁹ Rashin (1956, pp. 44-45, table 19).

The data for 1897 are based on the most comprehensive survey of the Russian territories up until that point. The Jewish population in 1897 is estimated at 4,874,000, based on census data for the Pale of Settlement and the Kingdom of Poland.²⁷⁰ Zamorski reports that the Jewish population of Galicia was 811,371 in 1900.²⁷¹ Silbergleit reports that there were 35,327 Jews in Posen in 1897 and 18,226 in West Prussia.²⁷² Combining these figures, we arrive at a Jewish population of 5,739,000 in 1897.

The "old total population" is estimated at 15,622,100 in 1897 based on Rashin's figures.²⁷³ Guesnet reports that the population of the Kingdom of Poland was 8,761,476 in 1897.²⁷⁴ Zamorski reports that the population of Galicia was 7,315,939 in 1900.²⁷⁵ The census for Posen reports a population of 1,887,275 in 1900 and that for West Prussia reports 1,563,658.²⁷⁶ Combining these figures, we arrive at an estimated "old total population" of 35,151,000.

The "new total population" of 26,757,400 in 1897 is also based on Rashin's figures for the fifteen provinces of the Pale.²⁷⁷ Combining this estimate with those for the other territories, we obtain a "new total population" of 46,286,000 in 1897.

²⁷⁰ SJE (vol. 7, cols. 382-90, table 7).

²⁷¹ Zamorski (1989, p. 69, table 12A).

²⁷² Silbergleit (1930, pp. 18-19, table 9).

²⁷³ Rashin (1956, pp. 44-45, table 19).

²⁷⁴ Guesnet (1998, p. 31 table 1).

²⁷⁵ Zamorski (1989, p. 69, table 12A).

²⁷⁶ *Jahrbuch für die amtliche Statistik des preussischen Staates*, p. 76, table 4.

²⁷⁷ Rashin (1956, pp. 44-45, table 10).

Using Linfield's figures, we find that in 1925 there were 407,059 Jews in Belorussia out of the total population of 4,983,240 (according to the 1926 census); in Ukraine there were 1,574,428 Jews out of the total population of 29,018,187; and in the Crimea there were 45,926 out of the total population of 713,823.²⁷⁸ According to Linfield's summary of the census of 1923, there were 155,125 Jews in Lithuania²⁷⁹ while the total population was 2,029,000 according to Eberhardt. In the city of Gdansk (Danzig), which became independent after WWI, there were 9,239 Jews out of a total population of 383,995, according to Linfield.²⁸⁰ Censuses were carried out in Poland in 1921 and 1931. In 1921, there were 2,845,364 Jews in Poland according to Linfield.²⁸¹ The total population according to Jezierski was 27,177,000.²⁸² Thus, the Jewish population was 5,037,141 in 1926 while the total population was 64,299,679.

For 1939, the data for the Jewish populations is taken from Mark Tolts' summary published by YIVO.²⁸³ There were 3,250,000 Jews in Poland; 155,000 in Lithuania; 1,532,000 in Ukraine; 375,100 in Belorussia; and 65,452 in the Crimea. Thus, the total number of Jews in Poland-Lithuania in 1939 was 5,377,552.

For the total population of Poland-Lithuania in 1939, we adopt Lorimer's figures of 5,568,000 in Belorussia, 30,960,000 in Ukraine and 1,127,000 in Crimea.²⁸⁴ Combining these figures with Linfield's estimates of 2,879,070 for Lithuania in 1940, 34,775,698 for Poland and 407,517 for Gdansk in 1929, we arrive at a total population of 74,590,000.²⁸⁵

²⁷⁸ Linfield (1931, vol.33, p. 315).

²⁷⁹ Linfield (1931, vol.33, p. 283).

²⁸⁰ Linfield (1931, vol.33, p. 283).

²⁸¹ Linfield (1931, vol.33, p. 283).

²⁸² Jezierski (2003, p.357, table 84).

²⁸³ Tolts (YIVO).

²⁸⁴ Lorimer (1946, pp. 241-42 table 22A).

²⁸⁵ Linfield (1941-1942, p.668).

4.8 Cities in Poland-Lithuania with large Jewish communities

Warsaw²⁸⁶

Year	Jews	Total	Proportion of Jews (%)
1792	6,750	81,300	8.3
1810	14,600	81,100	18.0
1816	15,600	81,250	19.2
1864	72,800	223,000	32.6
1897	210,500	625,000	33.7
1914	337,000	885,000	38.1
1921	310,000	937,000	33.1
1930	352,000	1,170,000	30.0

Lublin²⁸⁷

Year	Jews	Proportion of Jews (%)
1602	2,000	20%
1674	1,020 ^a	
1764	3,100	
1795	4,500	
1827	6,795	50.4
1857	8,747	56
1860	11,300	57.2
1865	12,922	59.2
1880	14,648	56.5
1884/5	18,496	47.7
1897	23,586	50.9
1902	29,548	50.5
1921	37,337	39.5

The number of Jews who paid the poll tax.

²⁸⁶ Polonsky (2010 (1), table 2).

²⁸⁷ Sources: for 1602, 1674, and 1764 Michałowska-Mycielska (2010); for 1795, 1857 and 1897 Zieliński (2010); for 1827, 1860, 1865, 1880, 1884/5, 1902, and 1921 Guesnet (1998, p. 35, table 4).

Poznań²⁸⁸

Year	Jews	Total	Proportion of Jews (%)
Mid-16th c.	1,500		
1619	3,130	app. 20,000	
1655		app. 14,000	30?
1700-1709		app. 5,000	
1733		app. 6,000	
1764	2,700		
1768-1772		15,000	
1793	2,355	app. 12,500	~20
1832	5,479	31,000	
1840	6,763		
1848		42,000	16,6
1867		47,000	15
1871	7,255		
1905	5,761	136,800	
1930	1,650		42
1931	1,100	app. 247,000	

²⁸⁸ Sources: For mid-16th century, 1619, 1674-1676, 1764, 1793, 1930 and 1933 - Michałowska-Mycielska (2010); for 1832, 1840, 1871 and 1905 - SJE (vol.6, cols. 579-80). For total population, see Topolski (1988).

Pinsk²⁸⁹

Year	Jews	Proportion of Jews (%)
1506	15 families or 75 individuals	7
1555	35 families or 175 individuals	
1566	55 families or 275 individuals	
1648	200 families or 1,000 individuals	20
1717	1,500	
1766	1,613	
1784	1,900	68.3
1793	2,071	
1819	3,000	71
1847	5,050	
1861	6,956	61.5
1871	13,681	77.7
1878	19,017	83
1886	22,053	83.3
1896	21,819	77.5
1897	21,065	74.3

Kam'ianets'-Podil's'kyi²⁹⁰

Year	Jews	Proportion of Jews (%)
1765	88 (in suburbs)	
1784	277 (in suburbs)	
1790	431 (in suburbs)	
1847	4,629	
1897	16,211	40
1913	23,430	47
1923	13,450	
1929	12,774	30
1939	13,796	38

²⁸⁹ Source: For 1506, 1555 and 1566, Nadav (2008, p. 25, table 1.1); for 1648 - Nadav (2008, p. 61); for 1717, Nadav (2008, pp. 193-4, 244); for 1766, Nadav (2008, p. 244, p. 246, table 5.2); for 1784, Nadav (2008, p. 250); for 1793, Nadav (2008, p. 251); for 1819-1897, Nadav (2008, p. 348, table 6.2).

²⁹⁰ Source: Lukin (2010, table: The Jewish Population of Kam'ianets'-Podil's'kyi).

Khar'kiv²⁹¹

Year	Jews	Proportion of Jews (%)
1897	11,013	6.2
1923	65,007	20.2
1933	115,800	17.7
1939	130,250	15.6

Minsk²⁹²

Year	Jews	Proportion of Jews (%)
1766	1,322	
1847	12,976	
1897	47,562	53.2
1914	45,000	42.5
1917	67,000	
1926	53,686	40.8

Łódź²⁹³

Year	Jews	Proportion of Jews (%)
1809	98	19.1
1820	271	35.3
1827	397	14.0
1833	512	9.8
1844	1,411	9.7
1856	2,886	11.7
1863	5,633	16.9
1869	7,652	21.7
1872	8,442	22.5
1878	9,447	22.5
1881	12,506	24.4
1897	98,368	31.8
1921	156,155	34.5

²⁹¹ Source: Freeze (2010, table: The Jewish Population of Khar'kiv).

²⁹² Source: Bemporad (2010, table: The Jewish Population of Minsk).

²⁹³ Source: Guesnet (1998, p. 35, table 3).

Kiev²⁹⁴

Year	Jews	Proportion of Jews (%)
1792	73	
1815	1,500	
1862	1,411	
1863	3,013	
1910	50,000+	
1913	81,256	13
1917	87,240	19
1919	114,524	21

4.5 Summary

A number of conclusions emerge from the analysis of the Jewish and total populations of Germany-Austria and Poland-Lithuania. The division of the period into the two sub-periods of 1500-1800 and 1800-1930 was chosen in order to reflect geopolitical changes and in particular the disintegration of Poland-Lithuania, the emergence of the Industrial Revolution, and the change in the rate of population growth in both regions.

²⁹⁴ Source: SJE (vol.4, cols. 252-58).

Figure 4.1 The Jewish and total populations in logs: 1500 to 1800

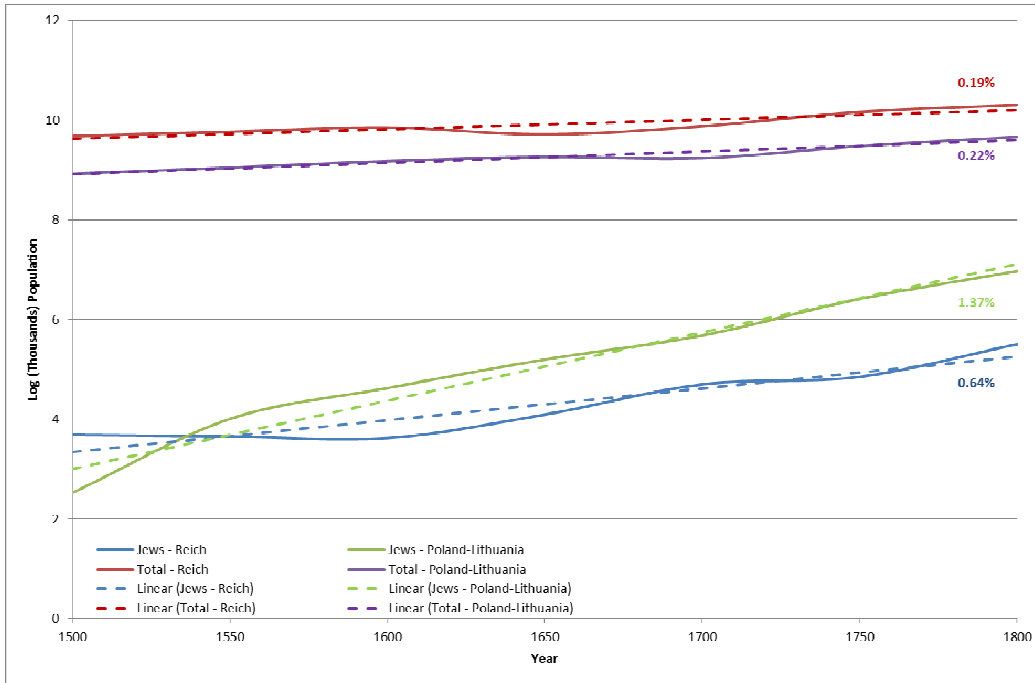


Figure 4.1 presents the log values of the population figures appearing in Tables 4.1 and 4.5 and uses the calculated growth rate between each pair of observations to provide the log estimates in between. The dashed lines represent the calculated constant rate of growth. The average annual rates of growth appear on the right hand side of the graph. The following conclusions emerge for the period 1500-1800:

1. The total populations of Germany-Austria and Poland-Lithuania grew at about the same rate of 0.20% annually. The ratio of the total population of PL to that of GA remained relatively constant throughout the period at about 0.55.
2. The Jewish population of PL grew at the exceptionally high rate of about 1.4% annually, while that of GA grew by only 0.65%. Both of these populations grew faster than the corresponding total population.
3. The ratio of the Jewish population of Poland-Lithuania to that in GA was 0.25 in 1500. By the end of that century, however, the Jewish population in Poland-Lithuania was twice as large as that in GA and by 1650 three times as large.
4. During the Thirty Years' War, the total population of GA declined dramatically, while the number of Jews remained constant. During the period of wars in 1648-1660, the total population in Poland-Lithuania declined at twice the rate of the Jewish population.

5. If birth, death and conversion rates were identical between the Jewish populations in GA and PL, then migration from GA to PL must have continued throughout the period and at a particularly high rate in the 16th century.

Figure 4.2 The Jewish and total populations in logs, 1800 to 1930

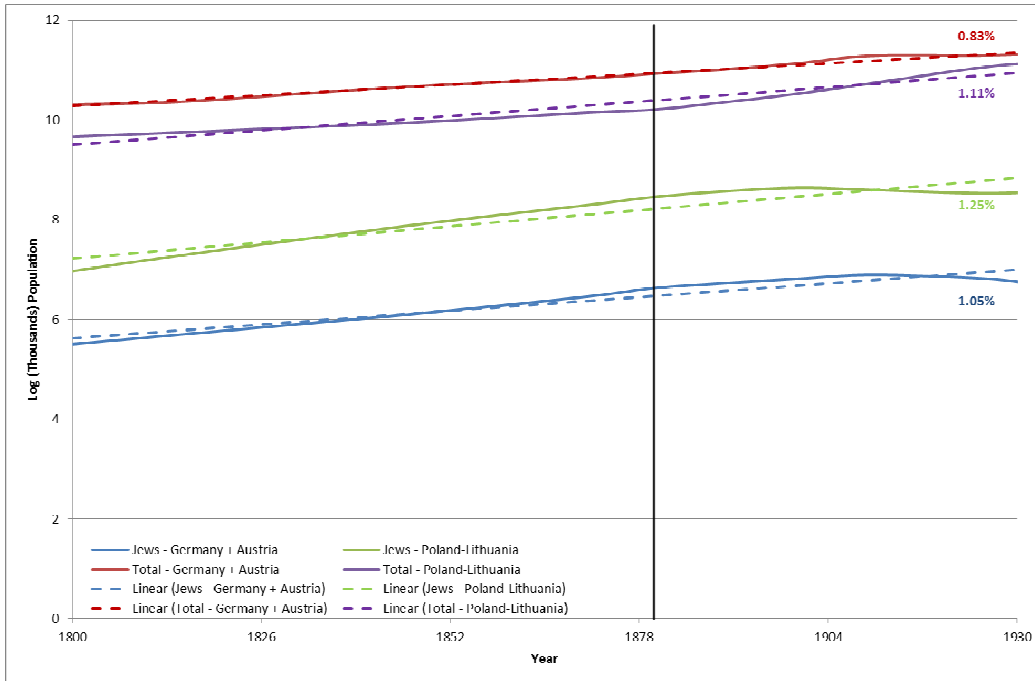


Figure 4.2 summarizes the growth rates of the Jewish and total populations in Germany-Austria, which includes most of the "old" Reich, and "old" Poland-Lithuania, based on the figures in Tables 4.2, 4.3 and 4.6. The observations are calculated as in Figure 4.1. The following conclusions emerge for the period 1800-1930:

1. The Jewish population of Poland-Lithuania grew at an almost constant rate of 1.35% until 1880, when growth slowed and later became negative at the beginning of the 20th century.
2. The Jewish population in GA grew at a rate of somewhat more than 1%, which was close to that of the Jewish population in PL.
3. The non-Jewish population of PL grew at a rate of less than 1% prior to 1900 and subsequently at a rate above 1%. The total population of GA grew at a rate of about 1% until the beginning of the 20th century and slowed subsequently.

4. The Jews constituted about 6% of the total population in PL in 1800, and their share increased to a peak of 17% in 1880. The proportion of Jews fell to 7% by 1930. Jews in GA constituted about 0.6% of the total population in 1800, which increased to about 1.3% by 1880 (and about 2% in Austria alone). By 1930, Jews were less than 1% of the population in GA, and the percentage of Jews in the total population in Austria alone had grown to twice that.
5. The year 1880 was clearly a turning point when the Jews of Eastern Europe began immigrating to the West and primarily to the US. However, immigration to Western European countries began even earlier following the Napoleonic wars and emancipation in the Western and Central European countries.

The data for the three largest cities in GA indicate that the proportion of Jews began to increase already in the period of the 16th to mid-18th centuries, eventually reaching more than 10 percent. It subsequently declined and again started to increase significantly just prior to 1880. On the other hand, the proportion of Jews in almost all of the large cities in PL increased continuously during the entire period and in the majority of the examined cities, reaching a peak in the early 20th century. The proportion of Jews varied from 20% to over 80%, which reflects the significance of the Jewish presence in the urban population of PL. The proportion of Jews was higher in the smaller cities than in the larger ones, which developed into industrialized centers in the late 19th century.

Appendix A: The Jewish and total populations in the provinces of Germany-Austria, 1800-1930

Table 4.7 The Jewish and total populations of Bohemia: 1724-1930

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1724/1729	31,604	-	-	1.09	-
1754	29,094	1,970,378	1.48	1.00	1.00
1765	31,141	1,972,154	1.58	1.07	1.00
1785	42,129	2,704,254	1.56	1.45	1.37
1792/1793	46,691	2,925,541	1.60	1.60	1.48
1800	47,865	2,925,541	1.57	1.65	1.54
1830	67,338	3,827,749	1.76	2.31	1.94
1834	69,205	3,901,129	1.77	2.38	1.98
1857	86,436	4,778,693	1.81	2.97	2.43
1869	89,539	5,106,069	1.75	3.08	2.59
1880	94,449	5,808,702	1.63	3.25	2.95
1890	94,479	5,843,094	1.62	3.25	2.97
1900	92,745	6,318,697	1.47	3.19	3.21
1910	85,798	6,769,237	1.27	2.95	3.44
1921	79,777	6,670,882	1.20	2.74	3.39
1930	76,301	7,109,376	1.07	2.62	3.61

Source: Vobecka (2013, p. 47, table 4.1).

Table 4.8 The Jewish and total populations of Württemberg 1832-1910

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1832	10,670	1,578,147	0.67		
1846	12,356	1,752,538	0.71	1.05	0.75
1858	11,088	1,690,898	0.66	-0.9	-0.29
1861	11,338	1,720,708	0.66	0.78	0.59
1864	11,610	1,748,328	0.66	0.79	0.53
1867	11,662	1,778,396	0.66	0.15	0.57
1871	12,245	1,818,539	0.65	1.66	0.56
1875	12,881	1,881,505	0.68	1.73	0.86
1880	13,331	1,971,118	0.68	1.16	0.90
1885	13,071	1,995,185	0.66	-0.39	0.24
1890	12,639	2,036,522	0.62	-0.67	0.41
1895	11,887	2,081,151	0.57	-1.23	0.43
1900	11,916	2,169,480	0.55	0.05	0.85
1905	12,053	2,302,179	0.52	0.23	1.23
1910	11,982	2,437,574	49	-0.12	1.17

Sources: Segall (January 1905 p. 11, table "Württemberg."); (May 1913 pp. 65, 66, 70, 72.)

Table 4.9 The Jewish and total populations of the Kingdom of Saxony 1832-1910

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1832	874	1,558,153	0.06		
1834	850	1,595,668	0.05	-0.12	1.19
1837	848	1,652,114	0.05	-0.08	1.16
1840	868	1,706,276	0.05	0.78	1.07
1843	882	1,757,800	0.05	0.53	0.99
1846	988	1,836,433	0.05	3.78	1.46
1849	1,022	1,894,431	0.05	1.13	1.04
1855	1,200	2,039,176	0.06	2.68	1.23

1858	1,419	2,122,148	0.06	5.59	1.33
1861	1,555	2,225,240	0.07	3.05	1.58
1864	1,964	2,337,192	0.08	7.78	1.64
1867	2,103	2,423,586	0.09	2.28	1.21
1871	3,346	2,556,244	0.13	11.61	1.33
1875	5,360	2,760,586	0.19	11.78	1.92
1880	6,561	2,972,805	0.22	4.04	1.48
1885	7,755	3,182,003	0.24	3.34	1.36
1890	9,368	3,502,684	0.27	3.78	1.92
1895	9,902	3,787,688	0.28	1.11	1.56
1900	12,378	4,202,216	0.29	4.46	2.08
1905	14,697	4,508,601	0.33	3.43	1.41
1910	17,587	4,806,661	0.37	3.59	1.28

Sources: Segall (March 1914, pp. 33, 36, 37).

Table 4.10 The Jewish and total populations of Baden 1832-1910

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1825	17,577		1.60		
1844	21,368		1.61	1.03	
1846	23,258		1.71	1.24	
1849	23,547		1.73	0.41	
1852	23,699	1357208	1.75	0.21	
1858	23,562		1.76	0.1	
1864	25,234	1,428,035	1.77	1.14	0.42
1867	25,599	1,434,970	1.78	0.48	0.16
1871	25,703	1,461,562	1.76	0.1	0.46
1875	26,492	1,507,179	1.74	0.76	0.77
1880	27,278	1,570,254	1.74	0.58	0.82
1885	27,104	1,601,255	1.69	-0.13	0.39
1890	26,735	1,657,867	1.61	-0.27	0.69
1895	25,903	1,725,464	1.50	-0.63	0.8
1900	26,132	1,867,944	1.40	0.18	1.59

Sources: For the period 1825-1849, Toury (1977, p. 15, table 6); for the period 1852-1900, Wassermann (February 1906, p. 23, table 1).

Table 4.11 The Jewish and total populations of Bavaria 1818-1900

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1818	53,208	3,660,452	1.45		
1840	59,376	4,370,997	1.36	0.5	0.81
1852	56,158	4,559,452	1.23	-0.7	0.53
1867	49,840	4,824,421	1.03	-0.8	0.38
1871	50,648	4,852,626	1.04	0.4	0.15
1875	51,335	5,022,390	1.02	0.37	0.86
1880	53,526	5,284,478	1.01	0.83	1.02
1885	53,097	5,420,199	0.98	-0.16	0.51
1890	53,885	5,594,982	0.96	0.29	0.63
1895	53,750	5,818,544	0.92	-0.05	0.78
1900	54,928	6,176,057	0.89	0.43	1.19

Source: Wassermann (November 1905, p. 11, table 1).

Table 4.12 The Jewish and total populations of Hesse 1822-1933

Year	Jews	Total Population	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1822	19,530	642,078	3.04		
1825	20,415	665,713	3.07	1.48	1.2
1828	21,236	687,156	3.09	1.31	1.06
1831	22,087	707,887	3.12	1.31	0.99
1834	23,620	732,449	3.22	2.36	1.14
1837	24,692	752,671	3.28	1.48	0.91
1840	25,651	778,448	3.30	1.27	1.12
1843	27,255	800,486	3.41	2.02	0.93
1846	28,058	817,640	3.41	0.97	0.71
1849	28,061	818,275	3.43	0.01	0.03
1852	27,664	819,061	3.38	-0.47	0.03
1855	27,179	801,691	3.40	-0.59	-0.32
1858	27,630	811,208	3.39	0.55	0.39

1861	27,930	823,437	3.40	0.36	0.5
1864	26,339	821,436	3.21	-1.95	-0.08
1867	25268	831,056	3.03	-1.38	0.39
1871	25,373	852,009	2.98	0.01	0.83
1875	25652	883,324	2.90	0.37	0.9
1880	26,746	935,409	2.85	0.84	1.15
1885	26,114	955,706	27.3	-0.48	0.43
1890	25,531	991,997	25.7	-0.45	0.75
1895	24,618	1,038,109	2.39	-0.73	0.91
1900	24,486	1,118,979	2.19	-0.84	1.5
1910	24,063	1282100	1.88	-0.34	2.72
1925	20,410	1347300	1.51	-3.29	0.99
1933	17,888	1429000	1.25	-2.64	1.18

Sources: For the period 1822-1900, Knöpfel (June 1906, p. 81, table 1); for 1910-1933, Schmelz (1996, p. 41, table 2.1, p. 46, table 2.6.).

Table 4.13 The Jewish and total populations of Moravia and Austrian Silesia 1775-1930

Year	Jews (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1775	23				-
1784	27	1,520	1.77	1.26	
1801	28			0.2	
1830	32			0.5	
1840	37			1.46	
1846	40			1.18	
1869	49	2,531	1.94	0.87	0.59
1880	53	2,719	1.95	0.66	0.65
1890	55	2,883	1.91	0.48	0.58

1900	56	3,116	1.80	0.15	2.43
1930	41	3,565	1.15	-1.03	0.45

Sources: For 1775 and 1784, Thon (1908 pp. 5-6); for the period 1801-1900, Gold (1929, p. 594); for the period 1869-1900, Thon (1908, p. 8, table 1).

Appendix B: The Jewish and total populations of the provinces of Poland-Lithuania 1800-1930

Table 4.14 The Jewish and total populations of Congress Poland (under Russian rule): 1800-1897²⁹⁵

Year	Jews (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1800	250	2,679 ^a	9.33		
1835	477	4,344	10.98	1.85	1.38
1850	600	4,811	12.47	1.53	0.68
1881	1,010	7,414 ^b	13.62	1.68	1.31
1897	1,317	9,402	14.00	1.66	1.70

Notes: The period 1800-1881 is based on estimates. The year 1897 is the year of the census in the Russian Empire. All of the figures are rounded. a) estimate for the year 1795 b) estimate for the year 1883.

Table 4.15 The Jewish and total populations of Galicia (under Austrian rule): 1785-1910²⁹⁶

Year	Jews (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate of the total population (%)
1785	212	3,229	6.57	--	--

²⁹⁵ Sources: for Jews in 1800-1881, SJE (vol. 7, col. 382-90, table 7); for Jews in the 1897 census, we follow Polonsky (2010, vol. 2, p. 199, tables 6A.3,4); for the total population in 1800 and 1834, we follow Stampfer (2012, p. 202, table 2); for the total population in 1850, we follow Gieysztorowa (1968, table 2); for the total population in 1881, we follow Guesnet (1994, p. 31, table 1); and for the total population in 1897, see Jezierski (2003, p. 168, table 23 (175).

²⁹⁶ For 1785-1900, Thon (1908 pp. 6, 8 table 1); for 1910, Wróbel (1994, p. 18, table 1).

1857	449	4,598	9.77	1.04	0.49
1869	576	5,445	10.58	2.07	1.41
1880	687	5,959	11.53	1.60	0.82
1890	772	6,608	11.68	1.16	1.03
1900	811	7,296	11.12	0.49	0.99
1910	872	8,026	10.86	0.72	0.95

Notes: The numbers are rounded.

Table 4.16 The Jewish and total populations of the Russian Pale of Settlement: 1800-1897

Year	Jews (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jews (%)	Annual growth rate the total population(%)
1800	600	15,267	3.93		
1834	1,296	19,973	6.58	2.24	0.77
1850	1,709	21,486	7.95	1.75	0.49
1881	2,912	26,234	11.10	1.72	0.64
1897	3,555	33,097	10.74	1.25	1.45

According to the SJE, there were about 600,000 Jews in the Pale of Settlement in 1800.²⁹⁷ The total population according to Stampfer's summary of the revisions was 14,744,000 in 1795, excluding Siberia, Caucasus and the Kingdom of Poland.²⁹⁸ In 1800, the total population would have been about 15,267,000 according to a growth rate of 0.7%.

