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Working Paper No. 465

**The Local Geographic Origins of
Russian-Jewish Immigrants, Circa 1900**

by

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ABSTRACT

This working paper concerns the local origins of Russian-Jewish immigrants to the United States, circa 1900. New evidence is drawn from a large random sample of Russian-Jewish immigrant arrivals in the United States. It provides information on origins not merely by large regions, or even by the provinces of the Pale of Settlement (where nearly all Russian Jews lived), some 25 in number; rather, most analysis is conducted in terms of some 230 districts that made up the administrative subdivisions of provinces. The sample evidence is coordinated with district-level data from the detailed publications of the 1897 Census of the Russian Empire. Finally, all of this evidence has been entered into digitized maps.

JEL Classifications: J15, N30, N33

Keywords: Migration, economic history, economics of races

INTRODUCTION

During the last period of major immigration to the United States, from about 1880 through 1920, roughly 25 million immigrants entered the United States, nearly all from Europe.¹ The countries of northern and western Europe, especially Great Britain, Ireland, Scandinavia, and Germany continued to provide an important fraction of all immigrants. Even at their lowest level, between 1901 and 1910, about one immigrant in four came from these countries. However, beginning in the 1880s, immigrants from southern and eastern Europe, the “new immigration,” became an important part of the flow. These were chiefly Italians, Slavs, and east-European Jews. The “new immigrants” comprised 27% of all immigrants during the second half of the 1880’s, 63% in the second half of the 1890’s, and 71% during 1901-10. After that, with the coming of World War I, their dominance declined. Then, in the early twenties, immigration quotas reduced all immigration sharply and reduced the share from southern and eastern Europe much more sharply still.

The Jewish immigration of 1880–1920 was, by far, the largest Jewish immigration to the United States in any period, and indeed it was the largest international migration in any four decades of Jewish history, including migrations to the land of Israel since the rise of Zionism. From the perspective of American history, the Jews made up about 11% of all immigrants between 1899 and 1924, when records were best. And since the Jews were much less likely to return to the lands they had left than most immigrant groups, their share among permanent immigrants was 14.3%, second only to the Italians at 16.9% (Archdeacon 1983). The immigration had begun before 1880, and during the decade of the eighties, it averaged 23,000 per year. The rate nearly doubled in the 1890’s and more than doubled again after 1900. Indeed, in the crucial five years 1903–7, an average of 123,000 Jews arrived annually (Table 1).

¹ The total number of immigrants can be estimated from the first and last columns of Table 1. The European domination was due, not least, to the curtailment of Asian immigration by law and administrative arrangements. Informal border crossing from Mexico existed, and was of numerical consequence after 1910, but its period of dominance would come later (Perlmann 15).

Table 1. JEWISH IMMIGRATION TO THE UNITED STATES: 1880-1924

Period	number of Jewish immigrants (in 000s)				% of Jews among all immigrants
	in period	av. per yr	from Russia	from Aus.-H	
1881-1889	204	23	68	26	4
1890-1898	367	41	76	20	11
1899-1902	214	54	64	25	11
1903-1907	615	123	78	15	12
1908-1914	656	94	79	16	10
<i>subtotal: 1881-1915</i>	<i>2,057</i>	<i>61</i>	<i>76</i>	<i>19</i>	<i>9</i>
1915-1919	66	13	40	5	6
1920-1924	287	57	38	28	10
1925-1929	56	11	35	28	4
<i>subtotal: 1915-1929</i>	<i>408</i>	<i>27</i>	<i>38</i>	<i>24</i>	<i>7</i>

NOTE. Source: Kuznets (1975) 39, 46.

Nearly all of the pre-1914 Jewish immigration not accounted for in cols. 3 - 4 was from Romania (4% of Jewish immigration, 1881-1914, 11% 1915-24).

The Jewish emigration originated almost exclusively from three political entities, the Russian Empire, the Austro-Hungarian Empire, and Romania (Table 2).

Table 2. JEWISH IMMIGRANTS BY COUNTRY OF ORIGIN, 1899-1910:
published and sample data

Country of Origin	Percentage of all Jewish immigrants			
	published data*		sample data**	
	1899-1900	1901-1910	1899-1900	1907-1908
Russian Empire	62	72	56	65
Austro-Hungarian Emp. ***	29	16	32	21
Roumania	8	5	9	5
German Empire	1	1	1	1
Other ***	1	6	1	8
Total	100	100	100	100
Total N	98179	976,263	5,287	3610

NOTES:

Source: Wilcox (1929), I, 464, 483-8.