In 1835, according to Stampfer's summary table, the Jewish population was 1,145,000, excluding Siberia, Caucasus and the Kingdom of Poland, out of a total population of 19,937,000.²⁹⁹ Kupovetsky corrected the data for initial underreporting, adding some 170,000 Jews. Thus, the corrected number is about 1,315,000.

According to Stampfer's summary table, the Jewish population in 1850 was 1,266,000, excluding Siberia, Caucasus and the Kingdom of Poland, out of the total

²⁹⁷ SJE (1994, col.382-90).

²⁹⁸ Stampfer (2012, vol.2, p. 202 table 2).

²⁹⁹ Stampfer (2012, vol.2, p. 202 table 2).

population of 21,486,000. According to Kupovetsky's corrected figures, there were 1,709,000 Jews in the Pale, excluding Congress Poland.³⁰⁰

For 1881, we use the data of ECO (Jewish Statistical Society) according to which the Jewish population was 2,912,000 out of the total population of 26,234,000.³⁰¹

For 1897, we use the Encyclopedia Judaica's summary of the 1897 census, according to which the Jewish population of the Pale of Settlement, excluding Congress Poland, was 3,558,060 out of the total population of 33,097,415.³⁰²

Table 4.17 The Jewish and total populations in Poznan: 1800-1930

Year	Jews (in thousands)	Total Population (in thousands)	Proportion of Jews (%)	Annual growth rate of the Jews in (%)	Annual growth rate of the total population in (%)
1800	45	617	7.29		
1816	50	790	6.33	0.66	1.3
1825	65	1,031	6.30	2.91	2.96
1835	74	1,139	6.50	1.30	1
1846	81	1,350	6.00	0.8	1.6
1849	77	1,334	5.77	-1.7	-0.3
1865	67	1,516	4.42	-0.87	0.80
1880	57	1,643	3.47	1.07	0.54
1900	35	1,851	1.89	-2.44	0.56
1910	27	2,100	1.29	-2.60	1.26

For 1800, we accept Kupovetsky's figure of 45,000 Jews in the province of Posen.³⁰³ The total population of Posen grew at about 1.3% according to Gieysztorowa and was 790,000 in 1816.³⁰⁴ We can therefore extrapolate back to obtain a figure of about 617,000 for 1800. For 1816, 1825, 1835, 1846 and 1849, we follow Kemlein.³⁰⁵ For

³⁰⁰ Kupovetsky (1994, table 7).

³⁰¹ Evreiskoe Statisticheskoe Obshchestvo (1917, pp. ix-x).

³⁰² Beizer and Romanowski (2007, vol. 17, p. 537).

³⁰³ Kupovetsky (2010, table 3).

³⁰⁴ Gieysztorowa (1968, table 2).

³⁰⁵ Kemlein (1997, p.58, table 2).

1865, we adopt the estimates of Bergmann, according to which the Jewish population was 67,000 Jews out of the total population of 1,516,000.³⁰⁶

According to Silbergleit, the Jewish population was 57,000 in 1880. The total population was 1,703,397 according to *Jahrbuch für die amtliche Statistik des Preussischen Staates*.³⁰⁷ For 1890, we adopt Silbergleit's data, according to which the Jewish population was 44,000 out of the total population of 1,751,642, based on *Jahrbuch für die amtliche Statistik des Preussischen Staates*.³⁰⁸

For 1900, we use Silbergleit's figures, according to which the Jewish population was 35,000 out of the total population of 1,887,275, according to *Jahrbuch für die amtliche Statistik des Preussischen Staates*.³⁰⁹ For 1910, we again use Silbergleit's data, according to which the Jewish population was 27,000³¹⁰ out of the total population of 2,100,000, based on the Central Statistical Office of Poland, which provides data on the population of the former pre-partition Polish territories.³¹¹

³⁰⁶ Bergmann (1883, p.44).

³⁰⁷ Silbergleit (1930, pp.18-19, table 9); *Jahrbuch für die amtliche Statistik des Preussischen Staates* (1904 p. 2, table 2).

³⁰⁸ Silbergleit (1930, pp.18-19, table 9); *Jahrbuch für die amtliche Statistik des Preussischen Staates* (1906 p. 2 table 2).

³⁰⁹ Silbergleit (1930, pp.18-19, table 9); *Jahrbuch für die amtliche Statistik des Preussischen Staates* (1906, p. 2 table 2).

³¹⁰ Silbergleit (1930, pp.18-19, table 9).

³¹¹ Jezierski and Wyczański (2003, p. 174, table 30 (182)).

5. Is the Demography of Polish Jewry Exceptional? Birth and Death Rates, 1500-1938

In section 4, we documented the higher growth rate of the Jewish population relative to the Gentile population in Poland-Lithuania from the early 16th century until the late 19th century. The Jewish population in GA had a much lower growth rate than the Jewish population in PL during the same period. Nonetheless, starting from the early 16th century, the proportion of Jews in the total population of GA was increasing and by the end of the 19th century it was above 1% in Germany and above 2% in Austria. This is the case even when we take into account the annexation of parts of PL by Germany and Austria, as explained above. The higher growth rate of the Jewish population can also be seen from the fact that for the region as a whole the proportion of Jews in the total population increased continuously from 1500 to 1930.

A population's growth rate is determined by the difference between birth and death rates, by immigration and by conversion.³¹² Unfortunately, there is scant reliable data on births, deaths, immigration and conversion for either Jews or non-Jews in Germany-Austria and Poland-Lithuania prior to the 19th century.

Ruppin (1940), Weinryb (1972) and DellaPergola (1983), all of whom are demographic historians, have provided estimates of Jewish birth and death rates in Poland-Lithuania during this period. Based on anecdotal evidence and population growth rates, Ruppin proposed the following estimates for birth/death rates among "World Jewry" (per 1000 people): 1650-1750 – 45/40; 1750-1800 – 40/30; 1800-1850 – 40/25; and 1850-1900 35/20.³¹³

Weinryb, despite the scarcity of data, attempted to reconstruct the birth and death rates in early modern Poland-Lithuania in order to explain Jewish population growth from 1500 to 1764.³¹⁴ He proposed a birth rate of 55-60 and a death rate of less than 40, which yields a natural rate of increase of 1.5-2%. Weinryb bases his estimates of

³¹² It should be noted that during the 19th century, the rate of migration of Jews out of Europe was higher than for non-Jews (see Kuznets (1975, pp. 39-51, tables I to V), which reinforces the conclusion regarding the difference in birth and death rates between Jews and non-Jews.

³¹³ Ruppin (1940, p. 76).

³¹⁴ Weinryb (1972, pp. 319-320).

the death rate on data collected by Wettstein from the *pinkas* of the Jewish burial society in Cracow for the period 1543-1790.³¹⁵

DellaPergola, one of the leading Jewish demographers, estimated Jewish birth and death rates in Poland-Lithuania using data from Galicia.³¹⁶ According to DellaPergola, there were 40 deaths and 50 births per 1000 during the period 1650-1750.³¹⁷ Death rates then began to decline, reaching about 13-15 in the 1920s while birth rates began to decline in around 1870 to about 20 in the 1920s. Based on these figures, DellaPergola claimed that demographic transition started much earlier (by between several decades and a century) among Jews than among non-Jews.³¹⁸

In order to evaluate the natural growth rates of Jews and Gentiles for the period 1500-1930, we follow the demographic transition literature and divide the period into three phases:

Phase I is the pre-industrial period for Germany-Austria and Poland-Lithuania which ends in about 1870. Phase I is divided into stage 1 which is the period of constant birth and death rates and stage 2 which begins just before industrialization and is characterized by constant birth rates and declining death rates. The modern period is divided into two phases: Phase II from 1870 to 1910 which is the main period of transition to modernity and phase III from 1911 to 1930. This division essentially corresponds to the main periods discussed in the demographic transition literature for Northern, Central and Eastern Europe where industrialization began in the late 19th century.

³¹⁵ Weinryb (1972, pp. 319-320). The data is problematic since it does not include the deaths of children up to the age of thirteen or fourteen. However, Wettstein was able to locate data on deaths, including the deaths of children, in the *kehilla's* records for the end of the 18th century. The number of deaths was twice that registered in the Jewish burial society records. During the period 1543-1590, the average number of deaths was 37-38 per 1000 excluding children. Doubling this number in order to account for children, Wettstein obtained 74-76 deaths. Thus, the total number of Jews in 1578 was 2,080 (Weinryb, 1972, p. 320). Dividing 2,080 by 74-76 yields 36 deaths (about 40) per 1000. Weinryb's estimate of the birth rate at 55 to 60 per 1000 is not based on data from Poland-Lithuania but rather on the situation in underdeveloped countries in Asia, Africa and the Middle East which in his view are comparable to the situation then in Poland-Lithuania.

³¹⁶ DellaPergola (1983, p. 59, fig. 3).

³¹⁷ DellaPergola (1983, p. 58).

³¹⁸ DellaPergola (1997, p. 5, 14 fig. 4). Vobecka (2013) makes the same point for Jews in Bohemia.

The main underlying assumption is that during phase I almost all of the Eastern European countries, including Poland-Lithuania and Germany-Austria, were at the so-called “Malthusian equilibrium”, in which the natural rate of population growth, i.e. the rate in a "normal environment", ranged from less than 0.5 to 1 percent. The term "normal environment" reflects a situation in which population growth is not affected by epidemics or wars.

5.1. Total birth and death rates³¹⁹

Table 5.1 presents a comprehensive comparison of birth and death rates for Jews in Poland-Lithuania at the end of the 18th century, though the data is only for Galicia. The data for Galicia is representative of the whole region since its average birth and death rates for both Jews and non-Jews are those of a "normal environment" in PL during stage 1 of the demographic transition (the period prior to the 19th century). Although this was a period of partitions in which large parts of the original Poland-Lithuania Commonwealth were divided up among its neighbors, the general socioeconomic conditions were similar throughout most of the period, starting from 1500.³²⁰ Moreover, medical knowledge and the socioeconomic relations between Jews and non-Jews remained basically unchanged until the second half of the 19th century. The main exceptions are the period of wars in Poland-Lithuania during the mid-17th century and the Thirty Years' War in Germany.

The main conclusion to be drawn from the table is that Jews and non-Jews had almost the same birth rate of about 35(+ 3) per 1000. The average birth rates are 36.5 and 35.4 and the average death rates are 20.2 and 25.4 for the Jewish and total populations, respectively. The figures for the Jews are much lower than those given by Ruppin, Weinryb and Della Pergola, though the rate of growth is close to that suggested by Weinryb. We will later make the claim that these figures are consistent with the data in the population tables presented in section 4.

³¹⁹ The following rates of population growth, births and deaths are aggregated over a large geographical area, since data for a particular location shows higher variance.

³²⁰ See section 2.

Table 5.1 Births, deaths and natural increase per 1000 for the Jewish and total populations of Poland-Lithuania (Galicia and Posen only) 1777-1873³²¹

Year	Locality	Births	Births	Deaths	Deaths	Natural increase	Natural increase
		Jews	Total Population	Jews	Total Population	Jews	Total Population
1777	Jasło	37.2	33.4	18.6	22.1	18.6	11.3
1777	Nowy Sącz	33.0	27.1	15.0	20.6	18.0	6.5
1777	Przemyśl	45.6	36.6	25.4	30.8	20.2	5.8
1778	Zhovkva (Żółkiew)	31.7	38.2	22.7	30.8	9.0	7.4
1780	Belz	54.9	60.9	15.0	24.7	39.9	36.2
1790	Rzeszów	30.7	30.7	23.5	30.5	7.2	0.2
1790	Sambir (Sambor)	40.7	40.8	26.3	26.4	14.4	14.4
1790	Sanok	25.4	27.8	21.7	26.2	3.7	1.6
1795	Lvov	36.5	34.8	16.1	26.9	20.4	7.9
1795	Przemyśl	36.2	34.6	20.6	33.5	15.6	0.9
1798	Jasło	38.8	33.0	16.0	19.5	22.8	13.5
1798	Nowy Sącz	41.9	31.1	11.8	18.6	30.1	12.5
1798	Rzeszów	43.3	36.0	20.2	27.7	23.3	8.3
1798	Zhovkva (Żółkiew)	27.8	38.0	29.3	32.3	-1.5	5.7
1799	Jasło	39.1	35.5	15.0	20.3	24.1	15.2
1799	Nowy Sącz	42.3	30.3	22.0	23.6	20.3	6.7
1799	Rzeszów	31.9	37.6	20.9	21.7	11.0	15.9
1799	Sanok	35.2	33.6	24.9	20.1	10.3	13.5
1799	Zhovkva (Żółkiew)	35.5	40.8	21.5	23.1	14.0	17.7
1800	Jasło	36.9	35.7	19.5	22.3	17.4	13.4
1800	Nowy Sącz	38.0	26.9	15.1	32.3	22.9	-5.4
1800	Przemyśl	40.5	38.7	20.4	23.7	20.1	15.0
1800	Rzeszów	32.1	34.6	20.2	20.0	11.9	14.6
1800	Sanok	29.6	28.8	19.8	23.9	9.8	4.9
1800	Zamość	35.8	37.4	24.2	31.6	11.6	5.8
1800	Zhovkva (Żółkiew)	29.1	38.0	20.0	27.4	9.1	10.6
1824-1873	Posen province	35.3	41.1	22.2	30.0	13.1	11.1
Average		36.5	35.6	20.3	25.6	16.2	10.0

³²¹ Sources: 1777-1800 based on Budzyński (1993, vol. 1, p.108. table 7). For Posen, the calculation is based on von Bergmann (1883, p. 136).

The figures for non-Jews are compatible with the data presented in section 4 above. Moreover, they are consistent with other estimates of average birth and death rates prior to the demographic transition for many regions in Europe. The most cited case is that of pre-industrial Sweden from 1759 to 1869, where the average birth rate was 32.5 per 1000 inhabitants, the infant death rate was 189 per 1000 births and the non-infant death rate was 19.7 per 1000 inhabitants. Consequently, the total death rate was 24.5 per 1000.³²² Hence, it appears that the figures we report for Poland-Lithuania are within the statistical confidence intervals of the rates for Sweden and other regions.

We conclude from Table 5.1 that the average natural rate of population growth at the end of the 18th century among Jews was 1.6% and among the total population was about 1%. The latter figure is somewhat higher than the Swedish rate of 0.8% but is nonetheless within the confidence interval.³²³

Table 5.2 provides the birth and death rates in pre-industrial Germany-Austria (before 1870). In Prussia, the birth and death rates for Jews are about the same as those for Poland-Lithuania and yield a natural growth rate of about 1.5% during the first half of the 19th century.

The birth and death rates for the total population, on the other hand, are much higher than in Poland-Lithuania. Nonetheless, the resulting natural growth rates for late pre-industrial Prussia are 15.05 and 10.5 for Jews and the total population, respectively, which is similar to those for pre-industrial Poland-Lithuania.

The data for Hessen and Bohemia show lower birth and death rates for both Jews and non-Jews than those for PL. This earlier demographic transition can be explained by the fact that the data are for a later period and for an area where industrialization occurred earlier. Nonetheless, again in this case, Jews had a higher rate of natural increase than the total population.

³²² Eckstein, Schultz and Wolpin (1984, table 1).

³²³ It should be noted that the standard deviation of the net growth rate is about 7.4-7.6 indicating very large fluctuations in birth and death rates across time and locations.

Table 5.2. Births, deaths and natural increase per 1,000 for the Jewish and total populations in pre-industrial Germany-Austria (prior to 1870)³²⁴

Region / Year	Births Jews	Births Total Population	Deaths Jews	Deaths Total Population	Natural Increase Jews	Natural Increase Total Population
Prussia						
1822-1840	35.5	40.0	21.6	29.6	13.9	10.4
1840-1864	35.1	39.6	18.9	29	15.8	10.6
Average	35.3	39.8	20.25	29.3	15.05	10.5
Hessen (Darmstadt)						
1863-1864	28	34	18	24	10	10
1865-1869	31	35	18	25	13	10
Average	29.5	34.5	18	24.5	11.5	10
Bohemia						
1869	29.5	37.2	16.8 ^a	27.6 ^a	12.7	9.6

Phase II of the demographic transition (i.e. the period 1870-1910) is characterized by a decline in both birth and death rates, resulting in a substantial increase in the rates of population growth. This occurred in parallel to the process of industrialization and the major acceleration of urbanization and immigration, both within Europe and from Europe to the Americas.

For old Poland-Lithuania, we use the data for Galicia and European Russia. Table 5.3 shows that the birth rates for Jews and the total population were somewhat higher than those shown in Table 5.1, while death rates were lower for both, thus generating higher natural rates of population growth, particularly for the total population. Thus, during the period of early industrialization, the eastern European locations had progressed to stage 2 of the demographic transition. The Jews had a somewhat higher rate of population growth than the total population, but the difference is small.

³²⁴ For Prussia 1822-1864, see Lestschinsky (1926, p. 26, table VIII). The calculation for Prussia in 1840-1864 is based on Silbergleit (1930, pp.14-15, table 8). For Hesse, see Schmelz (1996, p. 108, table 3.1, p.112, table 3.5). For Bohemia, see Vobecka (2013, p.92, table 7.5; p.105, table 8.4).

Table 5.3 Birth and death rates per 1,000 for the Jewish and total populations in Poland-Lithuania in 1870-1910³²⁵

Region / Year	Births Jews	Births Total Population	Deaths Jews	Deaths Total Population	Natural Increase Jews	Natural Increase Total Population
Galicia						
1882	46.2	48.0	29.4	36.4	16.8	11.6
1896-1900	40.4	44.3	20.8	28.1	19.6	16.2
1901-1902	38.1	44.0	19.2	26.9	18.9	13.1
1904, 1907, 1910	34.6	40.9	16.8	25.3	17.8	15.6
Average	39.8	44.3	21.5	29.2	18.3	15.1
European Russia						
1897-1896	35.9	50.2	17.6	32.4	18.3	17.8
1900-1904	34.4	48.6	16.7	30.9	17.7	17.7
Average	35.15	49.4	17.15	31.65	18	17.75

During Phase II in GA, we find lower birth and death rates for both Jews and the total population. Thus, the rate of population growth in Prussia is about 1.5% for the total population and only 0.78% for Jews. This is a result of the fact that while the death rate among Jews was much lower than among non-Jews, the Jewish birth rate had declined significantly. Indeed, table 5.4 shows that there is a significant drop in Jewish birth rates at the beginning of the 20th century in all three regions, which rapidly lowered the rate of population growth to less than 1%. The total population, on the other hand, had higher birth rates (close to 35 per 1000) while its death rates dropped, as one would expect in stage 2 of the demographic transition. As a result, its rate of growth remained higher than 1%.

³²⁵ Kuznets (1975, pp. 63- 64, table 6).

Table 5.4 Birth and death rates per 1000 in Germany-Austria: 1870-1910³²⁶

Region / Year	Births Jews	Births Total Population	Deaths Jews	Deaths Total Population	Net Increase Jews	Net Increase Total Population
Prussia						
1876-1880	31.7	38.9	17.6	23.6	14.1	15.3
1886-1890	23.9	37.3	16.1	24.3	7.8	13.0
1896-1900	20.4	37.1	14.3	21.4	6.1	15.7
1906-1910	17	32.5	13.7	17.3	3.3	15.2
Average	23.25	36.45	15.4	21.65	7.8	14.8
Hesse						
1870-1874	31	37	19	25	12	12
1875-1879	31	37	18	24	13	13
1880-1884	26	32	16	22	10	10
1885-1889	24	31	16	22	8	9
1895-1899	19	32	15	19	4	13
1900-1904	18	33	14	18	4	15
1905-1909	18	30	14	16	4	14
Average	23.9	33.1	16	20.9	7.9	12.3
Bohemia						
1880	27.3	37.2	16.5	28.3	10.8	8.9
1896-1900	20.9	33.5	15.9	24.3	5	9.2
1901-1905	17.6	36.1	15.2	23.1	2.4	13
1906-1910	14.2	30.6	13.8	19.9	0.4	10.7
Average	20	34.35	15.35	23.9	4.65	10.45

During Phase III, which begins around 1910, modern medicine becomes more available and industrialization reaches its peak in Eastern and Central Europe following WWI. Table 5.5 provides actual data for Poland after the war. For Jews, we observe a decline in the birth rate to about 29 per 1000 and in the death rate to about 14 per 1000. As a result, the rate of natural increase is about 1.4%, which is almost equal to what it was during the late 18th century. For both the total population and Jews in Poland, the end of WWI marks the beginning of phase III of the demographic transition, during which birth rates decline less than death rates and the rate of natural increase reaches 1.6%.

³²⁶ For Prussia, we use Kuznets (1975, pp. 63- 64, table 6). For Hesse, see Schmelz (1996, p. 108, table 3.1, p. 112, table 3.5). For Bohemia, see Vobecka (2013, p. 92, table 7.5; p. 105, table 8.4).

Table 5.5. Birth and death rates per 1000 in Poland-Lithuania: 1911-1930³²⁷

Region / Year	Births Jews	Births Total Population	Deaths Jews	Deaths Total Population	Natural Increase Jews	Natural Increase Total Population
Poland						
1921-1925	30.1 ^a	34.7	14.5 ^a	18.5	15.6	16.2
1926-1930	27.5 ^a	32.3	14.0 ^a	16.8	13.5	15.5
Average	28.8	33.5	14.3	17.6	14.5	15.9

^a Based on the corrected figures suggested by Fogelson and accepted by scholars, rather than the official census data.

With regard to GA, table 5.6 indicates that Jewish birth and death rates in Prussia were very close to those of both Jews and the total population during the modern period. However, Jewish births are somewhat less than 15 per 1000 and deaths are somewhat more than 13 per 1000, such that growth is slightly positive (0.13%). For the total population, the birth rate of 26 is higher than that of the Jews, while the death rate is similar. Hence, the rate of natural increase for non-Jews is above 1%. For Hessen and Bohemia, the shift is similar and the rate of natural increase for Jews becomes negative.

³²⁷ For Jews in Poland, we use Marcus (1983, p. 173, table 25). For the total population in Poland, see GUS (2003, p.361, table 90 (355)).

Table 5.6: Birth and death rates per 1000 in Germany-Austria: 1911-1932³²⁸

Region / Year	Births Jews	Births Total Population	Deaths Jews	Deaths Total Population	Natural Increase Jews	Natural Increase Total Population
Prussia						
1911-1913	15.3	28.9	13.8	15.9	1.5	14
1921-1925	14	23	13	14	1	9
Average	14.7	26	13.4	14.5	1.3	11.5
Hessen						
1914-1919	10	17	17	19	1	-2
1920-1924	16	22	15	13	1	9
1925-1929	10	19	14	11	-4	8
1930-1932	8	16	16	10	-8	6
Average	11	18.5	15.5	13.25	-2.5	5.25
Bohemia						
1926-1930	8.2	18.7	14.9	14.3	-6.7	4.4

The above tables show that until the beginning of the 20th century death rates were lower among the Jews than among the total population, a result that we will attempt to explain in what follows.

The view that lower infant mortality is among the main explanations for the high rate of natural increase among the Jews of Poland-Lithuania is commonly accepted among historians and demographers.³²⁹ Baron estimated that early child mortality was much lower among the Jews than among the general population. This, in addition to lower adult mortality, led to an increase in the proportion of Jews in the population of Poland-Lithuania.³³⁰ DellaPergola attributes the Jewish "population surge" that began in the late 18th century to "early improvements in morbidity and mortality levels."³³¹ According to the demographic transition model adopted by DellaPergola, the Jews were far more advanced than the surrounding population, which resulted in lower

³²⁸ For Prussia, we use Kuznets (1975, pp. 63- 64, table 6); for Bohemia, we use Vobecka (2013, p.92, table 7.5; p.105; table 8.4); and for Hessen, we use Schmelz (1996, p. 108, table 3.1, p.112, table 3.5).

³²⁹ See Hundert (2004, p. 24).

³³⁰ Baron (1976, vol. 16, pp. 203-4).

³³¹ DellaPergola (1993, p. 5).

child mortality.³³² Derosas prefaces his study of child mortality among Jews in Venice with the comment that Jews were known for lower mortality rates already in the late 18th century. He cites Giuseppe Toaldo (1787), a professor at Padua University, who discovered that "only" one-fifth of Jewish newborns died in the first year of life.³³³ Schmelz, following DellaPergola, used the demographic transition model to explain the reduction in mortality. The data he collected, from both primary and secondary sources, exhibits overwhelmingly lower Jewish infant and early child mortality.³³⁴ Schmelz (1971) became the main early source for data on the subject and has frequently been cited and used in other studies.

The results presented here back up historians' claims and data and to the best of our knowledge present the most up-to-date picture of infant mortality among Jews and non-Jews. We again divide the data according to the three phases discussed above. In this section, we aggregate the data for PL and GA in view of the similarity between the two regions and the lack of extensive data on each separately. This allows us to calculate the impact of lower infant mortality among Jews on their rate of natural increase prior to and during the 19th century.

5.2 Infant death rates

Civil registers of births, marriages and deaths were not common in most European countries prior to the 19th century; however, some demographic data is available from registers maintained by religious institutions. It is roughly estimated that in early modern Western Europe, as many as a quarter of all babies died within the first year and another quarter before they reached adulthood. According to Zemon-Davis (1995), between one-third and one-half of children born in Europe in the 17th century did not reach the age of 10.³³⁵ In early modern England, the rate of infant mortality was around 150-200 per 1000 live births.³³⁶ In London, deaths exceeded births and its population would have decreased if not for migration from the countryside. In 1764, 49% of all recorded live births in London ended in death by the age of two and 65%

³³² DellaPergola (1993, p. 13). See also Derosas (2003, pp. 110-11).

³³³ Derosas (2003, p. 11).

³³⁴ Schmelz (1971, pp. 13-14; 15-25, table 1; pp. 28-33, table 3).

³³⁵ See: Zemon-Davis (1995, p. 12, 225 ft.23).

³³⁶ Wear (1995, p. 215).

by the age of five.³³⁷ France before 1750 had over 200 deaths per 1000, Denmark 206 per 1000 (1645-99), and Geneva 296 per 1000 (1580-1739).³³⁸ Of course, the death rate varied between regions and over time. In general, the urban population was at higher risk than the rural population.

In comparison to Western Europe, there are even less sources of data available on infant mortality in early modern Poland-Lithuania. According to the examined death registers and graves, the majority of deaths were children in the age group defined as *Infans I* (under the age of seven). Infant mortality was clearly very high and the figures are likely to be even higher in actuality since many of the deaths among children, especially newborns, were not recorded.

The earliest census that provides reliable data on infant mortality in early modern Poland was carried out in 1777.³³⁹ According to its findings and other available data, it is estimated that infant mortality (up to the age of one) in Poland in the 17th and 18th centuries was about 350 per 1000.³⁴⁰ Child mortality up to the age of 15 was 550, and up to adulthood was 650 per 1000.³⁴¹

The pioneering comparative study of Jewish and non-Jewish child mortality in 18th-century Poland was done by Budzyński (1993) and its results are presented in table 5.1. He gathered data on death rates among Jews and non-Jews in nine locations for the period 1777-1799.³⁴²

There is almost no data on infant and child mortality prior to the 19th century that can facilitate a comparison between Jews and non-Jews. One of the best sources of data is for the province of Posen, which was part of the Polish-Lithuanian Commonwealth until the partitions. In 1793, it came under the control of Prussia and its birth and death rates continued at levels that resemble those which we claim are characteristic of phase I of the demographic transition (table 5.2).

³³⁷ Matthews-Grieco (1991, p. 39).

³³⁸ Lawrence (1995, p. 216).