* "Hebrew" "race or people.

** Selected from manuscript passenger lists; see text.

*** Mostly England and Canada. In the sample: also missing data.

A relatively small proportion reported that their last permanent residence had been in England, France, or Germany, but nearly all of these also mentioned that they had actually been born in one of the three east-European countries mentioned. These three countries, and especially the eastern end of the Austro-Hungarian Empire and the Western provinces of the Russian Empire, were, in the second half of the nineteenth century, the great demographic heartland of the Jewish people (Table 3).

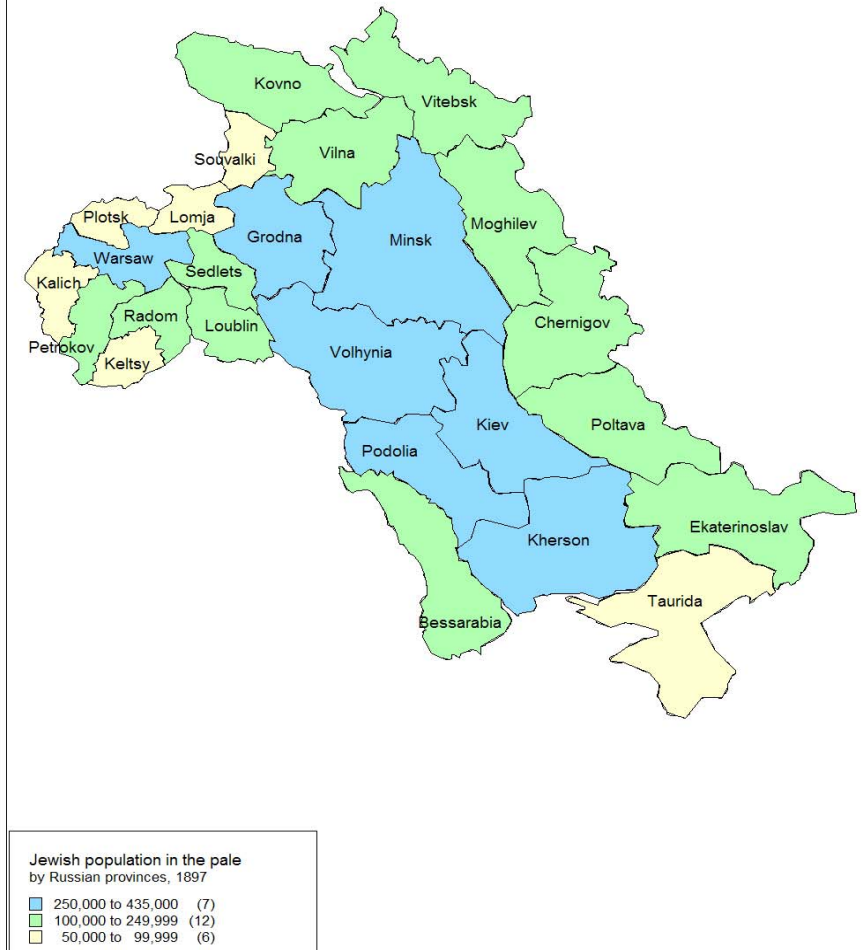
Country or region	Jewish population (000s)
Russian Empire	5,100
Aust.-Hungarina Empire	2076
Roumania	267
German Empire	608
Total, E+C. Europe	8,051

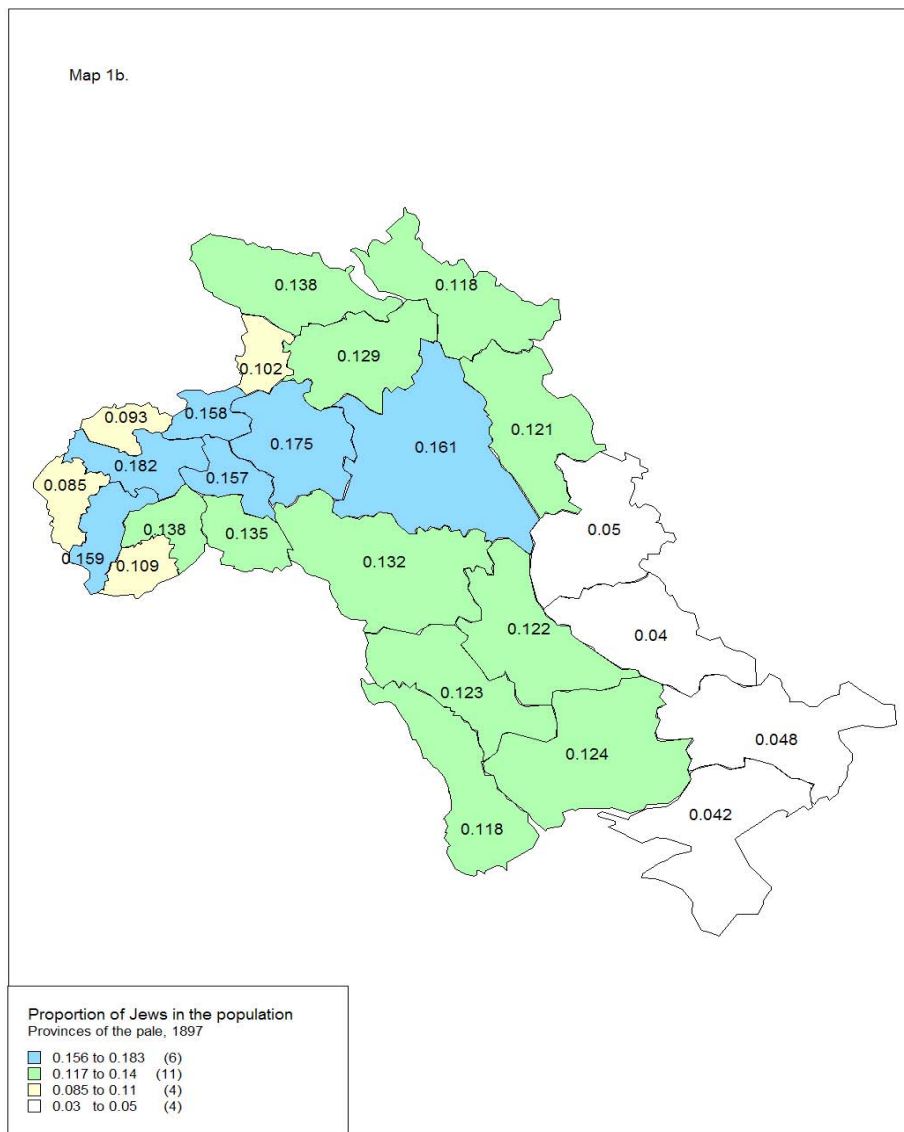
Source: Ruppin (1913) 38-9.

The largest number of Jews was, by far, from the Russian Empire, reaching 72% of all Jewish immigrants in the years 1901–10 (Table 2). All this is well-known. What is not well-known is the local origins of the Jews within the Russian Empire. The published records of the American immigration authorities, like those of the census, only list country of origin. We can certainly assume, and the evidence here adds empirical support to the assumption, that the Jews of Russia came almost entirely from the Pale of Settlement. The Pale included the 15 most westerly Russian provinces, as well as the ten provinces of Russian Poland still further to the west. Nearly all Russian Jews were forbidden to live outside the Pale—and indeed even within the Pale they were forbidden to live outside the towns and cities (that is, in the villages and countryside). To have the right to live in other places involved qualifying through very special situations: a university degree, a large wealth holding, or military status. The 1897 Census of the Russian Empire, the only authoritative enumeration before the revolution, found that less than 5% of Russian Jews lived outside the Pale, and indeed many of these lived in adjoining provinces, such as in other parts of the Baltics. Less than 1% of the Empire’s Jews lived in the two capitals of Saint Petersburg and Moscow. The small number of Jews fortunate enough to live outside the Pale were also less likely than the others to consider emigration; they tended to be among the Empire’s most fortunate Jews in economic and political terms.

But knowing that the Jewish immigrants came from the Pale is not much of an answer; the Pale covered a huge area—over a third of a million square miles, making it as large as France and the British Isles combined. Although it was not as densely populated as these western European countries, some 42 million people were living in the Pale at the time of the 1897 census. The Jews amounted to just over a ninth of that number, but they were by no means evenly dispersed across this vast area (Maps 1a and 1b).