³³⁹ For more information on sources, see Żołędź-Strzelczyk (2010).

³⁴⁰ Bartnicka (1992, p. 41).

³⁴¹ Salmon-Mack (2012, p. 93).

³⁴² Budzyński (1993, vol. 1, pp. 102-8). See Hundert (2004, pp. 23-24).

Table 5.7 Infant and child mortality rates among Jews and the total population per 1,000 live births in the Province of Posen: 1819-1863³⁴³

Age of death	Jews	Total Population	Percent difference
Just before or at birth	24	29	-17
From birth till one year old	146	200	-27
Total until one year old	170	229	-26
1-3 years old	91	107	-15
3-5 years old	33	47	-30
Total 1-5 years old	124	154	-20
Total from birth to 5 years old	294	383	-23

The data in Table 5.7 indicate that Jewish infant and child mortality per 1000 live births was much lower than that of the total population. In fact, it is 27% lower for infants up to the age of one and 20% lower for children aged one to five.

Tables 5.7 and 5.8 provide information on infant mortality among Jews prior to 1870. The data for 1851 in table 5.8 is taken from official registers which is considered highly problematic in the case of the Jews. Therefore, we relate to the data in tables 5.7 and 5.8 as a whole, thus obtaining infant mortality rates of 147 and 215 per 1000 births for Jews and the total population, respectively.

Therefore, according to this data Jewish infant mortality prior to 1870 was lower by about 68 per 1000 live births. If we take the commonly held view that prior to the demographic transition the live birth rate was about 35 per 1000 (see table 5.1), then the lower infant (first-year) death rate is equivalent to saying that the birth rate was higher by 6.8%, or an additional 2.4 births per 1000. In other words, the lower infant death rate accounts for almost half of the difference in the rate of natural increase between the Jews and the total population.

³⁴³ The calculations are based on von Bergmann's data (1883, p. 158 and Appendix F after p. 260). It should be noted that this data is not cited by Schmeltz (1971) or more recent studies.

Table 5.8 Infant mortality rates among Jews and the total population per 1,000 live births in Poland-Lithuania and in Germany-Austria up until 1870³⁴⁴

Region/ Period	Jews	Total Population	Difference in percent
Russia (European)			
1867-1869	154	272	-45
Galicia			
1851	213	217	0
Cracow			
1851	196	167	+15
Bohemia			
1851	162	257	-35
Moravia			
1851	163	226	-30
Prussia			
1822-1840	129	174	-25
Prussia Eastern Provinces			
1819-1870	136	208 ^a	-35
Westphalia			
1819-1870	96	140 ^a	-30
Baden			
1857-1863	174	268	-35
1864-1870	199	282 ^a	-30
Magdeburg			
1827-1856	135	225	-40
Average	160	221	-28

^a Non-Jews.

Tables 5.9 and 5.10 present the available data for infant mortality in phases II and III of the demographic transition. We see that in almost every case the infant mortality rates for Jews are significantly lower than for non-Jews. In Eastern European regions prior to 1920, the rates are similar to those of phase I. It is also worth noting that the rates decrease earlier in Germany-Austria than in other regions.

³⁴⁴ For the total population in Russia between 1867 and 1869, see Mitchell (2003, p. 122, table A7). For the rest of the data, see Schmelz (1971, pp.15-25, table 3). Wherever Schmelz provided data for two denominations (i.e. Catholics and Protestants), their average is calculated for the sake of simplicity.

Table 5.9 Infant mortality rates among Jews and the total population per 1,000 live births in Poland-Lithuania and in Germany-Austria: 1870-1910³⁴⁵

Region/ Period	Jews	Total Population	Difference in Percent
Russia (European)			
1870-1874	141	268	-45
1875-1879	133	271	-50
1880-1884	143	275	-50
1885-1889	135	260	-50
1890-1894	137	278	-50
1896-1897	130	268	-50
1897	151	274	-45
1900-1904	119	254	-55
Average	133	265	-50
Leningrad (St. Petersburg)			
1900-1904	109	260 ^a	-60
1905-1909	117	262 ^a	-55
Average	113	261	-57
Vilna			
1897-1907	231	205 ^a	+15
Lvov			
1891-1892	233	210 ^a	+10
1894-1896	163	205 ^a	-20
1897-1900	147	136 ^a	+10
1901-1902	134	130 ^a	+5
1906-1910	125	153 ^a	-20
Average	160	167	-4
Cracow			
1888-1889	168	218 ^a	-25
1891-1893	148	206	-25
1894-1896	155	171 ^a	-10
1901-1904	130	172 ^a	-25
1905-1909	114	164 ^a	-30
Average	148	206	-77
Baden			
1871-1873	182	264 ^p	-30
		293 ^c	-40
Bavaria			
1878	152	296	-50

³⁴⁵ For the total population of Russia between 1870 and 1894, see Mitchell (2003, p. 122, table A7). For the rest of the data, see Schmelz (1971, pp. 15-25, table 1).

Francfort-on-Main			
1891-1894	74	160	-55
1895-1899	68	156	-55
1900-1904	85	162	-50
1905-1909	66	142	-55
Average	73	155	-53
Munich			
1894-1897	71	286	-75
1898-1901	114	274	-60
1902-1905	81	232	-65
Average	89	264	-66
Vienna			
1894-1899	66	62	5
1900-1904	80	71	15
1905-1909	86	86	0
Average	77	73	0.5
Breslau			
1906	62	217	-70

^a Non-Jews. Wherever Schmelz provides data for two denominations (i.e. Catholics and Protestants), their average is calculated for the sake of simplicity.

Table 5.10 Infant mortality rates among Jews and the total population per 1,000 live births in Poland-Lithuania and in Germany-Austria: 1911-1930³⁴⁶

Region/ Period	Jews	Total Population	Difference in Percent
USSR			
1926	57	174	-65
Leningrad (St. Petersburg)			
1910-1914	78	244 ^a	-70
1922-1924	78	178 ^a	-55
Average	78	211	-63
Poland			
1926-1930	64	160 ^a	-60
Lvov			
1921-1925	96	141 ^a	-30
Warsaw			
1921-1925	136	159 ^a	-15
1926-1930	104	144 ^a	-30
Average	120	152	-21
Lódź			

³⁴⁶ Schmelz (1971, pp. 15-25, table 1).

1921-1923	117	192	-40
1924-1926	147	184	-20
1927-1929	169	184	-10
Average	144	187	-23
Lithuania			
1927	35	156	-80
1928-1930	36	159	-75
Average	36	158	-77
Latvia			
1926-1927	38	89	-55
1928-1930	47	97	-50
Average	43	93	-54
Carpatho-Russia			
1921-1923	108	178	-40
1924-1926	106	182	-40
1927-1929	112	182	-40
Average	109	181	-40
Bohemia			
1921-1923	71	179	-60
1924-1926	61	163	-65
1927-1929	42	163	-75
Average	58	168	-65
Moravia			
1921-1923	62	182	-65
1924-1926	64	164	-60
1927-1929	80	157	-50
Average	69	168	-59
Hessen			
1920-1922	50	93	-45
1923-1925	50	87	-40
1926-1929	47	68	-30
Average	49	83	-41
Bavaria			
1925-1929	42	124	-65
Berlin			
1924-1926	40	100	-60
1928-1931	32	77	-60
Average	36	89	-60
Breslau			
1925	53	134	-60

^a Non-Jews. Wherever Schmelz provides data for two denominations (i.e. Catholics and Protestants), their average is calculated for the sake of simplicity.

Tables 5.11-5.13 present the data for child mortality for ages 0-4. The figures indicate that until 1930 Jews had a lower mortality rate after the age of one. Although the data

presented is less reliable, the mortality rates for older ages also imply that overall child mortality among Jews was much lower than among the total population, especially among infants.

Table 5.11 Child mortality rates for ages 0-4 among Jews and the total population per 1,000 live births in Poland-Lithuania and in Germany-Austria until 1870³⁴⁷

Region/ Period	Jews	Total Population	Difference in percent	Type of rate
Galicia				
1851	389	339	+15	I
Cracow				
1851	251	272	-10	I
Baden				
1851-1870	242	348	-30	II
Bohemia				
1851	253	365	-30	I
Moravia				
1851	256	337	-25	I
Prussia, eastern provinces				
1819-1833 ^b	273	333 ^a	-20	II
1834-1848 ^b	273	360 ^a	-25	II
1849-1863 ^b	230	370 ^a	-40	II
Westphalia				
1819-1863	183	285 ^a	-35	II
Average in all regions	261	334	-22	

^a Non-Jews. ^b Including stillbirths.

I – Deaths in the year indicated per 1,000 births in that same year.

II – Proportion dying within x years per 1,000 births, according to follow-up after birth.

Table 5.12 Child mortality rates for ages 0-4 among Jews and the total population in Poland-Lithuania and in Germany-Austria: 1870-1910³⁴⁸

Region/ Period	Jews	Total Population	Difference in percent	Type of rate
Galicia				
1882	361	426 ^a	-15	I

^a Non-Jews, wherever Schmelz provides data for two confessions (i.e. Catholics and Protestants), their average is calculated for the sake of simplification.

I - Deaths in the period indicated per 1,000 births during that same period.

³⁴⁷ Schmelz (1971, pp.28-33, table 3).

³⁴⁸ Schmelz (1971, pp.28-33, table 3).

Table 5.13 Child mortality rates for ages 0-4 among Jews and the total population in Poland-Lithuania and Germany-Austria: 1911-1930³⁴⁹

Region/ Period	Jews	Total Population	Difference in percent	Type of rate
Bohemia				
1921-1923	71	179	-60	I
1924-1926	61	163	-65	I
1927-1929	42	163	-75	I
Average	58	168	-54	I
Moravia				
1921-1923	62	182	-65	I
1924-1926	64	164	-60	I
1927-1929	80	157	-50	I
Average	69	168	-59	
Carpatho-Russia				
1921-1923	157	258	-40	I
1924-1926	143	246	-40	I
1927-1929	160	254	-35	I
Average	153	253	-40	

I – Deaths in the period indicated per 1,000 births during that same period.

II – Proportion dying within x years per 1,000 births, according to follow-up after birth.

The lower child mortality among Jews has attracted the attention of demographers since the beginning of the 20th century. Condran and Kramarow (1991) and Condran and Preston (1994) provided the most up-to-date demographic analysis of child mortality among Jews in comparison to the total population up to 1920, when modern medical services become widely available.

Condran and Kramarow provide data similar to that presented above, as well as some data for the US, and in particular New York, Amsterdam, London, Rome and Florence prior to 1910.³⁵⁰ According to their results, Jews in all locations had infant mortality rates that were lower by between 20 and 60 percent! During the period 1885-89, the infant death rate per 1000 in the US was 81 for Jews and 167 for the general population. These figures are similar to those for Frankfurt presented above. Condran and Kramarow's main contribution is the analysis of the 1910 US census data which will be described below.

³⁴⁹ Schmelz (1971, pp.28-33, table 3).

³⁵⁰ Condran and Kramarow (1991, pp. 225-27, table 1).

As mentioned above, the only systematic analysis prior to Condran and Kramarow is that of Schmeltz (1971). The main reasons cited by Schmeltz for low Jewish infant mortality are childcare practices and family formation, due to their impact on the environment of Jewish infants and young children. In poor urban neighborhoods, Jewish mothers provided better care for their children than other mothers. In addition, the incidence of breastfeeding was higher and the proportion of mothers working outside the home was lower. Furthermore, the lower frequency of illegitimate children also contributed to low Jewish infant mortality. Schmeltz also cited a number of other reasons for low Jewish mortality: religious rituals (such as hand washing), attention paid to health issues, access to physicians, low rates of venereal disease and alcoholism, and earlier family planning. Schmeltz offered some indirect and fragmentary evidence to back up some of these claims. There is in fact contemporary data to support him, and his suggestions echo many modern views on the low infant mortality of Jews.

Condran and Kramarow's main contribution is their analysis of the 1910 census, which sheds light on the massive wave of immigration to the United States in the late 19th and early 20th centuries and provides individual and household-level information on the respondents. They define ethnic group using census information on mother tongue or place of birth, or a combination of the two. Their sample includes all of the Jewish immigrants who reported Yiddish as their mother tongue. Poles, like Jews, were identified exclusively by their mother tongue. Italians, in contrast, were those born in Italy and whose mother tongue was Italian while the Irish were identified as those born in Ireland, regardless of their mother tongue. Their goal was to identify the covariate of child mortality and behavior of Jewish households relative to other ethnic groups. They focused on the cities with the largest Jewish populations: New York, Chicago and Philadelphia. The data indicate that the rate of child mortality among Jewish immigrants was higher than that of native-born whites but lower than that of other immigrants, such as Italians and Poles.

The dependent variable in their regression is an index of child mortality developed by Trussell and Preston (1982) while the covariates are several independent variables

that are meant to capture the main hypotheses suggested by demographers to explain infant mortality.³⁵¹ The control variables included the following: ethnic group dummies, length of residence, naturalization, ability to speak English, husband's occupation, home ownership, husband's employment, literacy of the mother, the mother's labor force status and overall fertility. All of these variables were included in the 1910 census and are considered potential explanations for differences in child mortality.

Although most of the covariates had the right sign and many were significant, the multivariate regression analysis was unable to eliminate the Jewish mortality advantage. That is, the dummies for Jews and probably Jewish East Europeans have large and significant negative coefficients of -0.35 and -0.27 respectively where native-born white is the default group. Thus, the results indicate that Jews had 27-35 percent lower child mortality conditional on behavioral and other indicators. In addition, it should be emphasized that only for Jews did the infant mortality decrease with number of years since immigration. Furthermore, for all ethnic groups the fact that the mother works increases infant mortality, yet for Jews it had no significant impact.³⁵²

Finally, Condran and Kramarow claimed that "the data do not support the notion that scientific medicine was an important determinant of low Jewish mortality. The explanation for their low mortality rate in the early twentieth century should reflect the fact that the Jews had mortality advantages in Europe well before the turn of the century and in Eastern Europe at mid-nineteenth century that were certainly unrelated to medical advances or their earlier adoption by Jews."³⁵³

Condran and Preston (1994) further studied the behavioral aspects of infant and child mortality. To this end, they compared the data on French-Canadians and Jews using the data from the 1910-1917 census. The rates of infant mortality were found to be 173.3 per 1000 for French-Canadians and 53.5 per 1000 for Jews.³⁵⁴ The most striking evidence they found was the difference in the prevalence of breastfeeding and whether mothers stayed at home before and after birth.

³⁵¹Trussell and Preston (1982).

³⁵² Condran and Kramarow (1991, p. 251).

³⁵³ Condran and Kramarow (1991, p. 253)

³⁵⁴ Condran and Preston (1994, p. 175, table 8.1).

5.3 Is there evidence of a large non-Ashkenazi Jewish community in Poland-Lithuania?

There is evidence that Jews lived in a small area of Eastern Europe located at the north end of the Black Sea, though there is no evidence of Jewish settlement on the nomadic lands of Asia Minor.³⁵⁵ Around the 7th century, the Khazarian Kingdom expanded and the Jews reached the Caspian Sea.³⁵⁶ The Khazarian Jews settled in the cities, but there is no evidence of a large Jewish community in the Kingdom. The current historical evidence indicates that with the destruction of the Khazarian Kingdom in 965-9 the Jewish settlements near the Caspian Sea ceased to exist. "Some Jews mixed with non-Jewish population, some escaped or migrated to neighboring countries; the central point of Jewish settlement in Eastern Europe moved [...] to Kiev."³⁵⁷

Kiev was centrally located on a commercial crossroads. The city must have attracted Jewish settlers from the Byzantine empire, the Crimea, Persia, and the Caucasus. In the 12th century, the Jewish traveler Benjamin of Tudela mentioned Kiev as a great city.³⁵⁸ The oldest written document that mentions Jews in Kiev is the so-called "Kievan Letter" from ca. 930.³⁵⁹ Ashkenazi scholars mentioned rabbis from Rus, such as Rabbi Moses of Kiev who was one of the pupils of the *tosafist* Jacob Tam (d. 1170).³⁶⁰ Although sources are scarce, it is probable that this medieval non-Ashkenazi community included both Rabbinic and Karaite Jews.³⁶¹

It has not been decisively proven that the Kievan community had Khazarian roots and furthermore the hypothesis that the Khazars converted to Judaism has been based on only a few unreliable written sources.³⁶² It has never been proven using credible contemporary sources, nor has any material evidence been found.³⁶³ Even if the

³⁵⁵ Dubnow (2000, vol. 1, p. 1).

³⁵⁶ Dubnow (2000, vol. 1, p. 6).

³⁵⁷ Halpern (1968). For evidence of the Jewish presence in Kiev, see Kulik (2010, vol. 1 pp. 189-213).

³⁵⁸ Benjamin of Tudela (1840, p. 164).

³⁵⁹ For more information on the Kievan Letter, see Golb and Pritsak (1982).

³⁶⁰ *Sefer ha-Yashar le-Rabbenu Tam* (1811, pp. 52a, 522).

³⁶¹ Meir (2010). Zaremska tends to rule out the existence of the Karaite community (2011, p. 77).

³⁶² For an analysis of Arabic sources, see Gil (2010). For an analysis of all literary and non-literary sources, see Stampfer (2013).

³⁶³ No material evidence have been found for the conversion of the Khazars to Judaism or for the existence of a notable Jewish community in the kingdom. See Stampfer (2013, p. 30-2).

Khazars did convert to Judaism and later migrated to the Kievan Rus, no evidence of a separate community that maintained its own traditions has been found.³⁶⁴ On the other hand, other non-Ashkenazi Jewish groups, such as Karaites and the Sephardic Jews, did preserve their religious practices and culture for centuries within the Jewish communities of Eastern Europe.

Furthermore, even if a large Jewish community with Khazarian origins did exist at the beginning of the second millennium, it was most likely destroyed together with the rest of Kiev during the Mongol siege in 1240. While it is known that some of the refugees from the Jewish community, mostly Karaites, migrated to the Crimean peninsula and established Karaite settlements, we have no evidence of substantial migration to the West or the formation of eastern communities in Polish territories at that time. On the contrary, there was probably an eastward migration from Poland in response to the policy of Russian Prince Daniil Romanovich (1259) and his son, who invited Germans, Jews, Poles, and other foreigners to settle in Kiev in order to revive the city.³⁶⁵

The Jews returned to Kiev and lived under Tatar-Mongol rule (1240–1320). With the annexation of the city by the principality of Lithuania (1320), the Jews were granted rights that ensured their safety and their property. During the reign of Withold (1392–1430), the Jews of Lithuania were granted privileges. At the end of the 14th century, the Karaite community of Lithuania appeared in Troki and later on in other towns of the Polish-Lithuanian Commonwealth as well.³⁶⁶ In the Tatar raid on Kiev in 1482, many Jews were taken captive, and the Karaite community moved to Łuck.³⁶⁷ Karaite communal institutions were formed in Lithuania in the 15th century under the influence of the Karaite center in Constantinople. In 1495, the Jews of Lithuania were expelled by Alexander Jagiellon and most of them moved back to the Crimea region. We have no indication of a large non-Ashkenazi Jewish migration to Poland from the East. There is some possibility, though no concrete evidence, of a minor Jewish migration to Poland-Lithuania following the Mongol invasions during the 13th

³⁶⁴ Since the late 18th century, the hypothesis of the Khazars' conversion to Karaite Judaism has attracted interest, but has never been decisively proven. For a concise examination of this theory and its history, see Shapira (2007).

³⁶⁵ Rosenthal (1906, p. 488).

³⁶⁶ Akhiezer (2010).

³⁶⁷ Slutsky et al. (2007), Akhiezer (2010).

century. Some migration westward, as well as the presence of non-Ashkenazi Jews in small settlements on the eastern Polish frontier during the 15th century, cannot be dismissed either. Nonetheless, these movements were insignificant and random and left no genetic or linguistic traces.³⁶⁸ Hence, the movement westward cannot be compared with the Jewish migration from German lands eastward. It was these immigrants who "formed the nucleus which served as the basis of demographic growth (...)" of the Jewish community in Central-Eastern Europe, a community which continued the Ashkenazi traditions.³⁶⁹

6. Childcare among Jews and Christians

"Different breast-feeding customs [...] may in themselves explain most of [...] the different characteristic patterns of infant mortality."³⁷⁰

The rate of infant mortality among Jews in modern Israel is 2.5 per 1000 births, among the lowest worldwide.³⁷¹ The low rate of infant mortality among Jews, as documented above, has received widespread attention among demographers and historians. In particular, they have focused on the population growth of the Jews in Poland-Lithuania and have cited lower infant and child mortality among Jews as one of the prime reasons for their high population growth.³⁷² Schmeltz (1971) concluded that the reasons for low child mortality involved childcare practices and other factors that influenced the environment of Jewish infants and young children.³⁷³ This study motivated Condran and Kramarow (1991) who provided a careful examination of infant mortality among Jews and other ethnic groups using the 1910 US census and multivariate regression analysis. Condran and Preston (1994) used the 1910 and 1920 censuses to compare infant and child mortality between French-Canadian and Jewish immigrants in certain US cities during the period of 1915-17 (see section 5.2). These

³⁶⁸ See Elhaik (2013) and his critics in Stampfer (2014). There are at least 12 DNA studies which disprove the Khazar theory. See, for example, Costa et al. (2013)'s study of Ashkenazi DNA found no significant evidence of Khazar influence. For a discussion of the lack of Turkic linguistic influence, see Kulik (2014, pp. 105-43).

³⁶⁹ Rosman (1991, p. 32).

³⁷⁰ Lithell (1981, p. 192).

³⁷¹ CBS. *Statistical Abstracts of Israel* (2014, p. 193).

³⁷² See, for example, Hundert (1986, p. 19).

³⁷³ Schmeltz (1971, p. 37). See also the summary in section 5.

two ethnic groups were at the two extremes of infant mortality with 171.3 deaths per 1000 for French-Canadians and 57.3 deaths per 1000 for Jews.³⁷⁴

The reasons for the low rates of Jewish infant and child mortality suggested by studies of the Jewish and non-Jewish populations in the US during the period 1900-1930 were summarized by Condran and Preston (1994) as follows.³⁷⁵

1. A higher level of parental devotion: mothers staying at home rather than working; continuous breastfeeding for longer duration; and low rates of desertion by fathers and of single mothers.
2. A higher level of food hygiene due to the practice of frequent hand washing and cleaner food at the table.
3. Higher access and acceptance of medical knowledge.

The relatively low infant and child mortality rate among Jews raises numerous questions. In this section, we will address only three of the main ones: What were the roots of the unique behavior patterns among Jewish immigrants in the US prior to the accumulation of medical knowledge in the late 19th century and first half of the 20th century? What were the characteristics of Jewish childcare in the early modern period of population growth and how were they different from non-Jewish childcare practices?

6.1 Childcare in biblical and Talmudic sources

The ideal of fulfilling a child's basic physical, emotional, spiritual, social and intellectual needs is deeply rooted in Judaism. This is evident already from the biblical references to the importance of childrearing, motherly love and a father's responsibility. The Bible imposed a commandment to procreate on men ("be fruitful and multiply") and suggested that the fruitfulness of a family is proof of God's

³⁷⁴ Condran and Preston (1994, p. 177). The Jewish infant death rate in the US is similar to that for Frankfurt in the same period.

³⁷⁵ Condran and Preston (1994, p. 176-78).

blessing.³⁷⁶ It prescribed special care for a newborn, specifying that immediately after birth the umbilical cord should be ligatured and cut, and the baby should be bathed, rubbed with salt, and wrapped in swaddling clothes.³⁷⁷

And as for thy nativity, in the day thou wast born thy navel was not cut, neither wast thou washed in water to supple thee; thou wast not salted at all, nor swaddled at all.³⁷⁸

The Bible prescribed that babies be carried on the bosom and emphasized the importance of breastfeeding.³⁷⁹ In accordance with the theological concept that all God's creations had purpose, the Bible related to the female breast as having been created for breastfeeding.³⁸⁰ It gave breastfeeding high priority, putting aside all other domestic duties of a woman.³⁸¹ The Bible viewed milk-producing breasts as a blessing and dry breasts (and a miscarrying womb) as the greatest curse.³⁸² Consequently, if a woman couldn't nurse her baby, the Bible allowed for the employment of a wet nurse in order to fulfill the infant's nutritional needs.³⁸³ Furthermore, the wet nurse was to be treated with respect.

The Talmudic literature followed in the footsteps of the biblical approach. It praised procreation and discussed a child's needs, legal status, rights and health. The commandment to procreate had been placed on men, with women being the conduit through which this commandment was to be fulfilled. Marriage was an ideal and a man who didn't marry and had no children was committing a sin of omission. There is a Talmudic saying based on the lament of the barren Rachel that a man with no children was considered dead.³⁸⁴ According to Beit Shammai, a man was obligated to have a minimum of two sons. Beit Hillel ruled that the minimum is one son and one daughter.³⁸⁵

³⁷⁶ Genesis 49:25.

³⁷⁷ Genesis 1:28 and 9:7. All quotes from the Bible are taken from the King James Version.

³⁷⁸ Ezekiel 16:4.

³⁷⁹ Numbers 11:12.

³⁸⁰ See the prayer of the childless Hannah in Samuel 1: 12-17.

³⁸¹ Feldman (1917, p. 180) on the basis of Samuel 1: 21-23.

³⁸² Genesis 49:22; Hosea 9:14.

³⁸³ Exodus 2:7,9.

³⁸⁴ Genesis 30:1. See Schenker (2011, p. 343).

³⁸⁵ Mishnah Yevamot 6,6.

Although the specific term "child welfare" was probably not used until the time of the Geonim, the idea itself is present in the Talmudic rulings regarding children. Whether discussing childcare, divorce, breastfeeding, a widow remarrying or child custody, the Talmud valued a child's welfare above the interests of the father and mother.³⁸⁶

The Talmud accepted the biblical advice regarding the care of a newborn without adding any further details. During the rabbinic period, the newborn was usually salted (to strengthen his skin) and wrapped (to straighten its limbs).³⁸⁷ While discussing the laws of the Sabbath, the Talmud states that the care of a mature newborn (one with fully developed hair and nails) justifies the desecration of the Sabbath.³⁸⁸

While elaborating on the mandatory care to be provided to infants, the Talmud lists three major principles in nurturing their development, as reflected in the advice given by a nanny of Abaye: (1) personal hygiene, (2) proper nutrition, and (3) developmental play.³⁸⁹

The care and development of the infant requires first that he be bathed and anointed with oil, later, when he grows older, that he be given eggs and dairy products; and when he grows older still, that he be given the freedom to play with toys.³⁹⁰

In Talmudic times, the babies were probably placed in a small bed (*arisa*) in which they were rocked,³⁹¹ though at night they were to sleep with the mother.³⁹² The newborn infant was given children's herbs (*asube januka*) in order to cause it to vomit.³⁹³ The Jews at that time believed that the mouth of the newborn should be cleansed to rid it of mucus in preparation for breastfeeding.

Following the Bible, the halacha also elaborated on the subject of breastfeeding. It discussed the qualities of breast milk and patterns of breastfeeding, as well as the status of the breastfeeding mother. It stressed the importance of breastfeeding as the

³⁸⁶ See, for example, *Otzar HaGeonim, Ketubot 434* where the rule of the "best interest of child" is applied.

³⁸⁷ See also BT [Babylonian Talmud], Shabbat 147b

³⁸⁸ Mishnah Yevamot 80b and BT Sabbath 129b.

³⁸⁹ Abaye was one of the Amoraim (died 339 CE).

³⁹⁰ Mishnah Yoma 78.

³⁹¹ Genesis Rabbah 53:10.

³⁹² Preuss, (1993, p. 404); Feldman (1917, p. 194).

³⁹³ BT Sabbath123a

best possible source of nourishment in infancy and hence justified even the employment of wet nurses. It may be concluded that:

[...] the Talmud reflects a most positive attitude to breastfeeding [...] the Talmudic legal pronouncements are the practical and operational expression of Judaism's basic tenets. The ultimate blessing is, as expressed by the Patriarch Jacob, "the blessing of the womb and the breast (Genesis, 49:25)³⁹⁴

During Talmudic times, among the Jews "it was considered to be the norm for the newborn to be placed at the mother's breast immediately after birth, but in any event before 24 hours have elapsed, even if the navel has not yet been cut."³⁹⁵ The reason for this was the belief that delay in relieving the mother of her milk might constitute a danger to the mother and consequently to the infant requiring her care.³⁹⁶ It should be emphasized that, contrary to halacha, the Greek physician Soranus (2nd century), whose writings determined medical opinion concerning women's diseases, pregnancy, and infant care for nearly 1,500 years, believed that the child shouldn't be given the mother's breast until he is 20 days old, because the earlier milk was not healthy. He advised women to leave the newborn hungry for two days and then employ a wet nurse.³⁹⁷

According to the Talmud, it was natural for a woman to nurse her child.³⁹⁸ This was the basis for the Talmudic interpretation of the childless Hannah's prayer:

Hannah before she had a child prayed: "O lord of the Universe, Everything that Thou hast created in a woman Thou hast surely created with an object. Thou hast given her eyes wherewith to see, ears wherewith to hear,[...] and breasts wherewith to suckle a child. Give me a child so that I may use my breasts to suckle it."³⁹⁹

³⁹⁴ Eidelman (2006, p.39).

³⁹⁵ Preuss (1993, p. 405); BT Sabbath 135a.

³⁹⁶ Preuss (199, p. 405).

³⁹⁷ If there is no wet nurse available, Soranus advised to give the newborn some honey water, possibly enriched with goat's milk. See Soran (Chapter 29, p. 130).

³⁹⁸ Perush Rashi, BT Bechoroth 7b.

³⁹⁹ Berachoth 31b: ריבונו של עולם כל מה שבראת באשה לא בראת דבר אחד לבטלה... דדין הללו שנתת על ליבי למה, לא להניק בהן, תן לי בן ואניקהו

The importance of breastfeeding can be further traced to the Hebrew word "tinok", which is derived from the verb root "to suckle" and is used in the halacha for a baby only as long as it nurses, i.e. from birth up to 18 or 24 months.⁴⁰⁰ When the child starts eating solid food, halacha no longer calls it a "tinok".

The *Tosefta* states that the breast is of vital importance for the sucklingbreastfeeding baby and that it should be allowed to nurse all day.⁴⁰¹ The Jerusalem Talmud states that a baby must nurse every hour of the day,⁴⁰² while during the night it should nurse from the breast of its mother towards the morning, during the third "watch".⁴⁰³

The Mishna stresses the importance of breastfeeding and accordingly made it one of a woman's duties to her husband:

These are the labors that the woman must perform for her husband: she grinds and bakes and launders, cooks and nurses her child; she arranges the bed and works in wool. If she brought him one maidservant, she does not grind and does not bake and does not launder; two (maidservants) and she does not cook and does not nurse her son; three (maidservants) and she does not arrange the bed and does not work in wool; four (maidservants) and she sits in an easy chair.⁴⁰⁴

Breastfeeding and the benefits provided to a breastfeeding mother were so important that it became a part of the Jewish marriage contract. In the *Tosefta*, breastfeeding is described as important for the baby, and hence the nursing woman is not allowed to do other jobs, to get engaged or to get married.⁴⁰⁵

The Mishna went further and granted the nursing mother some special privileges in order to ensure she would nurse the baby:

If the mother was nursing – the amount of handiwork [that she was required to do for her husband] should be reduced and the amount for her maintenance [that the husband is required to provide] should be increased.⁴⁰⁶

Since the mother is the baby's best source of nutrition the Talmudic literature categorized her as legally "sick" and prescribed that she be taken care of. Thus, a

⁴⁰⁰ BT Kethuboth 60a.

⁴⁰¹ Tosefta Sotah 4:3. Preuss (1993, p. 405).

⁴⁰² JT Berachoth 9, 14d.

⁴⁰³ BT Berachoth 3a.

⁴⁰⁴ Mishnah, Kethuboth 5:5

⁴⁰⁵ Tosefta, Nidah 2, 4.

⁴⁰⁶ Mishna, Kethuboth 5:9.

woman who has just given birth should be confined, should lie in bed and should be kept warm.⁴⁰⁷ If necessary, it was allowed to profane the Sabbath in order to take care of a lying-in mother.⁴⁰⁸ From the viewpoint of the laws of the Sabbath, a post-delivery woman was regarded as dangerously ill for the first three days. Hence, one could desecrate Shabbat for her. Until 30 days after the birth, the woman should not take a bath so as not to catch a cold, unless her husband is with her.⁴⁰⁹ After the period of confinement, the nursing mother was to be allotted enlarged food portions in order to satisfy both her and the infant's nutritional needs. A mother's diet should not include foods that might affect her milk.⁴¹⁰ In order to preserve the quantity and quality of milk, the work obligations of the nursing mother should be reduced.⁴¹¹

The Talmud prescribes that a baby should nurse for 24 months. According to Rabbi Joshua, the period for is unlimited, even up to five years.⁴¹² A breastfeeding period of three years is mentioned in the book of Maccabees.⁴¹³ According to Hillel's disciples, the breastfeeding period should be 18 months.⁴¹⁴ Weaning a child before it reaches two years old may cause a risk to its health.⁴¹⁵ However, if a completely healthy child is weaned, it should not be allowed to nurse again. In the case that it is weaned during an illness, the child may again be nursed.⁴¹⁶

If the mother refuses to nurse the infant, the school of Hillel ruled that she can be forced to do so. The husband can compel his wife to nurse the baby.⁴¹⁷ If a woman is

⁴⁰⁷ According to the Bible, the period of a newborn mother's confinement is equal to the period of ritual impurity (Lev. 12). The mother of a male child is unclean for seven days, followed by a 33-day period of impurity; these periods are doubled in the case of a female child. At the conclusion of this period, a sin-offering and burnt-offering were brought by the mother.

⁴⁰⁸ Sabbath 129a.

⁴⁰⁹ Preuss, (1993), p. 401. Another example of caring for the mother so as to maintain the baby's source of nutrition is found in Yomah 78: R. Eliezer (cited by R. Chananyah) had taught that a nursing mother should wear shoes, out of concern for the cold.

⁴¹⁰ BT Kethuboth 60b.

⁴¹¹ BT Kethuboth 60b.

⁴¹² BT Kethuboth 60a. R. Eliezer R. Joshua said: [He might be breast fed] even for four or five years. If however, he ceased after the twenty-four months and started again he is to be regarded as sucking an abominable thing (unkosher insect).

⁴¹³ Second Maccabees 7:27.

⁴¹⁴ BT Kethuboth 60b.

⁴¹⁵ BT Berachot 10a, BT Yomah 75a, BT Yevamot 75a.

⁴¹⁶ JT Niddah 1, 49b.

⁴¹⁷ Feldman, (1917, p. 178) based on Kethuboth 59b. דמשעבדא ליה ולא חל הנדר, "רש"י, כתובות שם, ד"ה כופה ומניקה. בירושלמי: "כופין אותה ונותנין לה שכר... " וכן בבבלי: "וכופה תוספתא כתובות ה, ה; בבבלי כתובות נט, ב; ירושלמי כתובות פ"ה, ה"ו (ל, א). בירושלמי: "כופין אותה ונותנין לה שכר... " וכן בבבלי: "וכופה ומניקתו."

ill or has died, or her status prevents her from nursing, then a wet nurse is to be hired to provide the infant with breast milk. In this way, the halacha ensures that every child has the possibility to nurse under all circumstances.⁴¹⁸ The *Tosefta* permits heathen wet nurses to be used.⁴¹⁹ "Although it was customary to give the child to a wet-nurse in her own house, the Mishnah requires that the heathen wet-nurse nurse the baby in the domain of the baby's father, for safety's sake."⁴²⁰

As mentioned above, halacha was also concerned with the quality of breast milk. Since it was believed that "all that the mother eats, the infant receives through nursing",⁴²¹ it was concerned with the nutrition of both the nursing mother and the wet nurse. It was ruled that the wet nurse must not nurse more than one child (not even her own), and she must be given abundant food.⁴²²

The Talmudic literature doesn't mention nursing from vessels. It mentions nursing of an infant by an animal⁴²³ and in extreme circumstances even nursing from a non-kosher animal is permitted.⁴²⁴ However, it is known that in Talmudic times women expressed their milk into a glass or a bowl. But nursing in such a way was considered to be a kind of play.⁴²⁵ Women also expressed into an animal horn in order to feed the baby.⁴²⁶

The importance of breastfeeding and its norms were crucial to halachic rulings on a number of issues, including procreation/contraception and remarriage:

Procreation and contraception. Halachic rulings express the idea that caring for a baby was more important than the commandment to procreate for men and a new pregnancy. Breastfeeding, including the provision of breast milk and care for its

בברייתא: "נדרה שלא להניק את בנה, בית שמאי אומרים: שומטת את דדיה מפיו; ובית הלל אומרים: כופה אותה להניק. נתגרשה, אין כופין אותה להניק. אם היה בנה מכירה, נותנין לה שכר ומניקותו, מפני הסכנה

⁴¹⁸ Orphan babies were often nursed by neighborhood women in turn or were fed with milk and eggs, which were considered the second-best source of nutrition for infants. See BT Yevamot 42b.

⁴¹⁹ Tosefta, Niddah 2:5.

⁴²⁰ Preuss (1993, p. 408).

⁴²¹ Song of Songs Rabbah 3.

⁴²² BT Yevamot 42a, Tosefta, Niddah 2:4, BT Kethuboth, 60b.

⁴²³ Tosefta, Baba Kamma 8:13.

⁴²⁴ Eidelman (2006, p. 39). See also BT Kethuboth 65a.

⁴²⁵ Tosefta Sabbath 9:22.

⁴²⁶ Tosefta Sabbath 13:16.

quality and quantity, was so important that it became one of the three cases in which the use of mechanical prevention of pregnancy was permitted:

Three [categories of] women may use an absorbent in their marital intercourse.⁴²⁷
A minor, a pregnant woman and a nursing woman. [...] A pregnant woman because [otherwise] she might cause her fetus to degenerate into a sandal. A nursing woman, because [otherwise] she might have to wean her child prematurely and this would result in his death.⁴²⁸

The rabbis were aware of the fact that lactation reduces the possibility of a new pregnancy (especially during the first three months) but does not eliminate it. They believed that a new pregnancy would have an adverse effect on the mother's milk since its quality and quantity would be reduced, especially after the first trimester. So the new pregnancy could cause premature weaning and thus endanger the baby. Although it is not stated explicitly, by recommending a prolonged period of breastfeeding, the rabbis had created a mechanism of spacing between children and thus contributed to each child's welfare. Furthermore, it is now known that there is a connection between long birth intervals and low infant mortality.⁴²⁹

Remarriage. The nursing mother was not allowed to remarry until 18 or 24 months had elapsed. There were several reasons: fear that she would become pregnant again which would disrupt the production of breast milk and the baby would have to be weaned; fear that the mother would devote more attention to the new husband than to the baby; and the possibility that the stepfather might not provide for the sustenance of the child.⁴³⁰ This ruling was also relevant in case of widows who wanted to remarry.⁴³¹

So great was the fear of harming the child from not nursing that the Rabbis decreed that a woman who is nursing at the time of her husband's death was not allowed to remarry during the nursing period.⁴³²

⁴²⁷ *Moch* - a female barrier contraceptive device, usually made of hackled wool or flax. Although breastfeeding was known to have a contraceptive effect, the risk of pregnancy was recognized.

⁴²⁸ BT Yevamot 12b, "שלוש נשים משמות במוך – קטנה, מעוברת, מניקה [...] ומניקה שמא תגמול בנה וימות"

⁴²⁹ Lithell (1981).

⁴³⁰ Yevamot 42b. Repeated later in *Shulchan Aruch* 145:14.

⁴³¹ BT Yevamot 42b.

⁴³² Zimmerman (1999, p. 54). BT Yevamot 36b.

When discussing the issue of remarriage halacha stressed the importance of breastfeeding, as well as the child's optimal emotional development. According to halacha, an infant that is already used to breastfeeding from his mother may not be given to a wet nurse because of "the danger to the baby."⁴³³ However, it is not clear from the sources whether the danger is related to the change of milk or to the child's possible refusal to nurse from a strange breast or to the child's possible emotional reaction to separation from his mother. If a woman becomes divorced from her husband, she isn't coerced to nurse, but if the baby is already used to her ("knows her") she must continue in order to avoid danger to the child. The husband must then pay for the nursing.⁴³⁴

The rabbinic discussion of remarriage has only been briefly summarized here and will be discussed further in the context of the early modern period. Nonetheless, the following conclusions can be drawn: (a) the child's welfare is more important than the mother's; (b) in addition to the child's nutrition, the halacha also attempts to ensure the child's emotional development and that it will have all of the physical benefits that are naturally due to him, i.e. the care and attention of his mother for the first two years of his life; and (c) the rabbis probably took into account the spacing between births that would ensure an infant's proper development and the full attention of his parents for a certain period of time.⁴³⁵ They felt that childhood should be similar to a "garland of roses".⁴³⁶ "In Talmudic society [a child] was not described merely in adult terms or as the negation of adulthood; rather, the child demands special sensitiveness and consideration, and their change as the child approaches closer [...] to adulthood."⁴³⁷

⁴³³ See BT Kethuboth 59b.

⁴³⁴ Tosefta Kethuboth 5:5.

⁴³⁵ See Lithell (1981) on the connections between a long birth interval and low infant mortality. Modern research into the causes of the rapid decline in infant mortality in England and Wales during the period 1861-1921 showed that the decline in fertility increased intervals between successive births which in turn helped to reduce the level of infant mortality (see, for example, R.I. Woods, P.A. Watterson and J.H. Woodward (1989)). With regard to parental responsibility, see, for example, BT Kidushim 30b and Dorff (2012, p. 33).

⁴³⁶ Sabbath 152a.

⁴³⁷ Kraemer (1989, pp. 70-71). This view is juxtaposed with the famous "Centuries of Childhood" by Philippe Aries, according to which childhood in pre-modern Europe was not recognized as a distinct stage, with its own unique traits, and children were regarded as merely little adults.

6.2 Childcare in Ashkenaz in the Middle Ages

In this subsection, we briefly characterize childcare in medieval Ashkenaz using various sources, such as commentaries on the Mishna and Talmud, poetic works (*piutim*), responsa and medical treatises. Although the sources usually reflect the ideal rather than everyday life, their discussions of biblical and Talmudic cases also mention in passing some of the medieval practices, which are evidence of the importance of childcare among Ashkenazi Jews in medieval Europe. We pay special attention to the commentaries that include halachic rulings regarding childbirth, circumcision, parental responsibility, breastfeeding and contraception.⁴³⁸

In general, the sages in the Middle Ages continued to elaborate on the approaches found in the Bible and the Talmudic literature, and "the two most important principles continued to be the duration of breast-feeding and women's obligation towards their husbands to breast-feed their children."⁴³⁹ The commandment to procreate, which was limited to men, was regarded as a central religious obligation during this period. Moreover, the prevailing attitude was that the birth of a child and childcare were central to a woman's life. It was believed that a barren woman could not be happy because a woman's role was to have children.⁴⁴⁰ A man was considered pious if he had children.⁴⁴¹ In medieval Ashkenaz, the ruling of Beit Hillel was accepted, such that a man was expected to have at least one son and one daughter.⁴⁴² The sources indicate that the birth of a daughter was often viewed with disappointment.⁴⁴³

Jewish concern for a child is reflected in the fact that Jewish women were often accompanied to the *mikve* by a midwife, who could determine whether they were pregnant or confirm it.⁴⁴⁴ The accepted norm was that a woman should be concerned for the child's welfare already during the pregnancy, especially after she feels the

⁴³⁸ One of the main sources is *Sefer Chassidim* (Book of the Pious) by Judah ben Samuel of Regensburg which was a foundational work of the teachings of Hasidei Ashkenaz (customs, beliefs and traditions of medieval German Jews).

⁴³⁹ Baumgarten (2013, p. 126).

⁴⁴⁰ This idea was present in biblical commentaries and works of poetry about Sarah, Rivka and Rachel. See Baumgarten (2005, p. 42).

⁴⁴¹ Baumgarten (2005, p. 51).

⁴⁴² Baumgarten (2005, p. 52).

⁴⁴³ Baumgarten (2005, p. 52).

⁴⁴⁴ Baumgarten (2005, p. 70).

movements in her womb.⁴⁴⁵ Pregnancy was viewed as a dangerous period, and a woman was examined a number of times by a midwife.⁴⁴⁶

(a) Birth and early childcare

In medieval Ashkenaz, labor had both a personal and religious significance. A woman in labor was viewed as if it were her Judgment Day.⁴⁴⁷ The sources reveal that although men were not present during the actual act of delivery, they did know a lot about pregnancy and about the process of childbirth.⁴⁴⁸ The Sages related to the issues of pregnancy and labor indirectly in the discussions of various halachot.⁴⁴⁹

The Sages knew that a child born in the eighth month would not survive. In accordance with the Talmudic rulings and halachic imperative of caring for one's health, in medieval Ashkenaz one could desecrate the Sabbath in order to facilitate the birth of a child on the Sabbath.⁴⁵⁰ Thus, women assisting in a birth could desecrate the Sabbath. Nonetheless, *Hasidey Ashkenaz*, who established the length of a pregnancy to be 271-273 days, tried to avoid delivery on the Sabbath by recommending that the act of procreation be limited to the first three days of the week.⁴⁵¹

A woman in and after labor was viewed as being sick and required help for the first seven days after delivery. A midwife or other woman usually waited on her and prepared nutritious meals for her.⁴⁵² Immediately after the birth, the umbilical cord was ligatured and cut, and the baby was bathed, rubbed with salt, and wrapped in swaddling clothes.⁴⁵³ According to Jewish sources, there were two common ways of swaddling the baby: one that wasn't intended to alter the infant's body (i.e. straighten

⁴⁴⁵ Rashi, Genesis 49, 25, "ד"ה "ברכת שדיים ורחם",

⁴⁴⁶ We don't know much about the profession of midwife or their training in those days. A midwife, also called "a wise woman", was the most important assistant during the pregnancy and labor. They did not have formal training. Deducing from the descriptions we have of midwives, it seems to have been an important and respected profession. In medieval Jewish Europe, employing Christian nurses as midwives was a common practice. See Baumgarten (2013, p. 120).

⁴⁴⁷ ספר הסיידים, סי' תתתרמו-תתתרמו. According to Baumgarten, this attitude resulted from the frequent death of women in labor. There is no precise data for the period of the Middle Ages, but some research claims that one of five deaths among women occurred during labor. See Herlihy and Klapisch-Zuber (1985, p. 277).

⁴⁴⁸ Baumgarten (2005, p. 69).

⁴⁴⁹ Baumgarten (2005, p. 73).

⁴⁵⁰ Levin (1987, pp. 3-38).

⁴⁵¹ Baumgarten (2005, pp. 73, 69).

⁴⁵² Baumgartner (2005, p. 85).

⁴⁵³ Baumgarten (1999, p. 67).

it) and one that was.⁴⁵⁴ According to Rashi, "The object of swaddling-clothes was to straighten the delicate limbs, which have been pressed upon and bent during delivery."⁴⁵⁵

The woman was probably washed a few days after the labor. Some medieval doctors advised that a woman be confined to bed for a long time without washing.⁴⁵⁶ Some sources indicate that in the 15th century a woman used to get up from bed after a month to celebrate "*Shabbat yeziat hayoledet*". A woman after labor was viewed as impure. According to Zimer (1996), the rules of female postpartum purity became stricter in the 13th and 14th centuries.⁴⁵⁷ Even if a woman got up earlier, she and the baby were waited upon by other women during the first few days after labor.⁴⁵⁸

Circumcision. The medieval liturgy of this ritual was similar to that of the Geonim period. Many books have been written describing the ritual.⁴⁵⁹ In medieval Ashkenaz, the ceremony was viewed as being particularly important; hence it was carried out in the synagogue, which was specially prepared, usually right after the morning prayer. The baby was washed before the ceremony and then beautifully dressed and brought to the synagogue with all possible splendor, as if getting married. As part of the ritual, the baby was given its name, was publicly recognized by its father, and was accepted by the Jewish community. In medieval Ashkenaz (starting from the 13th century), the circumcision was performed only by a man.

There is no evidence of rituals for the naming of girls until the 15th century, when we hear of a naming ceremony called *Hollekreisch*. In Germany and Western Europe, the naming took place during a home ceremony on Sabbath afternoons, about a month after the birth and when the mother had gone outdoors for the first time.⁴⁶⁰ The custom originated in German folklore and superstition and included the lifting of the cradle and the announcement of a name.

⁴⁵⁴ Baumgarten (2005, p. 86 fn. 227).

⁴⁵⁵ Feldman (1917, p. 176). See also Sabbath 66b, Rashi.

⁴⁵⁶ Baumgarten (2005, p. 123).

⁴⁵⁷ Zimer (1996, pp. 220-39).

⁴⁵⁸ Baumgarten (2005, pp.86, 156)

⁴⁵⁹ Baumgarten (2005, pp. 97-98).

⁴⁶⁰ During the 16th and 17th centuries, it became customary in some communities to name girls in the synagogue when the father was called to the reading of the Torah.

(b) Parental responsibility

The sages stressed that a man is biblically obligated to support his children, and this obligation is, at least theoretically, unrelated to the custodial relationship.

The Geonim ruled that a daughter should be with the mother and a son with the father, but they didn't mention at what age. It seems that the Rambam in his work *Mishne Torah* was the first one to rule that the son should be with his mother until the age of six. There is no Talmudic source for this ruling. In opposition to the Rambam, the Rabad stated that the father need not wait until his son turns six but rather should take care of him, i.e. teach him Torah, already from the age of four or five. Some interpreters claimed that it is the father's duty to educate his son even if he is with the mother. While discussing the issue of child custody, the sages developed two different views: (1) Parental right: Parents (or at least fathers) have an intrinsic right to raise their children. In order to remove children from parental custody, it must be shown that the parents are unfit and that there is some alternative arrangement for raising the children according to their parent's wishes and lifestyle. When the mother is deceased, custody is always to be granted to the father (unless he is unfit).⁴⁶¹ (2) The child's best interest: In the case that the father is deceased, the mother does not have an indisputable legal claim to custody of the children. The best interest of the child is the sole determinant of custody.⁴⁶² Thus, if the father is deceased, the child should be brought up by a member of his family who can teach him Torah and not necessarily the mother.⁴⁶³

(c) Breastfeeding in medieval Ashkenaz

Among medieval Ashkenazi Jews, breast milk continued to be seen as crucial for a child's survival. The sages accepted the ancient ruling of 24 months as the minimal period of breastfeeding. "Nevertheless, contemporary sources contain little information about the length of the period of breastfeeding in medieval Jewish

⁴⁶¹ Rabbi Asher ben Yecheil (Rosh), 13th century.

⁴⁶² Rabbi Shlomo ben Aderet (Rashba)

⁴⁶³ שו"ת מהרשד"ם אה"ע, קכג. שו"ע אה"ע פב, ה; שו"ת רדב"ז, ח"א, שמת. In this responsa, we see the application of this approach whereby a mother cannot leave the baby as long as it needs to be nursed, and she can even be forced to stay in the city.

society. A variety of sources refer to women nursing their children for a period that ranged from two to four or five years."⁴⁶⁴ According to Baumgarten, the fact that *tosafot* mentioned these ages may indicate that they were unusual.⁴⁶⁵

The 24-month rule was prescribed for both boys and girls.⁴⁶⁶ However, since some Jewish sources emphasize that both girls and boys should be nursed 24 months, we may deduce that in practice there were differences in breastfeeding boys and girls.⁴⁶⁷ Overall, "it seems that the Talmudic directive to breast-feed infants for twenty-four months was observed in medieval Ashkenaz, at least when mothers nursed their own children; in some cases, children were nursed for even longer, until age of four or five."⁴⁶⁸ Similar practices were common in Christian society as well.

The *tosafists* explained that the responsibility for feeding infants is the mother's and distinguished between a widow and a divorcee. A divorcee has no obligation to her former husband, including nursing his babies. A widow, on the other hand, is obligated to breastfeed her deceased husband's baby.⁴⁶⁹ Rambam extended the idea of providing special care for a nursing mother and ruled that: "As long as a woman is nursing a child, her husband must add wine and other things to her maintenance that are beneficial for her milk."⁴⁷⁰ As prescribed in the Talmud, attention was paid to a wet nurse's nutrition as well.

There is a major disagreement among the Sages as to whether it is permitted to use a non-Jewish wet nurse.⁴⁷¹ Their rulings varied, probably depending on time and place. "[...] detailed terms [of employment], as well as frequency with which wet nurses are mentioned in the sources, demonstrate that wet nursing was a widespread practice; it

⁴⁶⁴ Baumgarten (2007, p. 126).

⁴⁶⁵ Baumgarten (2007, p. 223, ft. 44). *Tosafot*, Kethuboth 60a, s.v. "Rabbi Yehoshua".

⁴⁶⁶ In Christian society, girls were probably weaned six months earlier than boys. See Matthews-Grieco (1991, pp. 45-47).

⁴⁶⁷ See Baumgarten (2007, p. 128). This may suggest either that it was important to keep to the 24-month period or that the Sages were trying to eliminate the practice of favoring boys. See the Introduction regarding the problematic nature of these sources.

⁴⁶⁸ Baumgarten (2007, p. 128).

⁴⁶⁹ ר' שמשון הזקן, תוספות למסכת יבמות מב ע"א, ולמסכת כתובות ס ע"ב

⁴⁷⁰ Rambam, *Ishus* 21:11.

⁴⁷¹ Preuss (1993, p. 408).

is impossible to assess to what extent Jewish families hired wet nurses[...]."⁴⁷² "The wealthier a woman, the more likely she was to employ a wet nurse."⁴⁷³

Both Christian and Jewish sources confirm that the prevailing Jewish practice was to follow the ruling of the Mishna and Talmud (*Avodah Zara*) that the wet nurse be brought to one's home. Nonetheless, there were examples (especially in Paris) of sending a baby to the home of a Christian wet nurse or healer or leaving the baby in the care of a Christian wet nurse for an extended period.⁴⁷⁴ In Germany, the cases of sending a baby to the home of a wet nurse were less common.

Although a wet nurse was supervised by the mother, she was hired by her husband according to a specific agreement. She was usually hired for a specified period and was not allowed to become pregnant until the end of the contract. To ensure the fulfillment of that condition, part of her salary was paid after the contract had already been fulfilled. Although no contracts for wet nursing from medieval Jewish communities are extant, various sources indicate that oaths were common.⁴⁷⁵ An unmarried wet nurse had to swear that she would not marry and a married wet nurse had to swear that she would not get pregnant. Contemporary sources reveal two additional and important points: wet nurses were allowed to breastfeed only one baby, and parents were anxious to avoid harming the baby by switching wet nurses.⁴⁷⁶

There are no explicit medieval sources showing that children were breastfed until the age of two. There are hints pointing to the practice of breastfeeding until the age of four or even five, as well as cases of children that were weaned before the age of two (usually at the age of 18 months) and were given food prepared especially for them.⁴⁷⁷

And so a child should be weaned in his third year, after two years have passed by, as it is the way of infants to nurse for twenty-four months.... in the fourth year he will place a book before him or teach him a little by heart like "Moses commanded the Torah to us", so that he will grow accustomed to it. And in the fifth year, he will teach him Bible.⁴⁷⁸

⁴⁷² Baumgarten (2007, p. 133).

⁴⁷³ Baumgarten (2007, p. 128).

⁴⁷⁴ See Baumgarten (2007, pp. 139-142).

⁴⁷⁵ Baumgarten (2007, p. 131).

⁴⁷⁶ For examples from medieval responsa, see Baumgarten (2007, pp. 129-130).

⁴⁷⁷ ראו: ר' שלמה בם יצחק, תשובות רש"י סי' ריז.

⁴⁷⁸ Mahzor Vitry, no. 428 as quoted in Baumgarten (2007, p. 127). Deut.33:4.

(d) Contraception

In traditional society, “the avoidance of procreation was perceived as a serious sin; not only the destruction of sperm—the gravest sin—but also a passive avoidance.”⁴⁷⁹ On the other hand, the use of contraceptive methods was permissible. Women apparently did use contraceptive measures, but the popularity of the practice can't be established. “It is possible, that the practice was most popular among poorer strata, which [...] was lacking the means to support many children.”⁴⁸⁰

It was known that the nursing infant was endangered if the mother became pregnant. Medieval Jewish sources discussed this issue at length and cited the Talmudic permission to use contraceptive methods. They did not discuss the possibility of abstention during the breastfeeding period and some sources allowed the use of a *moch* (a cervical sponge).⁴⁸¹

[...] Jewish women regularly employed this method of birth control; indeed, some authorities argued that nursing women must use some form of contraception to prevent an additional pregnancy in order to protect the life of the existing infant.⁴⁸²

R. Tam stated that “a nursing woman must use some form of contraception, in order to ensure the life of her living child, who was dependent on her for his/her nourishment.”⁴⁸³ Contraception was allowed within the frame of an intact family and it helped to establish a birth interval, which in turn likely reduced the rate of infant mortality.⁴⁸⁴

(e) Breastfeeding in Christian society

It is possible to conclude from the above survey, that the Sages tended to reinterpret the rules of early childcare in order to “construct a framework that fit the medieval

⁴⁷⁹ Chovav (2009, p. 165).

⁴⁸⁰ Chovav (2009, p. 165).

⁴⁸¹ Baumgarten (2007, p. 145).

⁴⁸² Baumgarten (2007, p. 145).

⁴⁸³ Baumgarten (2007, p. 147).

⁴⁸⁴ See the subsection on contraception in biblical and Talmudic sources.

reality and its constraints."⁴⁸⁵ Thus, they discussed breastfeeding and codified norms governing its practice according to the child's best interest.

In contrast to Jewish law, early Christian law made no ruling regarding the obligatory period of breastfeeding. Nonetheless, the period of breastfeeding was similar in Jewish and Christian families during the Middle Ages.⁴⁸⁶ Breastfeeding was mentioned in general as part of a Christian ruling forbidding breastfeeding women to have sex, since she was considered to be almost infertile and therefore it would not be an act of procreation.⁴⁸⁷ Thus, in contrast to Judaism, the Christian ruling that could prolong the breastfeeding period wasn't based on the welfare of the baby, but rather on the contraceptive effect of lactation.⁴⁸⁸

Breastfeeding was part of Christian norms, according to which "sexual relations were forbidden during the entire nursing period as it was believed that intercourse would 'weaken and corrupt' breast milk [...]."⁴⁸⁹ If a new pregnancy did occur, they believed that it "would 'poison' the breast milk, depriving it of its substance, so that the infant would sicken and eventually die."⁴⁹⁰ To avoid this risk and in contrast to the contraceptive measures allowed by the Sages, the Christian Church recommended placing the child with a wet nurse, so that the husband—for whom non-procreative sex, masturbation and adultery were forbidden—would not seek out other woman. This was the alternative offered to a period of abstinence lasting two to three years. Hence, wet nurses were commonly used. In Italian cities during the 15th century, even relatively humble artisans and shopkeepers sent their children to a wet nurse.

Catholic theologians also required mothers to nurse their infants, although they were often exempted. The care of the pregnant mother was not discussed as it is in the Jewish sources. For example, the idea of reducing a pregnant woman's workload does not appear. Today it is known that pregnant peasant women who continued with a

⁴⁸⁵ Baumgarten (2007, p. 143).

⁴⁸⁶ Salmon-Mack (2012, p. 191).

⁴⁸⁷ Brundage (1988, p. 182).

⁴⁸⁸ The contraceptive powers of lactation were not fully understood. For example, it was not known that frequent breastfeeding is necessary to prolong the contraceptive effect of lactation. See Lunn et al. (1980) and Konner and Worthman (1980).

⁴⁸⁹ Brundage (1988, p. 182).

⁴⁹⁰ Brundage (1988, p. 18).

heavy work load were at risk of giving birth to an underweight baby, which had a low chance of survival during its first month. A low birth weight as a result of the mother's malnutrition or heavy work during pregnancy (especially in the field during the summer) was an important factor in high infant mortality rates.⁴⁹¹

In practice, it seems that "mothers of all religions in Europe recognized that the dangers of childbirth might be intensified when children were born too close together, and attempted to space births through a variety of means. Many nursed their children until they were more than two years old, which acted as a contraceptive,[...] they sought to abstain from sexual relations during the time of their monthly cycle regarded as most fertile.[...] Condoms made from animal intestines or bladders were available to those who could afford them by mid-sixteenth century (...)."492

6.3 Halacha and childcare in the early modern period

An important source for Jewish law and practices in early modern times is the *Shulchan Aruch* which is a codification, or written manual, of halacha, composed by Rabbi Yosef Karo in the 16th century. The *halachic* rulings in the *Shulchan Aruch* generally follow Sephardic law and customs whereas Ashkenazi Jews generally follow the halachic rulings of Moses Isserles, which were codified in his gloss to the *Shulchan Aruch* known as the *Mappah* (literally: the "tablecloth").⁴⁹³

The *Shulchan Aruch* supports remarriage.⁴⁹⁴ There would appear to be three main reasons for this: First, it was believed that a man should continue to procreate in order to ensure the survival of at least one son and one daughter. Second, marriage provided a legitimate outlet for licit sexual activity. Third, remarriage was in the best interest of orphans. It was believed that a child brought up in a two-parent household has a better life outcome than one brought up by a widow. Hence, Moses Isserles commented that

⁴⁹¹ See Lithell (1981, p. 184).

⁴⁹² Wiesner, (2000, p. 85).

⁴⁹³ Almost all published editions of the *Shulchan Aruch* include this gloss, and the term *Shulchan Aruch* has come to denote *both* Karo's work as well as Isserles', with Karo usually referred to as the *mechaber* ("author") and Isserles as the *Rema*.

⁴⁹⁴ *Shulchan Aruch*, Hilchot Pirya Urviya 1:5.

“many [rabbis] seek to be lenient in the case of the woman who wants to remarry,” especially in the case of a twice-widowed woman (known as a “slayer”).⁴⁹⁵

While encouraging re-marriage, the *Shulchan Aruch* also continued to advocate breastfeeding, which was considered to be the best source of nutrition. It ruled that 24 months is the minimum period of breastfeeding⁴⁹⁶ and that 5 years is the maximum.⁴⁹⁷

An infant breastfeeds until four years for a healthy child and five years for a sick child if he has not ceased; but if he is weaned for three whole days after 24 months he should not be returned to the breast. This is if he ceased while healthy, but if he ceased due to an illness and was unable to nurse, he can be returned. If there is a danger, he can be returned even after a number of days...⁴⁹⁸

Jews continued to obey the halachic ruling that a woman cannot remarry within 24 months from the birth of a child even if she gave the child to a wet nurse (and even if the wet nurse committed to a period of two years)⁴⁹⁹ or weaned it earlier.⁵⁰⁰ A widow or divorced woman could get engaged, but the future husband could not live with her. The *Shulchan Aruch* puts it as follows:

The sages decreed that a man should not marry or even betroth the pregnant [former] wife of his friend or the nursing [former] wife of his friend until the infant is 24 months old [...] regardless whether she has weaned the child or given it to a wet nurse [...]⁵⁰¹

The *Shulchan Aruch* ruled that a child of nursing age is not to be given to another woman for nursing.⁵⁰² If the child already knows its mother, then she can't give it to a wet nurse because "the trauma of separation might cause the child physical harm."⁵⁰³ Thus,

When a woman is divorced, we do not compel her to breastfeed her child, unless she wants to, in which case [her ex-husband] pays her hire [as a wet-nurse] and she breastfeeds [the baby]; and if she does not want to, she gives him his child and he raises [the baby]. Which situation are we talking about? That she may

⁴⁹⁵ The *Shulchan Aruch* states that a woman shouldn't marry for the third time, while a man should not avoid re-marrying a second time. See *Even HaEzer*, *Hilkhos Ishut* 9:1,2.

⁴⁹⁶ *Shulchan Aruch*, *Even Haezer* 143:8.

⁴⁹⁷ *Shulchan Aruch*, *Yore Deah* 81:7. For a discussion of the duration of breastfeeding, see also: Steinberg (2003).

⁴⁹⁸ *Shulchan Aruch*, *Yore Deah*, 81:7.

⁴⁹⁹ *Shulchan Aruch*, *Even Ha-Ezer*, 13.

⁵⁰⁰ *BT Kethuboth* 60, 72.

⁵⁰¹ *Shulchan Aruch*, *Even Ha-Ezer*, 13:11

⁵⁰² *Shulchan Aruch*, *Even Ha-Ezer* 82:5.

⁵⁰³ *Shulchan Aruch*, *Even Ha-Ezer* 82:1.

[choose to] not breastfeed it until it [is old enough that it] recognizes her, but if it recognizes her (Rema: and does not want to breastfeed from another), even if it is blind, we do not separate it [from her], because of danger to the infant; but rather compel her and she breastfeeds until it is 24 months old. Rema: And he pays her the hire of breastfeeding. And some say that even another woman, if she breastfeeds a baby until it [is old enough that it] recognizes her, we compel her [to continue] and she nurses it for hire, because of danger to the infant. And some say that his situation where a divorcee is not obligated to breastfeed if [the baby] does not recognize her, this is when another wet nurse is brought in and is available for hire, but if [the husband] does not have one, he compels her and she breastfeeds [the baby]; but if the wife already hired herself out to others [as a wet nurse], and that infant recognizes her, we do not force that infant [to stop breastfeeding from her] on account of her own child, rather a court hires a different wet nurse for her child.⁵⁰⁴

The *Shulchan Aruch* adhered to the rulings of the Talmudic literature and the Rambam and advocated special care for nursing mothers (as a source of breast milk):

All the time she is breastfeeding his son, we deduct for her from her handiwork; and we add wine and things that are good for milk to her sustenance. [If] they didn't add for her, she must eat of her own is she has. (Tur)⁵⁰⁵

When discussing divorce, the *Shulchan Aruch* ruled in the child's best interest:

A divorcee is not provided food, even if she is breastfeeding her child, but he gives her, in addition to her hire, things that the child will need, [such as] clothes and food and drinks and ointment and things like that, but a pregnant [divorcee] gets nothing.⁵⁰⁶

6.4 Practices of Jews and Christians in Poland-Lithuania

We use various sources to reconstruct the practice and norms of childcare and breastfeeding in the Polish-Lithuanian Commonwealth. These include halacha, responsa, and *sifrei musar* from the relevant period. We take into account the problematic character of these sources (i.e. whether they are a reflection of reality or an attempt to change it) and the discrepancies between law or norms on the one hand and practice on the other. While fully aware of the dangers of generalization, we attempt to arrive at the most prevalent norms of behavior, which served as the cultural and religious foundation of East European Jewry. We also compare these with what is

⁵⁰⁴ Shulchan Aruch, Even Ha-Ezer, 80:11.

⁵⁰⁵ Shulchan Aruch, Even Ha-Ezer 80:11.

⁵⁰⁶ Shulchan Aruch, Even Ha-Ezer, 80:12

known about childcare in early modern Polish society. The discussion is organized into eight topics, each of which constitutes a factor that, in our opinion, can contribute to explaining the low infant mortality among Jews: (a) the positive image of breastfeeding; (b) wet nurse in the home; (c) remaining with one wet nurse; (d) post-partum care; (e) first feeding; (f) weaning (including contraception); (g) family support (kest); and (h) remarriage.

(a) Positive image of breastfeeding

Jews. Jewish society in Poland-Lithuania accepted the halachic approach to breastfeeding and care of a nursing mother, as described above. Giving birth and childcare remained the central elements of a woman's life and her primary religious purpose.⁵⁰⁷ There appears not to have been any negative perception of breastfeeding in Jewish communities, as there were among the aristocrats in Christian Europe, for example. Women prayed to become mothers and to breastfeed.⁵⁰⁸ According to *Brantspiegel* (1602), it was believed that a woman who gives birth, nurses her babies and provides for all their needs was following the way of the Creator and is deserving of eternal life.⁵⁰⁹ Another popular book of morals (*musar*), called "Lev Tov", describes a practice among women to nurse in the streets and thus illustrates women's positive attitude to breastfeeding.⁵¹⁰

Among Jews in Poland-Lithuania, a breastfeeding woman was allowed to use contraception (*moch*) in order to avoid pregnancy and continue breastfeeding, in accordance with the halachic approach.⁵¹¹

Christians. In Christian Europe, a mother was expected to breastfeed, although other views were also expressed. For example, "until the 18th century maternal breastfeeding was considered [by some] to be physically debilitating and even dangerous for the mother."⁵¹² The frequent repetition of advice to women that they

⁵⁰⁷ This despite the fact that the commandment to procreate applied only to men. See Chovav (2009, p.154, 164); Fisher (2005, pp. 199-212).

⁵⁰⁸ Brantspiegel, chapter 35.

⁵⁰⁹ Brantspiegel, 170:71.

⁵¹⁰ Rubin (2013, p. 248).

⁵¹¹ Christians, Muslims and Jews believed that a pregnant woman cannot breastfeed. Salomon-Mack (2010, p. 190).

⁵¹² Matthews-Grieco (1991, p. 17).

should breastfeed may be an indication that women were avoiding it. "Women who could not produce their own milk and middle and upper-class women in many parts of Europe relied on wet nurses."⁵¹³

In general, the Church continued to condemn non-procreative intercourse. Sex during infertile periods (e.g. pregnancy, the menstrual period, non-fertile days, etc.) was morally wrong. Contraceptive efforts of all types were seen as against nature.⁵¹⁴ Thus, according to Church laws women were not allowed to use contraception in order to continue nursing. The extent to which contraception was practiced during this period is unknown.

In Poland, pedagogical treatises advised mothers to breastfeed their babies, which might suggest that there were problems with this practice. Mikolaj Rej wrote: "Ladies mothers, especially those of good families [aristocrats] would make good, if they nursed and bring up their kids by themselves."⁵¹⁵ In general, the sources before 1750 advise mothers to breastfeed their babies, or if there is a problem, to use a wet nurse.⁵¹⁶

(b) Wet nurse in the home

A study of 15th century Florence showed that the mortality of children sent out to nurse by their families hovered around 17.9%.⁵¹⁷ As Matthews-Grieco correctly observed: "Those nursed by their mothers or by a live-in wet nurse at home had a much better chance [of survival] than those sent out to nurse."⁵¹⁸ Today, it is known that the hiring of a home wet nurse preserves a child's immunity, i.e. the passive, transplacental immunity which protects the newborn for the first weeks after birth and is conditioned by, among other things, the diseases to which its mother has been exposed and the environment she lives in.⁵¹⁹ Hence, it protects the infant as long as it remains in the environment to which the mother was exposed during the pregnancy. Consequently, if the infant was sent miles away into the country where different

⁵¹³ Wiesner (2000, p. 87).

⁵¹⁴ See, for example, Zaremska (1997, p. 568).

⁵¹⁵ Mikolaj Rej (1956, p. 32).

⁵¹⁶ Dembińska (1980, p. 485).

⁵¹⁷ Matthews-Grieco (1991, p. 42).

⁵¹⁸ Matthews-Grieco (1991, p. 39).

⁵¹⁹ Matthews-Grieco (1991, p. 43).

strains of bacteria existed, then the temporary immunity acquired from the mother during uterine life would not protect it against organisms with which the mother had never been in contact. We can therefore assume that a community in which home wet nurses were hired had a lower rate of infant mortality.

Jews. In Jewish communities in Poland-Lithuania during the early modern period, wet nurses were primarily employed when a mother died, when she couldn't breastfeed herself, or when she refused to breastfeed. A wet nurse was also hired when the mother was a widow and wanted to remarry. If she was nursing her child, she couldn't remarry until the child reached the age of 24 months.

Jewish women were allowed to nurse their own baby on Sabbath, but not another's, even for health reasons. This traditional preference given to a woman's own baby made it difficult to find a Jewish wet nurse. Hence, although milk from a non-Jewish woman was deemed to be less pure, the *Shulchan Aruch* permitted the baby to be breastfed by a Gentile woman but **only in the mother's home**, not in the wet nurse's. In this way, a Jewish mother could supervise the wet nurse and the exposure of the infant to a different environment was avoided.⁵²⁰ Thus, the Jews usually didn't send their babies to a wet nurse's home, as was practiced by the Christians.⁵²¹

The fact that Jews in Poland-Lithuania hired Christian wet nurses, despite the prohibitions and fines, suggests that it was crucial for them to do so as a way to provide the best nutrition for the baby. The Church fought against the Jewish employment of wet nurses because they had to lodge in Jewish homes.⁵²² The Church imposed fines on Jews hiring Christian wet nurses and denied communion to these women:

It is forbidden for the Jews to keep Christian servants especially Christian wet-nurses and governesses under penalty of a 100 grzywna fine for the Jew and of arrest for the Catholic who served him.⁵²³

⁵²⁰ Salmon-Mack (2012, p. 189).

⁵²¹ According to Baumgarten, also in medieval times Jewish mothers did not send their babies to a wet nurse's home so as to be able to supervise the nursing (2005, p. 184).

⁵²² For example, a resolution of the provincial synod of 1542.

⁵²³ Lipski (1737, pp. 73-77). See also Müller (1978, pp. 111-115) who mentions that Jews hired wet nurses despite Church prohibitions.

The Sejm and the king (probably under the influence of the Church) also introduced laws to prohibit the employment of Christian wet nurses by Jews.⁵²⁴ Despite this, the Jewish authorities (which usually followed the law in order to avoid a backlash from the non-Jewish authorities) allowed the hiring of a Christian wet nurse, although within limits. For example, according to the regulations of the Cracow Community in 1595 it was prohibited for a Christian female servant (including wet nurses) to be lodged in the home of a Jewish employer because of "the confusion arising out of this."⁵²⁵ In 1628, the Council of Lithuania responded to a royal resolution as follows: "because of a decree of his majesty the king rule that the service of these [Christian] maids is forbidden; it was discussed and resolved; if, God forbid, some conflict arises because of this business in some community, there will be no co-operation of the Council of the State."⁵²⁶ The response of the Jewish authorities testifies to the recognition of both the importance of breastfeeding and the necessity of wet nurses.⁵²⁷

Christians. The practice of hiring a wet nurse was also popular among Christians.⁵²⁸ In early modern Western Europe, wet nursing was a solution not only for pious Christians, who followed the abovementioned medieval prescription of abstinence during nursing, but also for middle and upper-class men who wanted to have as many children as possible in order to guarantee the economic strength of the family. The rich, who abandoned maternal breastfeeding, had short birth intervals and high fertility rates, giving birth to children every 12 to 18 months.⁵²⁹ A wet nurse also provided a solution if the mother died. Demographers have estimated that, on average, one out of ten births entailed maternal death.⁵³⁰ Furthermore, wet nursing offered a solution for wives of merchants and artisans who wished to return to work for economic reasons. Konrad Bitschin (15th century) complained that in his time more and more mothers did not want to nurse their babies and instead gave them to wet

⁵²⁴ Volumina legum II, 51 (Sejm 1565); Volumina legum III 309, V, 585-6 (Sejm 1678); Volumina legum VIII 50 (Sejm 1775). For royal legislation, see Dubnow (1925, no. 512, p. 121).

⁵²⁵ *Statut Krakowskiej Gminy Żydowskiej* par. 91:75.

⁵²⁶ Dubnow (1925, no. 145, p. 35).

⁵²⁷ See also the resolutions of the Council of Four Lands in Halperin (1945, pp. 483-87).

⁵²⁸ Salmon-Mack (2012, p. 200).

⁵²⁹ For more information on maternal death rates among Christians, see Keeble (1994, p. 169).

⁵³⁰ Flandrin (1976, ch. 10).

nurses. In his opinion, women couldn't control their sexual drive and hence sent their babies to wet nurses.⁵³¹ This had two results: many mothers became ill because the milk they produced wasn't being consumed and many babies became ill from the milk they received from wet nurses.

In Western Europe, "throughout the early modern period, the pattern was not only for the rich to breed and the poor to lactate, it was also for the cities to send their children out to nurse and for the country to feed and care for them until they were two or three years old."⁵³² In England, wet nursing reached its peak of popularity in the 17th and 18th centuries. In France, where most of the babies were sent to the wet nurse's home, the popularity of wet nursing continued until the late 19th century. Needless to say, an infant transported from its biological mother's environment to that of a surrogate mother was usually exposed to pathogens en route against which it had no immunity.⁵³³

According to Salmon-Mack, in Catholic society, where the attitude towards remarriage was ambivalent, hiring a wet nurse was not related to the desire to remarry. Moreover, according to Wiesner, the law in the early modern period "might also make it [remarriage of a widow] less attractive by stipulating that a widow could lose all rights over her children through remarriage, including the right to see them."⁵³⁴ In practice, economic concerns usually dictated whether a widow remarried or not.

Wet nurses in Poland. Although "it is impossible to estimate the popularity of the phenomenon in early modern Poland,"⁵³⁵ the burghers in Polish cities hired wet nurses much less than in France. Examples suggest that those who could hire a wet nurse were usually from noble or rich burgher families. In contrast to France, if they hired a wet nurse, they usually brought her home to live with them and function as a nanny.⁵³⁶ Hiring a wet nurse was not common among poor farmers.

⁵³¹ Konrad Bitschin in Arnold (1980, pp. 151-52).

⁵³² Matthews-Grieco (1991, p. 34). See also Wiesner (2000, p. 87).

⁵³³ Fildes (1986, p. 200).

⁵³⁴ Wiesner (2000, p. 91).

⁵³⁵ Kukło (2009, p. 330).

⁵³⁶ Żołądź-Strzelczyk (2002, p. 114); Kukło (2009, p. 330).

In Poland, foundlings were sent to wet nurses in the countryside who were hired by the community. In addition, wet nurses were employed regardless of remarriage. The law in Poland supported widows and allowed them to function as an apotropos of their family's wealth, as long as they remained widows and didn't remarry.⁵³⁷

In Old Poland, it was believed that the characteristics of a wet nurse influence the child's health and therefore the sources offered advice on how to choose a good wet nurse.

(c) Remaining with one wet nurse

Modern research has found evidence linking an increase in infant mortality to the switching of wet nurses. Herlihy and Klapisch-Zuber examined the cases of a number of infants from wealthy Florentine families who were sent to wet nurses. They discovered that the number of deaths was directly related to the switching of wet nurses.⁵³⁸ The frequent deaths of infants following the replacement of the wet nurse suggest that this practice posed a serious threat to infant welfare,⁵³⁹ while maintaining the same wet nurse would increase a child's chances of survival.

Jews. As indicated above, the Talmud and its interpreters ruled against switching the woman doing the breastfeeding.⁵⁴⁰ If a woman wanted to hire a wet nurse, she ought to do so before the infant reached two weeks of age. After that, if the child has already gotten used to his mother, i.e. "if [the child] knew her", the Talmud forced the mother to continue breastfeeding. Thus:

בבריייתא: ⁵⁴¹"גדרה שלא להניק את בנה, בית שמאי אומרים: שומטת את דדיה מפיו, ובית הלל אומרים: כופה אותה להניק." ⁵⁴²נתגרשה, אין כופין אותה להניק. אם היה בנה מכירה, נותנין ⁵⁴³לה שכר ומניקתו, מפני הסכנה."

It is not clearly stated whether the danger was due to the change of milk, the risk that the baby may refuse to suck from a strange woman (*Rashi: refuses to be nursed by*

⁵³⁷ Bardach et al. (1971, p. 125).

⁵³⁸ Herlihy and Klapisch-Zuber (1985, pp. 136-48).

⁵³⁹ See Baumgarten (2007, p. 127) and Klapisch-Zuber (1985, pp. 144-45).

⁵⁴⁰ Kethuboth 60a.

⁵⁴¹ תוספתא כתובות ה, ה; בבלי כתובות נט, ב; ירושלמי כתובות פ"ה, ה"ו (ל, א).

⁵⁴² "דמשעבדא ליה ולא חל הנדר", רש"י, כתובות שם, ד"ה כופה ומניקה.

⁵⁴³ בירושלמי: "כופין אותה ונותנין לה שכר... וכן בבלי: "וכופה ומניקתו."

any other woman), or the separation from its mother and her care. As Isaiah Trani stated: "Even if it does not refuse to be suckled by another woman, its separation from its mother, whom it has learnt to recognize, may prove injurious to the infant."⁵⁴⁴ According to the approach of the *Tosefta*, the nursing baby required the devoted care of its mother, and separation from her could be particularly dangerous. For example:

"חייבת אשה בטיפול בנה כל עשרים וארבעה חודש... לא תעשה עמו מלאכה, ולא תניק עמו תינוק אחר. תינוק המכיר את אמו, אין נותנין אותו למניקת אחרת מפני סכנת נפשות." ⁵⁴⁵

Moreover, some extended this idea such that even if the baby agreed to nurse from another woman, the mother still ought to be the one to nurse him:

"שכיון שהוא מכירה, אם תניחו תקשה לו פרידתה ויסתכן." ⁵⁴⁶

The rabbis knew that at a certain point a child can recognize its mother by smell and taste and might refuse to be nursed by another woman. At what age does this occur? According to Raba, after three months; according to Samuel, thirty days; and according to R. Isaac, fifty days. The ruling of fifty days was commonly accepted since it was based on the child's keenness of perception.⁵⁴⁷

In halacha, the idea of remaining with one wet nurse was reinforced by the ruling that if a baby was nursed by another woman then it cannot be given back to its mother, since it "is [already] familiar with" the other woman.⁵⁴⁸

In the early modern period, the Jews in Poland-Lithuania tried to limit the switching of wet nurses as much as possible. A long contract (of two years) was generally negotiated with the wet nurse and it could be used to obtain permission to remarry. In rich families, wet nurses were hired (and sometimes paid) even before the birth in order to secure their commitment. In the case of divorce, the father was usually forced to pay the salary of a wet nurse.⁵⁴⁹ The sources don't provide any details about the

⁵⁴⁴ Isaiah Trani (1180-1250), a prominent Italian Talmudist.

⁵⁴⁵ Tosefta Niddah 2, 4; Shochetman (1977, p. 291).

⁵⁴⁶ Ketubboth 60a . See also Shochetman (1977, p. 290).

⁵⁴⁷ Kethuboth 60a.

⁵⁴⁸ "שו"ת ישכיל עבדי, ח"ב. אה"ע, י.

⁵⁴⁹ Or paid the mother if she continued to breastfeed after the divorce.

identity of a wet nurse, but it is clear that she was not permitted to get pregnant during the two years of breastfeeding.⁵⁵⁰

Christians. Although switching a wet nurse was known to affect a child's willingness to nurse, Gentile children often had two, three, four and even more wet nurses in their early years. In 15th century Florence, for example, children remained with the same wet nurse for only ten months. In the belief that breast milk was transformed and purified menstrual blood, children were taken from the breast should their wet nurse menstruate or become pregnant. Any loss of blood or the demands of a growing fetus were said to alter or even 'poison' a woman's breast milk. Weichardt wrote that a wet nurse should not nurse during her menstrual period because "babies that nursed during that time often got sick." A replacement wet nurse should be found for that period, or the baby should be given whey (which is the liquid remaining after milk has been curdled and strained; also known as milk serum or milk permeate) with eggs,⁵⁵¹ which was often too heavy for the immature digestive system of the baby. In addition, a wet nurse should be replaced when ill.⁵⁵² Such an abrupt weaning or change of wet nurse was dangerous for the child. Furthermore, when an infant became ill, the wet nurse's milk was blamed, rather than the change of wet nurse, and again the nurse was replaced.

Wet nurses were asked to avoid intercourse which might lead to pregnancy and the need to replace her. Nonetheless, they were not permitted (by the Church) to use contraceptive measures. In medieval Poland, herbs as well as chemicals were used as a means of contraception or abortion and their use often caused the death of the woman. There was a fine for inducing abortion.⁵⁵³

(d) Postpartum care

⁵⁵⁰ Salmon-Mack (2012, p. 189).

⁵⁵¹ Weichardt (1782, pp. 48-51). See also Żołądź-Strzelczyk (2002, p. 118).

⁵⁵² Weichardt (1782, pp. 48-51).

⁵⁵³ Żołądź-Strzelczyk (2010, p. 99).

Jews. Pregnant women and mothers were advised as to which foods could harm breast milk and which could improve it. There were explicit rules regarding the diet of the mother when she was pregnant or nursing.⁵⁵⁴

The first days after birth were crucial for both mother and baby. Proper diet and avoiding physical movement and effort were very important. We learn from the practice in Worms (in Germany) that a new mother had a female servant to help her get around. The baby boy was bathed by the women of the community every day starting from the third day, in preparation for circumcision. When possible, it was customary to isolate a woman and baby for six weeks (four weeks in Worms) after the birth in order to avoid infection. A woman was usually visited by other women from her family or neighborhood who were welcomed with food and brought her presents and sometimes helped with the household chores.

An important ceremony during the postpartum period was circumcision. In the early modern period, the ceremony took place either in the synagogue or in a private home.⁵⁵⁵ On the Sabbath before the ceremony, there was a ceremonial meal (*Seudat Zachar*) to mark the first mitzvah of the baby, i.e. the Sabbath. In the mid-17th and 18th centuries (and perhaps earlier), it was customary to gather in the baby's home on the night before the circumcision in order to pray⁵⁵⁶ and in some places it was customary for the men to eat a meal with the mother and the baby.⁵⁵⁷ In other places, the women had a meal together with the mother and baby. Another ceremony involved bathing the baby (also a mitzvah) which was performed three days after the circumcision (at least in Worms). Taking part in the ceremony were the women of the community and the wife of the rabbi. The mother stayed in bed and at home for four weeks. This period of isolation ended with a ceremony of "*Shabbat Yeziat hayoledet*" שבת יציאת היולדת. At that point, the woman could perform her religious duties and would visit the synagogue.

⁵⁵⁴ אין פרויא זאל ניט עשן ועלבי שפיוז דו ניט גוט ווער צום קינד ווען זיא טראגט אדר ווען זיא זייגט, דו ניט גוט ווער צו דער מילך. דארום זאל זיא זיך היטן פאר אלי ביזי שפיוז אול פאר אלי ביזי גיטערנק.

אסור לאישה לאכול כאלו מאכלים שאינם טובים לילד כשהיא הרה או כשהיא מניקה, זה לא טוב לחלב. לכן עליה להישמר מפני כל המאכלים הרעים ומפני כל המשקאות הרעים. (ספר לב טוב נא ע' א ט"ב)

⁵⁵⁵ Baumgarten (2005, p. 98).

⁵⁵⁶ Chovav (2009, pp. 174-75).

⁵⁵⁷ הגהות הרמ"א לשולחן ערוך, אורח חיים, סי' תרמ, סעיף ו

Polish society. Midwives were the ones who normally assisted in a birth and with postpartum care. They had no medical education and their knowledge was usually based on experience. If labor began unexpectedly, the woman usually had no help. If the baby was born prematurely, it had almost no chance of survival. Midwives were usually allowed to perform baptism in cases of emergency when the child might die.

Starting from the 17th century, pregnant women began turning to doctors, whose numbers were beginning to grow. Aristocrats and royalty employed both midwives and doctors. In 1624, the first Polish medical treatise on pregnancy and labor was written by Piotr Ciachowski⁵⁵⁸ and in 1790 Ludwik Pierzyny wrote the first Polish textbook for midwives.⁵⁵⁹ In the 18th century, midwives began training in hospitals.

Many women died during or after labor. Low hygienic standards were one of the reasons. A number of wives of Polish kings died after birth, probably from postpartum fever. The umbilical cord was cut immediately.⁵⁶⁰ The newborn was bathed after birth and some advised that it be bathed every day, although others claimed this weakens the baby. According to an 18th century guide, the first bath should be prepared with one-third wine and two-thirds water, and the water should be warm. This could be repeated during the first few days in order to strengthen the child. Later on, it was advised that cold water be used.⁵⁶¹ In some circles, it was believed that dirt is not dangerous and that maintaining hygienic standards was not critical in the case of babies. They even believed that urine is healthy and therefore babies weren't changed that often.⁵⁶²

A baby was usually tightly swaddled, such that only the head could be seen.⁵⁶³ This was done in order to avoid the curving of body parts, to protect the baby and to prevent it from putting things in its mouth. The material for swaddling was usually linen, while the rich used cotton. The practice of swaddling too tightly was often criticized, which might indicate that there were problems with the practice. Some

⁵⁵⁸ Piotr Ciachowski, *O przypadkach białych głów brzemiennych* (1624).

⁵⁵⁹ Ludwik Pierzyny, *Nauka położna, krótko zebrana* (Kalisz, 1790).

⁵⁶⁰ Falimirz (1534, p. 34).

⁵⁶¹ Żołędź-Strzelczyk (2002, p. 102).

⁵⁶² Żołędź-Strzelczyk (2002, p. 102).

⁵⁶³ Żołędź-Strzelczyk (2002, p. 44).

advised that diapers and materials used for swaddling should be made of used clothing.⁵⁶⁴

It was acknowledged that birth, infancy and early childhood were dangerous periods. Among the upper classes, the mother and baby were isolated right after birth. This was not practiced in the villages where women had to return to work after delivery. The isolation of the mother and baby, although it was usually done for protection, especially from "forces of darkness", improved the level of hygiene and limited contact with germs and illnesses. Resting mothers were visited only by other women, neighbors, friends and family who brought gifts and sometimes helped in the house. Many such visits turned into celebrations by the women. The Church as well as city authorities tried to limit these occurrences. Despite advice to mothers on diet and the rules imposed by magistrates, it was often the case that too much alcohol was consumed at such gatherings.⁵⁶⁵ According to one account, "In villages booze is given to women after delivery (a common habit), in noble houses wine or other tinctures, this sends many mothers away from this world."⁵⁶⁶ The resting time in isolation usually lasted for six weeks and ended with a celebrated first visit to the church.⁵⁶⁷ Sometimes the baby was baptized during such a visit, although the Church required that it take place earlier, usually a day or two after the birth. The post-Tridentine Church also demanded a church ceremony; nonetheless, some baptisms were still done at home. Since the ceremony was observed mostly among wealthy women, the visit to the church was followed by a feast.

In addition to unprofessional postpartum care, sexual diseases, such as syphilis, had a significant effect on infant mortality and health. Many affected babies died during labor or after it; others were born handicapped and many of those that survived died a few years later after great suffering. Moreover, syphilis was treated with sulfur, which was also dangerous to a child's health.⁵⁶⁸

⁵⁶⁴ Żołędź-Strzelczyk (2002, p. 108).

⁵⁶⁵ Żołędź-Strzelczyk (2002, p. 73).

⁵⁶⁶ Rok (1998, p. 102). Jewish sources permitted a bit of wine for breastfeeding woman but not more than one cup. BT Kethuboth 60-61.

⁵⁶⁷ Before the Council of Trent, two general ceremonies of baptism were carried out annually. After the Council, it was done individually within a few days after birth. See Hemperek (1982).

⁵⁶⁸ Żołędź-Strzelczyk (2002, p. 60).

(e) First feeding

According to modern medical knowledge, the early colostrum has as much as 20 to 40 mg/ml of IgA antibodies. IgA, as well as IgG and IgM, exist together with the immune cells. These antibodies help to develop an infant's adaptive immune system. Colostrum also contains some components of the innate immune system and a number of growth factors. It is rich in protein, vitamin A and sodium chloride. Colostrum passes antibodies to the infant and hence provides the first protection against pathogens. "A mistrust of colostrum deprived the child of important immunities and exposed its mother to the risk of milk fever."⁵⁶⁹ Hence, we can assume that a newborn nursed with colostrum had a better chance of survival than an infant left hungry or fed in other ways. Consequently, it is reasonable to assume that communities practicing breastfeeding with colostrum will have lower infant mortality rates than those that don't.⁵⁷⁰

Jews. In the Sephardic Diaspora, the common view was that the mother should feed the baby only eight days following the birth.⁵⁷¹ This was not the belief in Ashkenaz, however.⁵⁷² Yamima Chovav claims that Jews also believed that the first milk was harmful and mothers were advised not to breastfeed for the first ten hours.⁵⁷³ Nonetheless, colostrum usually lasts for the first two to four days after birth and therefore we can assume that Jewish newborns in Poland-Lithuania were probably nursed with colostrum.

Christians. In the medieval and early modern periods in Europe, the opinion of Soranus was commonly accepted.⁵⁷⁴ He wrote that after birth the baby should not be nursed by its mother for at least 20 days, because: "mother's milk [...] is heavy, cheesy, hard to digest, [...] it comes from a sick and disturbed body."⁵⁷⁵ According

⁵⁶⁹ Matthews-Grieco (1991, p. 52).

⁵⁷⁰ Breastfeeding with colostrum creates a kind of barrier against certain illnesses of early infancy, especially intestinal and respiratory diseases. Of course, there were other pathogenic factors associated with the environmental and sanitary conditions in which infants and mothers lived.

⁵⁷¹ "המזון שהכין הש"י לנערה יולד הוא חלב והרצפה לשמרו מן התחלואים לא יהיה מזונו עד שנתיים אלא החלב והוא מזון טבעי [...] כשתוכל אם הילד להניק בנה זהו המועיל יותר כי הוא המזון שהיה נוון בו ברחם שהיה דם הנדות כי הוא מתהפך לחלב. [...] ובתחילת הלידה לא תניקהו אמו עד עבור שמונה ימים שתמצע חלבה." רבי מנחם אבן זרח, ספר צידה לדרך, מאמר ראשון כלל שלישי, פרק יד

⁵⁷² Baumgarten (2005, p. 200).

⁵⁷³ Chovav (2010)

⁵⁷⁴ See also section 6.1.

⁵⁷⁵ Lachs (1902, p. 78-80).

to Soranus, the newborn should be nursed by a wet nurse whose milk has not been harmed by labor. Moreover, the baby shouldn't get any food for the first two days. The first food given to the baby should be warm honey since it is the best for cleaning the digestive system. It shouldn't be sour or cold because it may cause gas and constipation. Afterwards the baby can be given milk.⁵⁷⁶ As a result of such medical advice and the belief that the milk should be liquid "...most infants in early modern Western Europe were taken away from their mothers for hours or even days to be washed, swaddled and fed by other women while their mothers rested. And even if the mother desired to nurse her own child, she would usually not be allowed to feed it until the colostrum had changed color (three to four days) or even until she had been ritually cleansed after the cessation of the post-partum flow (about 40 days after birth)."⁵⁷⁷

In addition to harming the baby's immunity, long delays before the first breastfeeding or in the hiring of a wet nurse could cause a fatal lapse of time between birth and the beginning of breastfeeding, especially if the child was fed with a horn or a spoon and therefore lost the sucking instinct or, more commonly, developed diarrhea as a result of unclean feeding instruments.⁵⁷⁸

There were many views as to the quality of breast milk, especially its texture and taste. It was held that more liquidy breast milk was of higher quality. With regard to color: "From the 15th to the 18th century the color of breast milk was also important. White was considered the best, and any woman whose milk was streaked or tinged with grey, blue or yellow was never to be retained as these 'unnatural' colors were said to be the sign of some defect."⁵⁷⁹

Only in the 18th century was it observed that there is a connection between the taste and value of the milk and the time elapsed since birth.⁵⁸⁰ Consequently, it was advised that a wet nurse who had a baby of her own be employed because "you can't give a

⁵⁷⁶ Żołędź-Strzelczyk (2002, pp. 119-20).

⁵⁷⁷ Matthews-Grieco (1991, p. 24).

⁵⁷⁸ Matthews-Grieco (1991, p.30).

⁵⁷⁹ Matthews-Grieco (1991, p. 29).

⁵⁸⁰ Żołędź-Strzelczyk (2002, p. 116).

newborn milk of a woman who is 6 months after labor. The newborn cannot digest it."⁵⁸¹

In Old Poland. "Breastfeeding started a few days after birth (it was believed that before that mother's milk was harmful for the baby). The newborns were usually given honey instead of mother's milk."⁵⁸² According to folk medicine and custom, the baby was nursed starting only a few days after birth, because colostrum was seen as impure and harmful to the baby.⁵⁸³ In the 16th century, Hieronim Spiczyński and Marcin Siennik taught that "on the day the baby was born, it shouldn't be given mother's milk, but rather only someone else's milk. The reason for it was, that at that time women, especially those doing nothing, have colostrum i.e. *siara* or other impure, thick stuff which is very unhealthy to the baby."⁵⁸⁴

There were only a few lone voices that advised nursing with colostrum, but not for its nutritional value but rather only as a way to cause the vomiting of maeconium: "Mother's breast should be served right after some rest after the pain, i.e. two hours after the delivery. Mother's milk because it is still very liquid and whey-like, is the best medicine to expel the maeconium and cause bowel movements in the baby."⁵⁸⁵

In Poland, the question of whether the baby should be nursed by its mother during the first 24 hours was discussed in the 18th century treatises. Weichardt (1782) went further by claiming that during the first 24 hours a newborn baby shouldn't be given any food except for sugar with manna (semolina) or syrup with manna.⁵⁸⁶ Dykcjonarz (1788) advised that if the newborn seems weak it should be given a few drops of sweetened and warm wine;⁵⁸⁷ if the baby had no problems during the delivery it should be given a bit of mother's milk right after the mother has rested for about two hours following the birth. Nonetheless, he also describes the first milk as the best medicine to cause vomiting of maeconium, rather than as being nutritious.

⁵⁸¹ Dykcjonarz (1788, pp. 162-163, 425).

⁵⁸² Musiał-Morsztyn, et al. (2014, p. 62).

⁵⁸³ Żołędź-Strzelczyk (2002, p. 119).

⁵⁸⁴ Żołędź-Strzelczyk (2002, p. 120).

⁵⁸⁵ Dykcjonarz (1788, p. 67); Żołędź-Strzelczyk (2002, p. 120).

⁵⁸⁶ Weichardt (1782, p. 316).

⁵⁸⁷ In 15th century, Konrad Bitschin advised that a baby be fed with human milk, preferably the mother's, rather than wine, which testifies to the persistence of this problematic practice. See Żołędź-Strzelczyk (2002, p. 110, 124).

Furthermore, he suggests that mothers shouldn't breastfeed their babies during the postpartum fever caused by the breast milk and instead they should be fed with fresh goat milk mixed with water.⁵⁸⁸

In Western Europe, the belief that colostrum was beneficial rather than harmful appeared around the end of the 17th century and slowly gained ground in the course of the 18th century, in parallel to a return to maternal breastfeeding among the middle and upper classes. Accordingly, the figures for infant mortality show a decline after 1750.⁵⁸⁹ In 1772, J. Ballexerd was awarded a prize by the Academy of Sciences, Letters and Arts in Manut for his treatise on "*What are the main reasons that cause a large number of men to die in their infancy, and what are the simplest and most effective remedies to preserve their life.*" Together with other Italian authors in the late 18th century, he advised that breastfeeding should begin immediately after birth and should be done by the mother herself.⁵⁹⁰ It took many years for this recommendation to become widely accepted.

(f) Weaning

Modern research in developing countries has pointed to the benefits of prolonged, regular and frequent breastfeeding. It is now known that continued and intense breastfeeding was the best source of nutrition for the infant in the past. It increases an infant's chances of survival and proper development and lowers the risk of intestinal infections and gastric illness, which in the past often ended in infant death. Furthermore, intense breastfeeding strengthens the contraceptive powers of lactation and (when accompanied by other means) helps to establish longer birth intervals. This in turn has a positive impact on child mortality rates.

Jews. The Jewish norms recommended prolonged and intense breastfeeding. In a normal family, a child could stop nursing before the age of two (usually at 18 months) if it got proper food.⁵⁹¹ If the mother stopped breastfeeding earlier than that it was viewed as unnatural and suspicious and was perhaps evidence of the mother's desire

⁵⁸⁸ See Dembińska (1980, p. 487).

⁵⁸⁹ Grieco (1991, p. 47).

⁵⁹⁰ Corsini (1991, p. 74).

⁵⁹¹ ראון: ר' שלמה בם יצחק, תשובות רש"י סי' ריו.

to remarry. Hence, it was usually preferred that a wet nurse be hired in advance in order to avoid sudden weaning.

Polish society. Falimirz, who was a known Polish physician and author of the popular work “*On Herbs and Their Potency*“ (1534), advised mothers to breastfeed their babies only 2-3 times a day and not for too long, so that it wouldn't get full.⁵⁹² Weichardt claimed that the child should be fed only when hungry and not every time it cries. In his opinion, a wet nurse should get the baby used to eating at specific times. Today it is known that children who are seldom breastfed are prone to developing intestinal infections.⁵⁹³ Hence, the popular practice recommended by Falimirz and Weichardt may have increased infant mortality.

According to Dembińska, Polish sources divide a child's diet into three periods: 0-2 years, 2-7 years and 7-16 years.⁵⁹⁴ According to Weichardt, although babies in Poland were nursed until the age of one,⁵⁹⁵ they were also exposed early to other foods. They were given a mush/pap of bread cooked in milk with sugar and egg, or bread mashed in milk, goat milk with water, and various kinds of barley. Babies were usually given food through a linen cloth they could suck on or from a cow horn. The food had to be mushed and light (easy to digest). If the child refused to wean, the woman's breast might be covered with wormwood (or something bitter). There are also some herbs that can be used to stop lactation. We now know that children between the ages of one and six months who eat solid food are prone to gastric illness; if they are breastfed, they are better protected from these illnesses. Thus, during the early modern period Polish babies that were exposed early to solids had a greater risk of gastric illnesses and death.

Weichardt also claimed that "the time of weaning shouldn't be determined ahead, because one child is weaker than the other and hence needs permission to suck longer

⁵⁹² Żołądź – Strzelczyk (2002, p. 119). At this frequency, the contraceptive effect of lactation is lessened and many breastfeeding women got pregnant.

⁵⁹³ Hanson and Winberg (1972).

⁵⁹⁴ Until the 18th and 19th centuries, the diet of children aged 7-16 was viewed as identical to that of parents or smaller children. The third group was not discussed separately. See Dembińska (1980, p. 484).

⁵⁹⁵ Żołądź–Strzelczyk (2002, p. 119).

the wet-nurse's breast."⁵⁹⁶ This is perhaps an indication that women tried to speed up the weaning process. Weichardt also gave instructions how to wean gradually.

Falimirz advised that a baby be given pieces of bread with sugar so that it could get used to regular food.⁵⁹⁷ If the mother had no milk, Dykcjonarz recommended goat milk with water or a pap made of a piece of bread cooked in milk for a few minutes with added egg and sugar.

(g) Family support (*kest*)

Jews. A notion that originated from *Hasidei Ashkenaz* and was reinterpreted by Eastern European Jews according to their own frame of reference was "that the acts of children affect the heavenly status of parents."⁵⁹⁸ They believed that a child's good deeds are credited to the parents in this life or in the afterlife.⁵⁹⁹ Furthermore, his misdeeds cause suffering to the parents: "that is all nothing comparing to the discomfort and suffering that one has in the next world because of unsuccessful children."⁶⁰⁰ Jewish women were urged to bring up pious children. Fathers also had an interest in raising pious sons, since the *mitsvot* done by a son after his father's death constitute an atonement for the soul of the father.⁶⁰¹ The parents were credited in the afterlife if their children were righteous adults and good parents to the next generation. Thus, Polish-Jewish parents supported their children after marriage as well.

Already in medieval Ashkenaz, the families of a young bride and groom were involved in the arrangements of the wedding and the young couple was dependent on them even after marriage. Marriage was viewed as a socioeconomic covenant between the parents of each side, who were also responsible for matchmaking.⁶⁰² The parents'

⁵⁹⁶ Weichardt (1782, p. 69); Żóładz–Strzelczyk (2002, p. 121).

⁵⁹⁷ Falimirz (1534, p. 37).

⁵⁹⁸ Fram (2006, p. 51).

⁵⁹⁹ In the modern period, this attitude developed into the idea that: "Among Jews, a child's obligation to his parents is discharged by acting toward his own children, when he is grown, as his parents acted toward him." Benedict (1948, p. 348).

⁶⁰⁰ Slonik (1577, no. 102), as quoted in Fram (2006, p. 52).

⁶⁰¹ Horowitz (1701, for. 3b), as quoted in Fram (2006, p. 53).

⁶⁰² Baumgarten (2005, p. 53).

choice of a spouse was usually based on economic and rational considerations.⁶⁰³ Parents "created a material basis for the young couple."⁶⁰⁴ Usually it was only the birth of the first child or its circumcision ceremony that signaled the independence of the young couple and that they had become a family.⁶⁰⁵

Among Polish Jews, the religious ideal was early marriage. Whenever possible, and especially among the elite, parents arranged the marriage for their children as early as possible. "But it would be a mistake to suppose that such early marriages were the general rule."⁶⁰⁶ It was difficult to meet the "necessary qualifications" for marriage, which included the creation of a new economic unit.⁶⁰⁷ The age of 16 was considered a proper age for a girl to marry and 18 for a boy.⁶⁰⁸ There is an excellent study of marriages among young Jews in Kazimierz in the 18th century, according to which 73.6% of women and 28.8% of men were married before the age of 20, while in smaller communities, the average age of marriage was 20-24.⁶⁰⁹ As in Ashkenaz, marriage did not equate to economic independence.⁶¹⁰

Marriage before the age of 13 for a boy and 12 for a girl was forbidden by the Council of Lithuania.⁶¹¹ In general, the majority of Jews married at a relatively young age (late teens) for a variety of reasons: to allow young men to fulfill the commandment of procreation, to channel sexuality to legitimate outlets, and to offset low life expectancy and high infant mortality rates. The latter decades of the nineteenth century witnessed a significant rise in the marital age among Jews, as in the general population.

The wedding was one of the main religious ceremonies. The marriage was marked by a number of celebrations, which started already a week before the wedding and

⁶⁰³ Goldberg (1999, p. 174).

⁶⁰⁴ Goldberg (1999, p. 174).

⁶⁰⁵ Baumgarten (2005, p. 133).

⁶⁰⁶ Katz (1959), p. 7). In Polish historiography, the common view is that Jews got married earlier than Poles. The average groom was 17 years old and the average bride was 16 years old. See Kuklo (2009, p. 283).

⁶⁰⁷ Katz (1959, p. 7).

⁶⁰⁸ Dubnow (1925, no 32, year 1623). Poor girls were considered ready for domestic service at the age of 12 and for marriage at the age of 15. See Dubnow (1925, no. 128, p. 32 year 1628).

⁶⁰⁹ Goldberg (1997, p. 23).

⁶¹⁰ In Kraków around 1595, one had to be at least 20 years old (married or not) before conducting business independently.

⁶¹¹ S. Dubnow (1925, no. 968, p. 266, year 1761). The Council of Lithuania helped raise a dowry for poor girls from the age of 15. See Dubnow (1925, p. 42, 93, 128).

continued until the first Shabbat afterward. It was accompanied by meals, dancing, singing and even comedians.⁶¹²

As mentioned above, early marriage was practiced by the more prosperous members of the community. It was followed by a period of family support known as *kest*, during which the groom lived with the bride's family and pursued Torah study. *Kest* often lasted up to three years. According to Goldberg (1997), as many as 25% of Jews could afford this arrangement.⁶¹³ In some cases, the prenuptial agreements, which included the *nadn* (dowry), also included *kest*, which could be lengthened in order to attract the best suitor. In Hundert's opinion, the practice of *kest* was one of the reasons for the lower child mortality among the Jews.⁶¹⁴ This Jewish model of marriage and family was praised in the past as reflecting the best of what the institution of marriage had to offer.⁶¹⁵

Polish society. In the early modern period, most of the rural families in Poland were so-called "open families", which were characterized by early marriage (18 for a boy and 14-16 for a girl), and in which the couple lived with the parents after marriage. In urban areas, families were limited to just parents and unmarried children.⁶¹⁶ There was no such institution as *kest* in Polish society.⁶¹⁷ According to Bogucka, among the middle and lower classes the average age of marriage was relatively high, probably over 20 for men. In the case of women, the age of marriage may have been significantly lower, probably between 15 and 20.⁶¹⁸ Social historians claim that noble women married before the age of 20.⁶¹⁹ Daughters of wealthy magnates got married earlier than gentry girls.⁶²⁰ Often, there was a considerable age difference between the bride and groom (for economic reasons). Families were patriarchal and marriage was a sacrament. After the Polish Church accepted the rulings of Trent, only a church ceremony was viewed as a legal marriage.

⁶¹² Chovav (2009, p. 124).

⁶¹³ Goldberg (1997).

⁶¹⁴ Hundert (2004, p. 24).

⁶¹⁵ Goldberg (1999, p. 173).

⁶¹⁶ Augustyniak (2008, p.319).

⁶¹⁷ Kuklo (2009, p. 283).

⁶¹⁸ Bogucka, 2004, p. 35).

⁶¹⁹ Koczerska (1975, p. 32).

⁶²⁰ Wolski (2005, p. 304).

By the end of the 18th century, the average age of marriage in Poland was 25-29 for a man and 20-24 for a woman.⁶²¹ During the period 1740-1799, men in Warsaw were nearly 29 years old when they first got married, similar to the situation in Western Europe. However, women in Warsaw got married at the age of 22-23, which was much younger than in Western Europe. In central Poland, the average family was relatively small, comprised usually of parents with children and sometimes a member of the older generation or a cousin. This is in contrast to the Jews who tended "unlike their neighbors, to live in multifamily dwellings."⁶²²

(h) Remarriage

Remarriage was a common phenomenon among the Jews. Marriage was an ideal state for a man. Thus, it was a legitimate framework for sexual activity; there was no prohibition of remarrying; and while for women a third marriage was forbidden, men were advised not to refrain from remarrying. With regard to infant mortality, it should be emphasized that remarriage reduced extramarital sexual activity and hence reduced the number of children born out of wedlock, who had a lower chance of survival than legitimate offspring. Furthermore, the life expectancy of children who lived with only one parent was lower than that of children who lived with two.

In general, the average marriage lasted 15 years in pre-industrial Polish towns.⁶²³ In the 17th century, it was only 10 years.⁶²⁴ Nonetheless, Christian society had at best an ambivalent attitude towards remarriage, unlike the urge to remarry in the Jewish community.

6.5 Childcare in the modern period

In general, the positive attitude towards childcare remained one of the pillars of Jewish life in Eastern Europe and rabbis in the modern period didn't tamper with that tradition. On the contrary, they tended to update the reasons for obeying the old rules, while others attempted to develop loopholes in order to adapt to changing practices.

⁶²¹ Kuklo (2009, pp. 278-79).

⁶²² Hundert (1989, p. 85).

⁶²³ Kuklo (1990). See also Kamecka and Kuklo (2003).

⁶²⁴ Waszak (1954, p. 285).

(a) Breastfeeding

Jews. A survey of the responsa in the modern period reveals that the issue of "*meyaneket chavro*" was still very much discussed and that people found it difficult to comply with the ruling. In the majority of cases sent to rabbis, women asked for permission to marry the man they were already engaged to or a couple asked for permission to live together in violation of the ruling in the *Shulchan Aruch*.⁶²⁵ It is worth mentioning that the fact that many couples requested permission to stay together means that there were rabbis who allowed them to marry in the first place. Some rabbis tended to be lenient on the ruling and some felt that in specific cases there was no problem whatsoever. In many cases, the question was sent by a local rabbi who presented his arguments for being lenient and to permit the marriage, while the answer usually involved a strict interpretation.⁶²⁶

One of the reasons for the tendency toward leniency on *meyaneket chavero* appears to be the shortening of the breastfeeding period. According to L. DeMause, the breastfeeding period became gradually shorter starting in the early modern period.⁶²⁷ While at the beginning of the 17th century it was 24 months, in the 18th and 19th centuries it was usually only 15 months.

There were rabbis who recognized that the breastfeeding period had gotten shorter, but nonetheless insisted that people comply with the ruling of *meyaneket chavero*. For example, Hatam Sofer argued that the rule must be obeyed because there were still children who needed 24 months of breastfeeding and the rule protects them.⁶²⁸ Furthermore, 19th century rabbis explained that the ruling should continue to be obeyed because its intention is to guarantee that the infant will enjoy its mother's care and thus goes beyond merely breastfeeding. If a mother gets remarried, she will turn her attention to her new husband instead of the baby.⁶²⁹ Even if the baby has been

⁶²⁵ Anzi (n.y. p. 4).

⁶²⁶ Anzi (n.y. p. 6).

⁶²⁷ L. DeMause (1976, p. 34).

⁶²⁸ משה סופר (1762-1839) חתם סופר, אבן העזר א', פרשבורג תרי"ח סימן ל"ד.

⁶²⁹ שו"ת מהר"ם שיק אה"ז סימן לב" אע"ג שמפקפקין בזמנינו ואומרים שמשנתו העיתים שרוב וולדות [...] אינם יונקים זמן רב [...] התינוק בימיםאלו צריך השגחה יתירה משום דאז היא עלול למיני תחלואים של ילדים [...] ולזה צריך השגחה והשתדלות האם להשגיח [...] ואם היא נשאת לאיש אחר באותו זמן, חששו כחז"ל שיעכב הבעל על ידה או שהיא עצמה מיראה א בעלה תימנע מזה. [...] אותו זמן צריך הוולד להשתדלות והשגחה ושקדיה יתרה – ושייך זה גם בזמנינו. וכיוון שחז"ל חששו ואסרו נישואיה תוך אותו זמן מחמת חשש סכנה הולד לפעמים

weaned, it needs the care that only its mother can provide.⁶³⁰ The invention of the bottle was rejected as an argument for being lenient on this rule, since there was still the danger that the new husband might be reluctant to buy milk for the baby.⁶³¹ In short, as in the case of other dilemmas, the East European rabbis didn't change the rule but instead tended to find the reasons why it was not relevant in specific cases.⁶³²

Polish society. In Western Europe of the late 18th century, one of the most significant discoveries in childcare was that colostrum is actually beneficial to the baby. The new view was that colostrum would equip the infant with some immunity and prepare it for more substantial nourishment.

In Poland, the attitude towards colostrum changed only gradually. Attitudes changed first among doctors, later among midwives and finally among women themselves. Even until the end of the 19th century it was generally advised to feed the newborn baby with the milk of a wet nurse or with substitutes. Only at the end of the 19th and beginning of the 20th century did there appear articles on the ingredients of a woman's milk and of animals' milk. Jędrzej Śniadecki was the first to write about the benefits of colostrum in his study "*O fizycznym wychowaniu dzieci.*" In this treatise, Śniadecki stated firmly that "this very first milk, is unquestionably the very first food that the newborn should get."⁶³³ At the same time, Polish doctors agreed that the newborn should be breastfed within 4-8 hours after delivery.⁶³⁴ Śniadecki also recognized that colostrum had a laxative effect. Thus, he advised that only when there is a reason for delaying breastfeeding should the newborn first be given water.

(b) Swaddling

In the past, swaddling was an integral part of early childcare. Modern commentaries on the practice of swaddling are generally consistent with the general attitude towards childcare of each specific group. Benedict studied the practice of swaddling among Jews in Poland and Ukraine in the early 20th century and claimed that the Jewish idea of swaddling is to provide the baby with warmth and comfort rather than to "harden

⁶³⁰ משה שיק (נפטר 1879) שו"ת מהר"ם שיק. מונקאטש תר"מ, כרך א' סימן כ"ו.

⁶³¹ שרגא צבי טננבוים (1826-1897) נטע שורק. מונקאטש תרנ"ה, סימן ז' – הוא היחיד שמזכיר את הבקבוק

⁶³² אריה לייבוש בולחובר. שם אריה, אבן עזר, וילנא תרל"ג, סימן צ"ו (דף קי"א)

⁶³³ Śniadecki (1867, p. 55).

⁶³⁴ Kramsztyk (1896).

it" (which was the attitude in Poland and Russia). Jewish babies were usually swaddled "on a soft pillow and in most areas the bindings are wrapped relatively loosely around the baby and his little featherbed; the mother sings to the baby as she swaddles it."⁶³⁵ The mother in this description is reluctant to restrain the baby's legs. "In strongest contrast to the experience of the Gentile child, swaddling is part of the child's induction into the closest kind of physical intimacy."⁶³⁶ According to Benedict, the prevailing attitudes among non-Jews in Poland and Ukraine were that (1) the baby is fragile and needs the support provided by the bindings, and (2) swaddling should be used to harden baby's legs. Furthermore, the Poles believed that swaddling prevents the baby from touching the dirty and shameful parts of its body, while Russian mothers swaddled the baby to prevent it from hurting itself.

(c) Remarriage

According to Stampfer (1988), remarriage was a common phenomenon among Jews in 19th century Eastern Europe and constituted one of the characteristics of Jews as a population group: "Jews married younger, remarried more often and lived longer than members of other groups."⁶³⁷ In the mid-19th century, almost all Jewish adults were married,⁶³⁸ but a high percentage of them were married not for the first time. Between 1867 and 1910, in comparison to other population groups, "Jews had the highest percentage of marriages involving at least one remarrying partner, as well as marriages between widows and widowers."⁶³⁹ Religious legislation encouraged widows to remarry. While the rulings of the *Shulchan Aruch* prohibiting a widow to marry a third time were obeyed, the responsa show that modern rabbis tended to look for ways to permit it. One of their motivations for permitting such marriages was to ensure the care of orphans based on "rabbis' unquestioned assumption that fatherless children are endangered."⁶⁴⁰ It can be assumed that the practice of widows remarrying contributed to the welfare of otherwise fatherless children and to low infant

⁶³⁵ Benedict (1948, p. 347).

⁶³⁶ Benedict (1948, p. 347).

⁶³⁷ Stampfer (1988, p. 104).

⁶³⁸ Stampfer (1988, p. 98).

⁶³⁹ Stampfer (1988, p. 87).

⁶⁴⁰ Stampfer (1988, p. 105).

mortality.⁶⁴¹ Christians widowers on the other hand were inclined to choose previously unmarried women for a second marriage.

Over time, Jewish remarriage patterns became similar to those in Christian society. Jewish widowers became less inclined to choose a widow as a mate, although Jewish widows continued to marry widowers rather than bachelors.

7. Conclusions

This paper documents the exceptionally high rate of growth of the Jewish population in Poland-Lithuania before and after the partitions. While we show that during the long period between 1500 and 1930, the populations of GA and PL grew at almost the same rate (about 0.43% annually), we also provide solid evidence that the Jewish population in GA both before and after 1800 grew at twice the rate of the total population, though at a much lower rate than the Jewish population in PL, which grew at a rate of about 1.4% annually. The main evidence presented indicates that until the early 19th century the difference in the rates of growth between the Jewish populations in PL and GA was due to migration.

We document the much lower rates of infant and child mortality among the Jews than among the total population. The difference accounts for more than half of the difference in the rates of population growth between the two groups. Since socioeconomic and demographic characteristics cannot fully explain the differences in infant mortality between Jews and non-Jews, we examine religious and lifestyle differences. We summarize the arguments to show that, in light of modern medical knowledge, Jewish religious commandments along with breastfeeding and childcare practices have been lifesaving for the Jews. These rules were deeply rooted in Judaism throughout the ages and were standard practice for Ashkenazi Jews in PL and GA.

The main puzzle that arises from the above analysis is why the Jewish community grew much faster in PL than in GA and this issue will be examined in future research. A possible explanation is related to differences in property rights between GA and PL

⁶⁴¹ Stampfer (1988, p. 104).

and the role of the Jews in the Polish manorial economy. While GA abandoned feudalism prior to 1500, in PL there developed a unique feudal system during the 16th century in which nobles (szlachta) had full property rights and a monopoly on the means of production, as well as the legal and military authority to protect their property. The Jews in PL became part of the manorial system. They were successful as leaseholders and operators of noble properties and monopolies and their demographic growth in PL was not limited by the feudal system.⁶⁴² The evidence supporting this hypothesis will be presented in the sequel to this paper.

⁶⁴² See, for example, the articles in Goldberg (1999).

8. Bibliography

Primary sources

- Benjamin of Tudela. *The Itinerary of Rabbi Benjamin of Tudela: Text, bibliography, and translation*. Edited by Adolf Asher. A. Asher and Company, 1840.
- Bitschin, Konrad. "Über das Eheleben." In *Kind und Gesellschaft in Mittelalter und Renaissance: Beiträge und Texte zur Geschichte der Kindheit*, edited by Klaus Arnold Paderborn, 1980.
- Dubnow, S. ed., *Pinkas hamedinah o pinkas vaad hakehilot harisho- not bemedinat lita*. Berlin: Ajanoth, 1925.
- Dykcjonarz powszechny medyki, chirurgii i sztuki hodowania bydlat czyli lekarz wiejski*, vol. 2. Warsaw, 1788.
- Falimirz, Stefan. *O ziołach i mocy ich*. Cracow, 1534.
- Halperin, Israel ed., *Pinkas va'ad arba aratsot, 5341-5525*. Jerusalem, 1945.
- Horowitz, Abraham. *Sefer yesh nohalim*. Amsterdam, 1701.
- Kramsztyk, J. "O karmieniu i sztucznem żywieniu niemowląt." *Zdrowie* 12 (1896): 194-214.
- Lipski, J. A. *Epistola*. Krakow, 1737.
- Metlinger, B. *Ein Regimen der Jungen Kinder (1473)*. In *Pediatrics of the Past*. Translated by J. Rurhah, 71-98. New York, 1925.
- Rej, Mikołaj. *Żywot człowieka poczciwego*, edited by J. Krzyżanowski. Wrocław, 1956.
- Sefer ha-Yashar le-Rabbenu Tam*. Vienna, 1811.
- Slonik, Benjamin. *Seder mitsvot ha-nashim*. Cracow, 1577.
- Soranos. *Ginekologia*, wyd, J; Lachs, Roczniki TPN Poznanskiego 28 (1902): 78-80.
- Statut krakowskiej gminy żydowskiej z roku 1595 i jego uzupełnienia*. Translated and edited by Anna Jakimyszyn. Krakow: Księgarnia Akademicaka, 2005.
- Śniadecki, J. *O fizycznym wychowaniu dzieci*, edited by L. Rzepecki L. Poznań, 1867.
- Weichardt, T.T. *Rady dla Matek względem zapobieżenia różnym słabościom i chorobom, którym dzieci od urodzenia swego podlegać mogą*. Warszawa, 1782.

Secondary sources

Akhiezer, Golda. "Karaites." *YIVO. Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Karaites>. Accessed, November 25, 2015.

American Jewish Year Book Vol. 37 (1935-1936).

Anderson, Perry R. *Passages from Antiquity to Feudalism*. London: Humanities Press, 1974.

Anzi, Rakefet. "Hanaka iNisuim. Din Meyaneket Haverro Be-reia historit." *Akademot: Halacha – Talmud ve-Toldot haHalacha* 3. <http://www.bmj.org.il/articles/37>. Accessed, November 30, 2015.

Atlas historii Żydów polskich. Warsaw: Demart, 2010.

Augustyniak, Urszula. *Historia Polski 1572-1795*. Warsaw: PWN, 2014.

Bacon, Gershon. "Poland: Poland from 1795 to 1939." *YIVO Encyclopedia of Jews in Eastern Europe*.

http://www.yivoencyclopedia.org/article.aspx/Poland/Poland_from_1795_to_1939.

Accessed November 12, 2015.

Bairoch, Paul, Jean Batou and Pierre Chever. *Population des villes européennes de 800 à 1850: banque de données et analyse sommaire des résultats*. Geneva: Librairie Droz, 1988.

Bardach J., B. Leśniodorski and M. Pietrzak. *Historia państwa i prawa Polski*. Warszawa: PWN 1971.

Barkai, Avraham. "German-Jewish Migrations in the Nineteenth Century, 1830–1910." *Leo Baeck Institute Yearbook* 30 no. 1 (1985): 301 -318.

Baron, Salo Wittmayer. *A Social and Religious History of the Jews*, 2nd ed. vol. 16. *Late Middle Ages and Era of European Expansion, 1200-1650; Poland-Lithuania, 1500-1650*. New York: Columbia University Press and Jewish Publication Society of America, 1976.

----- "Population." In *Encyclopedia Judaica*, vol. 13, 866–903. New York: Macmillan, 1971.

Barraclough, Geoffrey. *The Origins of Modern Germany*. Oxford: B. Blackwell, 1957.

- Bartal, Israel. *The Jews of Eastern Europe 1772-1881*. Translated by Chaya Naor. Philadelphia: University of Pennsylvania Press, 2005.
- Bartnicka, Kalina. "Dziecko w świetle pamiętników i powieści polskiego Oświecenia." *Rozprawy z Dziejów Oświaty* 35 (1992): 37-86.
- Bato, Yomtov Ludwig, Evelyn Adunka and Israel O. Lehman, "Vienna." In *Encyclopedia Judaica*, edited by Michael Berenbaum and Fred Skolnik, 2nd ed., vol. 20, 518-23. Detroit: Macmillan Reference USA, 2007.
- Battenberg, J. Friedrich. *Die Juden in Deutschland vom 16. bis zum Ende des 18. Jahrhunderts*. Enzyklopädie deutscher Geschichte Vol. 60. Oldenbourg Verlag, 2001.
- . *Das europäische Zeitalter der Juden : zur Entwicklung einer Minderheit in der nichtjüdischen Umwelt Europas*. Darmstadt : Wissenschaftliche Buchgesellschaft, 1990.
- Baumgarten, Elisheva. *Mothers and Children: Jewish Family Life in Medieval Europe*. Princeton and Oxford: Princeton University Press, 2004.
- . *Imahot veyeladim. Hayey mishpacha be-Ashkenaz be-Yamey ha-Beynaim*. Jerusalem: Zelman Shazar, 2005.
- . "“Kakh omrot ha-meyaldot hahakhamot’: meyaldot u-meyaldut be-Ashkenaz bi-me’ah ha-shlosh esre.” *Zion* 65 (1999): 45-74.
- Beider, Alexander. *A Dictionary of Ashkenazic Given Names: Their Origins, Structure, Pronunciation and Migrations*. Bergenfield, N.J.: Avotaynu, 2001.
- Beizer, Michael and Daniel Romanowski. "Russia." In *Encyclopedia Judaica*, edited by and Michael Berenbaum and Fred Skolnik, 2nd ed. Vol. 17, 531-586. Detroit: Macmillan Reference USA, 2007.
- Bell, Dean Phillip. *Jews in the Early Modern World*. Lanham: Rowman & Littlefield Publishers, 2008.
- Bemporad, Elissa. "Minsk." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Minsk>. Aaccessed November 10, 2015.
- Benedict, Ruth. "Child Rearing in Certain European Countries." *American Journal of Orthopsychiatry* 19 no. 2 (1949): 342-350.
- Bennathan, Esra."Die demographische und wirtschaftliche Struktur der Juden." In *Entscheidungsjahr 1932: Zur Judenfrage in der Endphase der Weimarer Republik*, edited by Werner Eugen Mosse and Arnold Paucker, vol. 13, 87-131. Tübingen: Mohr Siebeck, 1966.

von Bergmann, Eugen. *Zur Geschichte der Entwicklung deutscher, polnischer und jüdischer Bevölkerung in der Provinz Posen seit 1824*. Tübingen: Laupp, 1883.

Biale, David. "Childhood, Marriage and the Family in the Eastern European Jewish Enlightenment." In *The Jewish Family: Myths and Reality*, edited by Steven M. Cohen and Paula E. Hyman, 45-61. New York, London, 1986.

Blackbourn, David. *The Long Nineteenth Century: A History of Germany, 1780-1918*. Oxford and New York: Oxford University Press, 1998.

Blau, Bruno. *Die Entwicklung der jüdischen Bevölkerung in Deutschland von 1800 bis 1945*. MS. New York: Leo Baeck Institute Archive.

Blum, Jerome. "The Rise of Serfdom in Eastern Europe." *American Historical Review* 52 (July 1957): 807-36.

Breuer Mordechai, Stefan Rohrbacher, Eleanor Sterling-Oppenheimer, Jens Hoppe, Henry Wasserman. "Frankfurt on the Main." In *Encyclopedia Judaica* edited by Michael Berenbaum and Fred Skolnik. 2nd ed. Vol. 7, 207-212. Detroit: Macmillan Reference USA, 2007.

Brundage, James. *Law, Sex and Christian Society in Medieval Europe*. Chicago: University Chicago Press, 1988.

Budzyński Zdzisław. *Ludność pogranicza polsko-ruskiego w drugiej połowie XVIII wieku: Stan rozmieszczenie, struktura wyznaniowa i etniczna*. 2 vols. Przemysł and Rzeszów: Tow. Przyjaciół Nauk w Przemysłu, 1993.

Caron, Vicki. *Between France and Germany: The Jews of Alsace-Lorraine, 1871-1918*. Stanford, Calif.: Stanford University Press, 1988.

Chapman, Tim. *The Congress of Vienna: Origin, Process and Results*. London: Routledge, 1998.

Chovav, Yamima. *Olamot Ahavuch*. Jerusalem: Magnes, 2009.

Condran, Gretchen A. and Ellen A. Kramarow. "Child Mortality among Jewish Immigrants to the United States." *Journal of Interdisciplinary History* 22, no. 2 (Autumn, 1991): 223-254.

Condran, Gretchen a. and Samuel H. Preston, "Child Mortality Differences, Personal Health Care Practices, and Medical Technology: The United States, 1900-1930." In *Health and Social Change in International Perspective*, edited by Chen Lincoln, Arthur Kleinman and Norma C. Ware. 171-224. Boston, 1994.

- Costa, Marta D. et.al. "A Substantial Prehistoric European Ancestry Amongst Ashkenazi Maternal Lineages." *Nature Communications* 4 (2013). <http://www.nature.com/ncomms/2013/131008/ncomms3543/pdf/ncomms3543/pdf>. Accessed November 23, 2015.
- Corsini, Carlo A. "Breastfeeding, Fertility and Infant Mortality: Lessons from the Archives of the Florence Spedale degli Innocenti." In *Historical Perspectives on Breastfeeding*. Unicef, 1991.
- Coy, Jason P. *A Brief History of Germany*. New York: Facts on File, 2011.
- Cynarski, S. "The Shape of Sarmatian Ideology in Poland." *APH* 19 (1968): 5-17.
- Dann, Otto. *Nation und Nationalismus in Deutschland, 1770-1990*. Munich: C. H. Beck, 1996.
- Davies, Norman. *God's Playground. A History of Poland: Volume 1: The Origins to 1795*. Oxford University Press, 1981.
- DellaPergola, Sergio. "Some Fundamentals of Jewish Demographic History." *Papers in Jewish Demography 1997*, edited by Sergio DellaPergola and Judith Even, 11-33. Jerusalem: Hebrew University, 2001.
- ."Demography." In *Encyclopedia of Jews in the Islamic World*, edited by Norman A. Stillman, 53-66. Boston/Leiden: Brill, 2010.
- DeMause, Lloyd. "The Evolution of Childhood" in. *The History of Childhood*, edited by L. DeMause. 1-54. London, 1976.
- Dembińska, Maria. "Pożywienie dziecka w poslkich źródłach historycznych." *Kwartalnik Historii Kultury Materialnej* 4 (1980): 481 -499.
- Derosas, Renzo. "Watch out for the children! Differential infant mortality of Jews and Catholics in nineteenth-century Venice." *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 36.3 (2003): 109-130.
- Dobb, Maurice. *Studies in the Development of Capitalism*. London: Routledge, 1946.
- Dorff, Elliot N. "The concept of the child embedded in Jewish Law." In *Children, Adults, and Shared Responsibilities: Jewish, Christian and Muslim Perspectives*, edited by Marcia J. Bunge. Cambridge: University Press, 2012.
- Dubnow, Simon M.. *History of Jews in Russia and Poland*. Translated by Israel Friedlaender, reprint, vol. 1. Bergenfield NJ: Avotaynu Inc., 2000.

- Düwell, K. *Die Rheingebiete in der Judenpolitik des Nationalsozialismus vor 1942. Beitrag zu einer vergleichenden zeitgeschichtlichen Landeskunde* Vol. 65. Bonn: L. Röhrscheid, 1968.
- Eberhardt, Piotr. *Ethnic Groups and Population Changes in Twentieth-Century Central-Eastern Europe: History, Data, and Analysis*. Translated by Jan Owsinski. New York/London: M.E. Sharpe, 2003.
- Eckstein, Zvi, T.P. Schultz, K.I. Wolpin. "Short-run Fluctuations in Fertility and Mortality in Preindustrial Sweden." *European Economic Review* 26 (1984): 295-317.
- Ehmer, Josef. *Bevölkerungsgeschichte und historische Demographie 1800-2000*. Enzyklopädie deutscher Geschichte Vol. 71. Munich: Oldenbourg, 2004.
- Eidelman, Arthur I. "The Talmud and Human Lactation: The Cultural Basis for Increased Frequency and Duration of Breastfeeding among Orthodox Jewish Women." *Breastfeeding Medicine* 1, no. 1 (2006): 36-40.
- Elhaik, Eran. "The Missing Link of Jewish European Ancestry: Contrasting the Rhineland and the Khazarian Hypotheses." *Genome Biology and Evolution* 5 no. 1 (2013): 61-74.
- Ettinger, Shmuel. "Helkam shel ha-Yehudim be-kolonizatsiyah shel Ukra'inah (1569-1648)." *Zion* 21 (1956): 107-42.
- Feldman, Elazar. "Do statystyki Żydów w dawnej Polsce." *Miesięcznik żydowski* 3, z. 1-2. (1933): 130-135.
- Feldman, W. M. *The Jewish Child. It's History, Folklore, Biology and Sociology*. London, 1917.
- Fildes, Valerie A. *Breasts, Bottles and Babies: A History of Infant Feeding*. Edinburgh, 1986.
- Wet Nursing: A history from Antiquity to the Present*. Oxford: Balckwell, 1988.
- Fisher, A. "Ptor Nashim mmtzvat "pru u-vru." In *Lihiot Isha Yehudia*, edited by T. Cohen and A. Lavie, vol. 3. 199-212. Jerusalem: Kolekh, 2005..
- Flandrin, Jean-Loui. *Familles. Parenté, maison, sexualité dans l'ancienne société*. Paris, 1976.
- Fram, Edward. "German Pietism and Sixteenth- and Early Seventeenth-Century Polish Rabbinic Culture." *The Jewish Quarterly Review* 96, no. 1 (2006): 50-59.

- Freeze, ChaeRan. "Khar'kiv." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Kharkiv>. Accessed on August 18, 2010.
- Gierowski, Josef Andrzej. "The International Position of Poland in the Seventeenth and Eighteenth Centuries." In *A Republic of Nobles. Studies in Polish History to 1864*, edited by J.K. Fedorowicz, 218-38. Cambridge, 1982.
- Gierowski, Josef Andrzej and A. Kaminski. "The Eclipse of Poland." In *The New Cambridge Modern History*, edited by J. S. Bromley, vol. 6, 681-715. Cambridge, 1970.
- Gieysztor, Aleksander. "The Beginnings of Jewish Settlement in the Polish Lands." In *The Jews in Poland*, edited by Chimen Abramsky, Maciej Jechimczyk and Antony Polonsky, 15-21. Oxford: Balckwell, 1986,
- Gieysztorowa, Irena. "Ludność." In *Encyklopedia historii gospodarczej Polski do 1945 roku*, edited by Antoni Mączak and Andrzej Ajnenkiel, vol. 1, 429-441. Warsaw: Wiedza Powszechna, 1981.
- . "Research into the Demographic History of Poland: A provisional summing up." *Acta Poloniae Historica* 18 (1968): 7-17.
- Gil, Moshe. "Ha-Kuzarim lo hitgayru." *Tsiyon* 75, no. 1 (2010): 5-14 or in English "Did Khazars Convert to Judaism?" *Revue des Études Juives* 170 no. 3-4 (2011): 429-41.
- Golb, Norman and Omeljan Pritsak. *Khazarian Hebrew Documents of the Tenth Century*. Ithaca: Cornell Univ. Press, 1982.
- Gold, Hugo. *Judengemeinden Mährens in Vergangenheit und Gegenwart: Ein Sammelwerk*. Brünn: Jüdischer Buch- und Kunst, 1929.
- Goldberg, Jacob. "Jewish Marriage in Eighteenth Century Poland." *Polin* 10 (1997): 3-39.
- . *The Jewish Society in the Polish Commonwealth*. (Hebrew) Zalman Shazar Center for Jewish History, Jerusalem, 1999.
- Grossman, Avraham. "Yahasam shel hachmey Ashkenaz ha-rishonim el shilton ha-kahal." *Shnaton ha-mishpat haivri shel ha-machon le-cheker ha-mishpat ha-ivri* 2 (1975): 175-199.
- Guesnet, François. *Polnische Juden im 19. Jahrhundert. Lebensbedingungen, Rechtsnormen und Organisation im Wandel*. Series: Lebenswelten osteuropäischer Juden, vol. 3. Köln: Böhlau, 1998.

Guggenheim, Yacov. "Social Stratification of Central European Jewry at the End of the Middle Ages." *The Proceedings of the World Congress of Jewish Studies of the Jewish People*, division B, vol. 1, 130-136. Jerusalem, 1990.

Guldon, Zenon. Skupiska żydowskie w miastach polskich w XV-XVI wieku in : *Żydzi i judaizm we współczesnych badaniach polskich*, edited by Krzysztof Pilarczyk and Stefan Gąsiorowski, vol.2, 13-25. Cracow, 2000.

Guzowski, Piotr. "Demograficzne uwarunkowania funkcjonowania rodziny chłopskiej na przełomie średniowiecza i nowożytności." In *Rodzina, gospodarstwo domowe i pokrewieństwo na ziemiach polskich w perspektywie historycznej – ciągłość czy zmiana?* edited by Cezary Kukło. Warszawa: DiG, 2002.

-----". "Badania demograficzne nad rodziną wiejską w okresie staropolskim." In *Struktury demograficzne rodziny na ziemiach polskich do połowy XX wieku. Przegląd badań i problemów*, edited by Piotr Guzowski and Cezary Kukło. 11-32. Białystok: IBNDKE, 2014.

Haas, Theodor. "Die Ergebnisse der Volkszählung vom 31. Dezember 1910 und die jüdische Bevölkerung in Oesterreich. " *Zeitschrift für Demographie und Statistik der Juden* 10 (1912): 143-149.

Halperin, Israel. "Korot HaYehudim BeMizracha Shel Eropa mi-yemim harishonim ve-ad chalukat Polin." In Israel Halperin, *Yehudim ve-Yahadut be-mizrah Eropa – mehkarim be-toldoteihem*. Jerusalem: Magnes, 1968.

Hanson, L.A. and Winberg, J. "Breastmilk and Defense against Infection in the Newborn." *Archives of Disease in Childhood* 47 (1972): 845-848.

Hartmann, Peter Claus. "Bevölkerungszahlen und Konfessionsverhältnisse des Heiligen Römischen Reiches deutscher Nation und der Reichskreise am Ende des 18. Jahrhunderts." *Zeitschrift für historische Forschung* 22 (1995): 345-369.

Hemperek, P. "Chrzest dzieci w praktyce i w prawodawstwie Kościoła katolickiego." *Roczniki Teologiczno-Kanoniczne* 29, no. 5 (1982): 45-57.

Herman, Jan and Chaim Yahil. "Prague." In *Encyclopedia Judaica*, edited by Michael Berenbaum and Fred Skolnik. 2nd ed. vol. 16, 448-456. Farmington Hills, Mich., 2007.

Himka, John-Paul. "Dimensions of a triangle: Polish-Ukrainian-Jewish Relations in Austrian Galicia." *Polin* 12 (1999): 25-48.

Horn, Maurycy. "Najstarszy rejestr osiedli żydowskich w Polsce z 1507 r." *Biuletyn Żydowskiego Instytutu Historycznego w Polsce* 3, no. 91 (1974): 11-15.

Hubert, Michel. *Deutschland im Wandel: Geschichte der deutschen Bevölkerung seit 1815*. Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte no. 146. Franz Steiner Verlag, 1998.

Hundert, Gershon David. *Jews in Poland-Lithuania in the Eighteenth Century: A Genealogy of Modernity*. Berkeley/Los Angeles: University of California Press, 2004.

-----."Approaches to the History of the Jewish Family in Early Modern Poland-Lithuania." In *The Jewish Family. Myths and Reality*. Edited by Steven M. Cohen and Paula E. Hyman. 17-28. New York/London, 1986.

-----."Jewish Children and Childhood in Early Modern East Central Europe." In *The Jewish Family. Metaphor and Memory*, edited by David Kraemer. 81-94. Oxford, 1989.

Israel, Jonathan I. *European Jewry in the Age of Mercantilism, 1550-1750*. Oxford : Clarendon Press, 1985.

-----."Germany and its Jews: A changing Relationship (1300-1800)." In *In and Out of the Ghetto: Jewish-Gentile Relations in Late Medieval and early Modern Germany*, edited by Ronnie Po-chia Hsia and Hartmut Lehmann, 295-304. New York: Cambridge University Press: 2002.

Jahrbuch für die amtliche Statistik des Preussischen Staates. Berlin: Königlichen Statistischen Bureau, 1883.

Jahrbuch für die amtliche Statistik des Preussischen Staates. Berlin: Königlichen Statistischen Bureau, 1904.

Jersch-Wenzel, Stefi. "Population Shifts and Occupational Structure." In *German-Jewish History in Modern Times Emancipation and Acculturation, 1780-1871*, edited by Michael A. Meyer, vol. 2, 50-89. New York: Columbia University Press, 1996.

Jeziński, Andrzej and Cecylia Leszczyńska. *Historia gospodarcza Polski*. Warsaw: Key Text Wydawnictwo, 2003.

Jeziński, Andrzej and Andrzej Wyczański. *Historia Polski w liczbach*. Vol. 1, *Państwo i społeczeństwo*. Warsaw: GUS, 2003.

Kabuzan, Vladimir M. *Narody Rossii v pervoy polovine XIX veka: Chislennost i etnicheskiy sostav*. Moskva: Nauka, 1992.

- Kalik, Judith. *Sceptre of Judah. The Jewish Autonomy in the Eighteenth Century Crown Poland*. Leiden: Brill, 2009.
- Kasper-Holtkotte, Cilli. *Die jüdische Gemeinde von Frankfurt/Main in der frühen Neuzeit: Familien, Netzwerke und Konflikte eines jüdischen Zentrums*. Berlin/New York: Walter de Gruyter, 2010.
- Katz, Jacob. "Family, Kinship, and Marriage among Ashkenazim in the Sixteenth to Eighteenth Centuries." *Jewish Journal of Sociology* 1 (1959): 4-22.
- Keeble, N.H. *The Cultural Identity of Seventeenth-Century Woman: A Reader*. London, New York, 1994.
- Kemlein, Sophia. *Die Posener Juden 1815-1848: Entwicklungsprozesse einer polnischen Judenheit unter preussischer Herrschaft*. Veröffentlichungen zur Geschichte Mittel- und Osteuropas, vol. 3. Hamburg: Bölling und Galitz, 1997.
- Klapisch-Zuber, Christiane. *Women, Family, and Ritual in Renaissance Italy*. Translated by Lydia G. Cochrane. Chicago, 1985.
- Knodel, J. "Breast-feeding and Population Growth." *Science* 198 (1977): 1111-15.
- Knöpfel, Ludwig. "Stand und Bewegung der jüdischen Bevölkerung im Grossherzogtum Hessen während des 19. Jahrhunderts." *Zeitschrift für Demographie und Statistik der Juden* 6 (June 1906): 81-85.
- Koczerska, M. *Rodzina szlachecka w Polsce późnego średniowiecza*. Warszawa, 1975.
- Kolb, Georg Friedrich. *Handbuch der vergleichenden Statistik der Völkerzustands- und Staatenkunde: für den allgemeinen praktischen Gebrauch*. Leipzig: Arthur Felix, 1875.
- Kraemer, David. "Images of Childhood and Adolescence in Talmudic Literature." *The Jewish Family* (1989): 65-80.
- Krauski, Jerzy. *Historia Rzeszy Niemieckiej, 1871-1945*. Wydawnictwo Poznanskie, 1978.
- Kuklo, Cezary, Juliusz Łukasiewicz, and Cecylia Leszczyńska. *Historia Polski w liczbach*. Warsaw: Główny Urząd Statystyczny, 2014.
- Kuklo, Cezary. *Demografia Rzeczypospolitej przedrozbiorowej*. Warsaw: DiG, 2009.
- ."Marriage in Preindustrial Warsaw in Light of Demographic Studies." *Journal of Family History* 15 no. 3 (1990): 239-259.

- Kuklo, Cezary and Małgorzata Kamecka. "Marriage Strategies in Poland: Social and Spatial Differences 16th-18th Centuries." *Historical Social Research* 28 no.3 (2003): 29-43.
- Kulik, Alexander. "Jews and the Language of Eastern Slavs." *Jewish Quarterly Review* 104 no. 1 (2014): 105-43.
- . "Yevrei drevnei Rusi: istochniki i istoricheskaya rekonstrukciya." In *Istoriya yevreyskovo naroda v Rossii*, vol. 1, 189-213. Jerusalem-Moscow: Gesharim, 2010.
- Kupovetsky, Mark. "Population and Migration: Population and Migration before World War I." In *YIVO Encyclopedia of Jews in Eastern Europe* http://www.yivoencyclopedia.org/article.aspx/Population_and_Migration/Population_and_Migration_before_World_W. Accessed November 15, 2015.
- Kutrzeba, Stanisław. "Materiały do dziejów pospolitego ruszenia." *Archiwum Komisji Historycznej*. Cracow, 1902.
- Kuznets, Simon. "Immigration of Russian Jews to the United States: Background and Structure." *Perspectives in American History* 9 (1975): 33-124.
- Lestschinsky, Jacob. "Probleme der Bevölkerungs-Bewegung bei den Juden." *Metron* 6/2 (1926): 1-157.
- Levin, F. *Halacha, Medical Science and Technology*. New York: Moznaim Publishers, 1987.
- Liekis, Šarūnas. "Courland." In *YIVO Encyclopedia of Jews in Eastern Europe* <http://www.yivoencyclopedia.org/article.aspx/Courland>. Accessed November 20, 2015.
- Linfield, Harry Sebee. "Statistics of Jews" *American Jewish Year Book*, vol. 43 (1941-1942).
- . "Statistics of Jews." New York : American Jewish Committee, 1931.
- . "Statistics of the Jews" In *American Jewish Year Book*, vol. 33, 1931-1932.
- Lithell, Ulla-Britt. "Breast-Feeding Habits and Their Relation to Infant Mortality and Marital Fertility." *Journal of Family History* 6, no. 2 (1981): 182-194.
- Livron (de), V. *Statisticheskoe obozrenie Rossiiskoi imperii*. S.-Peterburg : Tov. Obshestvennaya polza, 1874.

- Lorimer, Frank. *The population of the Soviet Union: History and Prospects*. Vol. 2. League of Nations, 1946.
- Lukin, Benyamin. "Kam'ianets'-Podil's'kyi." In *YIVO Encyclopedia of Jews in Eastern Europe* <http://www.yivoencyclopedia.org/article.aspx/Kamianets-Podilskyi>. Accessed November 20, 2015.
- Lukowski, Jerzy. *Liberty's folly: the Polish-Lithuanian Commonwealth in the Eighteenth century, 1697-1795*. London and New York: Routledge, 1991.
- Mahler Raphael, *Yidn in amolikn Poiln in licht fun tsifern*. Warsaw, 1958.
- Maimon, Arye, in collaboration with Yacob Guggenheim (eds.). *Germania Judaica*. Vol. 3/1, 1350–1519. Tübingen: Mohr Siebeck, 1987.
- . *Germania Judaica*, Vol. 3/2, Tübingen: Mohr Siebeck , 1995.
- . *Germania Judaica*, Vol. 3/3, Tübingen: Mohr Siebeck, 2003.
- Manteuffel, T. "Problem feudalizmu polskiego." *Przegląd historyczny* 37 (1948): 62-70.
- Marcus, Joseph. *Social and Political History of the Jews in Poland 1919-1939*. Berlin: Mouton Publishers, 1983.
- Matthews Grieco, Sarah F. "Breast-feeding, Wet Nursing and Infant Mortality in Europe (1400-1800)." In *Historical Perspectives on Breast-Feeding*, eds. Sarah F. Matthews Grieco and Carlo A. Corsini, 15-62 . Florence: UNICEF, 1991.
- Mączak, Antoni. "Confessions, Freedoms, and the Unity of Poland-Lithuania." In *Money, Prices, and Power in Poland, 16-17th Centuries. A Comparative Approach*, edited by Antoni Mączak, 269-286. Variorum, 1950.
- McCagg, William. O. *A history of Habsburg Jews, 1670-1918*. Bloomington and Indianapolis: Indiana University Press, 1992.
- Meir, Natan M. *Kiev, Jewish Metropolis. A History, 1859-1914*. Bloomington: Indiana University Press, 2010.
- Michałowska-Mycielska, Anna. "Lublin: Lublin before 1795." In *YIVO Encyclopedia of Jews in Eastern Europe* http://www.yivoencyclopedia.org/article.aspx/Lublin/Lublin_before_1795. Accessed November 20, 2015.
- Miller, Jaroslav. *Urban Societies in East-Central Europe, 1500–1700*. Historical Urban Studies Series. Aldershot: Ashgate Publishing, 2008.

- Mitchell, Brian R. *International Historical Statistics: Europe, 1750-2000*. 5th ed., Houndsmill and New York: Palgrave Macmillan, 2003.
- Musiał – Morsztyn, Dorota, Gabriela Bogdał and Barbara Królak-Olejnik. "Karmienie piersią na przestrzeni dziejów. Część I – od starożytności do współczesności," *Piel. Zdr. Publ.* 4, no. 1 (2014): 59-64.
- Müller, W. ed., *Relacje o stanie diecezji krakowskiej 1615-1765*. Lublin, 1978.
- Nadav, Mordekhai. *The Jews of Pinsk, 1506 to 1880*. Edited by Mark Mirsky and Moshe Rosman. Stanford Calif.: Stanford University Press, 2007.
- Oren, Yitzhak (Nadel), Michael Zand et al. (eds.). *Kratkaya yevreyskaya entsiklopedia*. Vols. 1-11. Jerusalem: Society for Research on Jewish Communities, 1976-2005.
- Österreichische Statistik. Neue Folge. Vol. 1. Vienna: K. K. statistischen Zentralkommission, 1912.
- Pařík, Arno. "Prague." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Prague>. Accessed October 10, 2015.
- Polonsky, Antony. *The Jews in Poland and Russia:1350-1881*. Oxford: Littman, 2010.
- . *The Jews in Poland and Russia: 1914-2008*. Vol. 3. Littman library of Jewish civilization, 2012.
- . "Warsaw." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Warsaw>. Accessed December 13, 2010.
- Preuss, Julius. *Biblical and Talmudic Medicine*. trans. and edited by Fred Rosner. Northvale, 1993.
- Rabe, Horst. *Reich und Glaubensspaltung, Deutschland 1500-1600*. Munich: C.H. Beck, 1989.
- Rashin, Adolf G. *Naseleniye Rossii za 100 let (1811-1913)*. Moscow: Gosudarstvennoye Statisticheskoye Izdatelstvo, 1956.
- Rice, Eugene F. Jr. and Anthony Grafton. *The Foundation of Early Modern Europe, 1460 – 1559*, 2nd ed. London, New York: W.W. Norton & Company, 1994.
- Richarz, Monika. "Demographic Developments." In *German-Jewish History in Modern Times*, edited by Michael A. Meyer, vol. 3, 30-31. New York: Columbia University Press, 1997.

- Rok, B. ed., "Poradnik Józefa Legowicza o pożyciu małżeńskim z XVIII wieku." *Acta Universitatis Wratislaviensis* 2054, *Prace Pedagogiczne* 126 (1998): 75-131.
- Rosenfeld, Max. "Die jüdische Bevölkerung Galiziens von 1772 – 1867." *Zeitschrift für Demographie und Statistik der Juden* 9/10 (1914): 138-143.
- Rosenthal, Herman. "Kiev" In *Jewish Encyclopedia online. The unedited full-text of 1906.* <http://www.jewishencyclopedia.com/articles/9314-kiev>. Accessed, November 25, 2015.
- Rosman, Moshe J. *The Lord's Jews. Magnate-Jewish Relations in the Polish-Lithuanian Commonwealth during the 18th Century.* Cambridge: Harvard University Press, 1990.
- . *Polin. Prakim Betoldot Yehudey Mizrach-Eropa veTarbutam.* Unit 1. Open University, 1991.
- Rozenblit, Marsha L. *The Jews of Vienna: Assimilation and Identity, 1867-1914.* Albany NY: State University of New York Press, 1983.
- Rubin, Noga. *Kovesh HaLevavot.* Tel Aviv, Kibutz HaMeuhad, 2013.
- Ruderman, David B. *Early Modern Jewry. A New Cultural History.* Princeton and Oxford: Princeton University Press, 2010.
- Ruppin, Arthur. *The Jewish Fate and Future.* Translated by E. W. Dickes. London: Macmillan & Co. 1940.
- Salmon-Mack, Tamar. "Childhood." In *YIVO Encyclopedia of Jews in Eastern Europe.* <http://www.yivoencyclopedia.org/article.aspx/Childhood>. Accessed December 10. 2015.
- . *Ṭan Du: al Nišuin U-Mashberehem Be-Yahadut Polin-Liṭa, 1650-1800* Bnei Brak: Ha-kibbutz ha-meuhad, 2012.
- . "Dilemot shel Almanot be-rashit ha-et ha-hadasha....." In *Rishonim veAchronim. Mechkarim beToldot Israel Mugashim LeAvraham Grosman,* edited by Y. Hacker et al. 391-425. Jerusalem: Zelman Shazar, 2010.
- Samsonowicz, Henryk. "The Jewish Population in Poland during the Middle Ages." *Dialectics and Humanism* 16, no. 1 (1989): 35-42.
- Sand, Shlomo. *The Invention of the Jewish People.* Translated by Yael Lotan. London and New York: Verso, 2009.

- Schenker, Joseph G. "Jewish Law (Halakha) and Reproduction." In *Ethical Dilemmas in Assisted Reproductive Technologies*, edited by Joseph G. Schenker, 343-362. Berlin/Boston: Walter de Gruyter, 2011.
- Schiper, Ignacy. "Rozwój ludności żydowskiej na ziemiach dawnej Rzeczypospolitej." In: *Żydzi w Polsce Odrodzonej*, edited by Ignacy Schiper, Arieh Tartakower, and Aleksander Hafftko, vol.1, 29-35. Warsaw, 1932.
- Schmelz, Usiel Oskar. *Die jüdische Bevölkerung Hessens: von der Mitte des 19. Jahrhunderts bis 1933*. Schriftenreihe Wissenschaftlicher Abhandlungen Des Leo Baeck, vol. 51. Tübingen: Mohr Siebeck, 1996.
- . *Infant and Early Childhood Mortality among Jews of the Diaspora*. Series: Jewish Population Studies. Jerusalem: Institute of Contemporary Jewry, Hebrew University, 1971.
- Schormann, G. "Der Dreißigjährige Krieg 1618–1648." In *Gebhardt: Handbuch der deutschen Geschichte*, edited by Wolfgang Reinhard, 10th ed., vol. 10, 205–79, Stuttgart: Klett-Cotta, 2001.
- Segall, Jacob. "Die Juden im Königreich Sachsen von 1832 bis 1910." *Zeitschrift für Demographie und Statistik der Juden* 3 (1914): 33-46.
- ."Die Entwicklung der jüdischen Bevölkerung in Württemberg von 1820 bis 1910." *Zeitschrift für Demographie und Statistik der Juden* 4 (1913):49-53.
- ."Die jüdische Bevölkerung in Württemberg." *Zeitschrift für Demographie und Statistik der Juden* 1 (1905):11.
- Shochetman, Eliav. "Lemahutam shel klaley ha-Halacha be-sugiyat hahzakat hayeladim." *Shnaton Ha-MIshpat Ha-Yvri* 5 (1977): 286-320.
- Silbergleit, Heinrich. *Die Bevölkerungs und Berufsverhältnisse der Juden im Deutschen Reich: auf Grund von amtlichen Materialien*, vol. 1, Freistaat Preussen, Berlin: Akademie-Verlag, 1930.
- Shapira, Dan D.Y. "Khazars and Karaites, Again." *Karadeniz Araştırmaları*, Sayı 13 (Bahar 2007): 43-64.
- Slutsky, Yehuda, et.al. "Kiev." *Encyclopedia Judaica*. Edited by Michael Berenbaum and Fred Skolnik. 2nd ed., vol. 12. 148-53. Detroit: Macmillan Reference USA, 2007. <http://go.galeogroup.com> Accessed November 25, 2015.

- Stampfer, Shaul. "Are We All Khazars Now?" *Jewish Review of Books* 17 (2014): 61-74.
- . "Did the Khazars Convert to Judaism?" *Jewish Social Studies: History, Culture, Society* 19, no. 3 (2013): 1-72.
- . "What actually happened to the Jews of Ukraine in 1648?" *Jewish History* 17, no. 2 (2003): 207-227.
- . "Gidul ha-okhlosiyah ve-hagirah be-yahadut Polin-Lita' be-'et ha-hadashah." in *Kiyum ve-shever: Yehudey Polin le-dorotehem*, vol. 1, 263–285. Jerusalem: Merkaz Zalman Shazar, 1997.
- . "The 1764 Census of Polish Jewry." In *Bar-Ilan: Annual of Bar-Ilan University, Studies in Judaica and the Humanities* 24–25 (1989): 41–147. *Studies in the History and Culture of East European Jewry*, edited by Gershon Bacon and Moshe Rosman.
- . "Remarriage among Jews and Christians in nineteenth-century Eastern Europe." *Jewish History* 3, no. 2 (1988): 85-114.
- Statistisches Jahrbuch für den Preussischen Staat*. Berlin: Verlag des Königlichen Statistischen Landesamts, 1903, 1904, 1906.
- Steinberg, Avraham. *Encyclopedia of Jewish Medical Ethics*. Jerusalem and New York: Feldhaim, 2003.
- Steinberg, S.H. *A Short History of Germany*. New York: Macmillan, 1945.
- Stow, Kenneth R. *Alienated Minority: The Jews of Medieval Latin Europe*. Cambridge Mass., and London: Harvard University Press, 1992.
- Teller, Adam. "Telling the Difference: Some Comparative Perspectives on the Jews' Legal Status in the Polish-Lithuanian Commonwealth and the Holy Roman Empire." *Polin* 22 (2009): 109-141.
- Thon, Jacob. *Die Juden in Österreich*. Berlin : L. Lamm, 1908.
- Toch, Michael. *Peasants and Jews in Medieval Germany: Studies in Cultural, Social and Economic History*. Aldershot, Hampshire: Ashgate, Variorum, 2003.
- . *Die Juden im mittelalterlichen Reich*. (Enzyklopädie Deutscher Geschichte 44). Munich: Oldenbourg, 1998.
- Tolts, Mark. "Population and Migration: Population since World War I." In *YIVO Encyclopedia of Jews in Eastern Europe*

http://www.yivoencyclopedia.org/article.aspx/Population_and_Migration/Population_since_World_War_I. Table 1. Accessed January 10, 2015.

Topolski, Jerzy. *Zarys dziejów Polski*. Warsaw: Interpress, 1982.

Topolski, Jerzy, ed. *Dzieje Poznania*. Warsaw-Poznań: Państwowe Wydawnictwo Naukowe, 1988.

Toury, Jacob. *Soziale und politische Geschichte der Juden in Deutschland, 1847-1871: zwischen revolution, Reaktion und Emanzipation*. Vol. 2. Dusseldorf : Droste, 1977.

Trussell, James and Samuel H. Preston. "Estimating the Covariates of Childhood Mortality from Retrospective Reports of Mothers." *Health Policy and Education* III (1982): 1-36.

Vobecka, Jana. *Demographic Avant-Garde: Jews in Bohemia between the Enlightenment and the Shoah*. Budapest - New York: Central European University Press, 2013.

------. "Analýza: Dějiny osídlení Židů v Čechách a na Moravě do roku 1848," *Demografie*. http://www.demografie.info/?cz_detail_clanku=&artclID=364. Accessed January 10, 2015.

Wallerstein, Immanuel. *The Modern World System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. New York: Academic Press, 1974.

Wassermann, Ludwig. "Aufbau der jüdischen Bevölkerung in Baden während der zweiten Hälfte des 19 Jahrhunderts." *Zeitschrift für Demographie und Statistik der Juden* 2 (February 1906) :22-29.

Wassermann, Rudolf. "Die Entwicklung der jüdischen Bevölkerung in Bayern im 19. Jahrhundert." *Zeitschrift für Demographie und Statistik der Juden* 11 (1905): 11-13.

Waszak, S. "Dzietność rodziny mieszczańskiej i ruch naturalny ludności miasta Poznania w końcu XVI i w XVII wieku." *RDSG* 16 (1954): 316-384.

Wear, Andrew. "Disease and society. The Demographic Background" In, *The Western Medical Tradition: 800BC to Ad 1800*, edited by Conrad Lawrence, vol. 1, 215- 250. Cambridge University Press, 1995.

Weinryb, D. Bernard. *The Jews of Poland: A Social and Economic History of the Jewish Community in Poland from 1100 to 1800*. Philadelphia: The Jewish Publication Society of America, 1972.

Whaley, Joachim. *Germany and the Holy Roman Empire, Vol. I: Maximilian I to the Peace of Westphalia, 1490-1648*. Oxford University Press, 2012.

Wiesnae, Merry E. *Women and Gender in Early Modern Europe*. Cambridge, 2000.

Wodziński, Marcin. "Wrocław." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Wrocław> Accessed November 18, 2015.

-----". "Tombstones." In *YIVO Encyclopedia of Jews in Eastern Europe*. <http://www.yivoencyclopedia.org/article.aspx/Tombstones> Accessed November 19, 2015.

Wolski, M. *Trzeciocy herbu Strzemię. Małopolska rodzina szlachecka XIV-XVI wieku*. Krakow, 2005.

Woods, Robert I., Patricia A. Watterson, and John H. Woodward. "The Causes of Rapid Infant Mortality Decline in England and Wales, 1861-1921." *Population Studies* 43 (1989): 113-132.

Wróbel, Piotr. "Jews of Galicia under Austrian-Polish Rule 1867-1918." *Austrian History Yearbook* 25 (1994): 97-138. <http://easteurotopo.org/articles/Wróbel/Wróbel.pdf> . Accessed November 15, 2015.

Yevreyskoye naseleniye Rossii po dannym perepisi 1897 goda. Petrograd: Kadima, 1917.

Yevreiskoe Statisticheskoe Obshchestvo, Evreiskoe naselenie Rossii po dannym perepisi 1897 g. i po noveishim istochnikam. Petrograd: Kadima, 1917.

Zamorski, Krzysztof. *Informator statystyczny do dziejów społeczno-gospodarczych Galicji: ludność Galicji w latach 1857-1910*. *Varia*, vol. 270. Cracow-Warsaw: Polskie Towarzystwo Statystyczne, 1989.

Zaremska, Hanna. *Żydzi w średniowiecznej Polsce: gmina krakowska*. Warsaw: Instytut Historii PAN, 2011.

-----". "Grzech i występki: normy i praktyka moralności społecznej" in *Kultura Polski średniowiecznej*, edited by Bronisław Gieremek. 533-576. Warszawa, 1997.

Zemon-Davis, Natalie. *Women on the Margins: Three Seventeenth-century Lives*. Harvard University Press, 1995.

Zieliński, Konrad. "Lublin: Lublin after 1795." In *YIVO Encyclopedia of Jews in Eastern Europe*

http://www.yivoencyclopedia.org/article.aspx/Lublin/Lublin_after_1795. Accessed November 15, 2015.

Zimmerman, Deena R. "Duration of Breastfeeding in Jewish Law." In *Jewish Legal Writings by Women*, edited by M. Halperin and C. Safrai, 52-59. Jerusalem: Urim Publications, 1999.

Żołędź-Strzelczyk, Dorota. "Dzieciństwo w mieście na ziemiach polskich w XVI-XVIII w. – możliwości źródłowe i perspektywy badawcze." (2010)
<https://repozytorium.amu.edu.pl/bitstream/10593/6869/1/1%20Zoladz-Strzelczyk.pdf>
Accessed on November 30, 2015.

----- . *Dziecko w dawnej Polsce* (Poznań, 2002),

----- . "Wokół ciąży, porodu i położu w okresie staropolskim." *Nowiny lekarskie* 2 (2010): 98-107.