Map 1a





So it is of some interest to understand which Jews were most likely to leave the Pale. In a general way, contemporaries—for example, I.M. Rubinow (1907), B.D. Brutskus (1909), and Liebmann Hersch (1913)—were aware that Lithuanian Jews predominated in the emigration. The boundaries of “Lithuania” in these discussions did not necessarily mean the three provinces that the Empire so designated in 1897, but a larger, vaguely defined area in the north of the Pale. More recently, Simon Kuznets (1975) suggested that the

generalization was borne out in a general way 1897 census evidence. He divided the Pale into four large regions and compared the ratios of men to women and of old to young in each region. The men and the young adults were disproportionately likely to emigrate, and so both ratios were lower in the northern region. Similarly, Shaul Stampfer (1986) examined membership lists from early voluntary hometown associations in the United States and he, too, noted the prevalence of Lithuanians. Most recently, Gur Alroey (2006) has been studying lists of tens of thousands of Russian Jewish emigrants bound for all corners of the globe; these people had registered for various reasons with Jewish organizations in Russia. Alroey's work also confirms the disproportionate prevalence of the same region.

The evidence discussed in this working paper adds to our knowledge of the geographical origin of the Russian Jewish immigrants to the United States. The new evidence differs in two ways from that discussed in earlier studies. First, it is drawn from a large random sample of Russian Jewish immigrant arrivals in the United States. Second, it provides information not merely on large regions, or even on the 25 provinces of the Pale, but instead in terms of some 230 districts (*uezds*) that made up the administrative subdivisions of Russian provinces. Third, this evidence is coordinated with evidence also drawn at the district level from the detailed publications of the 1897 Census of the Russian Empire. And finally, all of this evidence has not merely been made machine readable, but entered into digitized maps of the Pale at the district level, allowing for a visual display of the emigration patterns that is, to the best of my knowledge, seen here for the first time.

THE EVIDENCE

I drew a sample of 8,897 Jewish immigrant arrivals. The American immigration authorities required that information about each immigrant be recorded on passenger lists. The forms used for these lists were similar in census manuscript schedules and asked many of the same questions—age, sex, literacy, occupation, and so on—but they were, of course, tailored to immigrants. Thus, they included questions on destination, available funds, and various detailed questions on place of origin. I selected sample members from

passenger lists for the port of New York from 1899–1900 and 1907–8. Just under four fifths of all immigrants were arriving at that port circa 1900, and probably an even higher percentage of Jews arrived there (given their propensity to settle in the New York area).² The first year sampled was selected to be as near as possible in time to the Russian Census of 1897, but after the depression of the 1890's had ended and immigration had resumed its high regular level. The second year sampled was the last of the five peak years of Jewish immigration.³

Jews were identified explicitly in the passenger lists. Their distribution by national origin accords well with published figures in the *Annual Reports* of the U.S. Commissioner of Immigration. The Russian-born, with whom we are concerned here, numbered 2,978 in the 1900 sample and 2,457 in the smaller sample selected from 1907 (Table 2; see appendix for details on sampling).

Our evidence on local origins comes from a question about place of last permanent residence. The specificity of place of last residence—a city or town rather than a province—allows me to plot the origins of immigrants on the map of the 230-some local districts within the Pale. But this information about specific place comes at a cost because the passenger lists did not record the name of the province within which the town or city was located, and so it is often impossible to know which of several possible places the immigrant referred to. Add to this other problems—legibility of the manuscripts, the ignorance of the relevant east European languages on the part of the person completing the passenger lists, and the fact that many places had different names in the different languages of the area—in Polish, Russian, Lithuanian, German, and so on. I made a very extensive effort to identify the places, but about half the place names could not be identified. The appendix describes the effort to match the names, and explains how I worked around the problem of missing half of them, a solution that involved weighting those found to represent the entire group.

² Bureau of Statistics, United States Treasury Department, *Immigration into the United States...1820–1903* (Washington 1903), shows that 78% of all immigrant arrivals in 1899–1901 were entering the Port of New York.

³ The records are on microfilm reels maintained by the National Archives and the sample involved taking all individuals who met selection criteria on randomly chosen days of the year (within each quarter) and from randomly chosen pages of the microfilms covering those days. It was selected from the years 1900 and 1907.

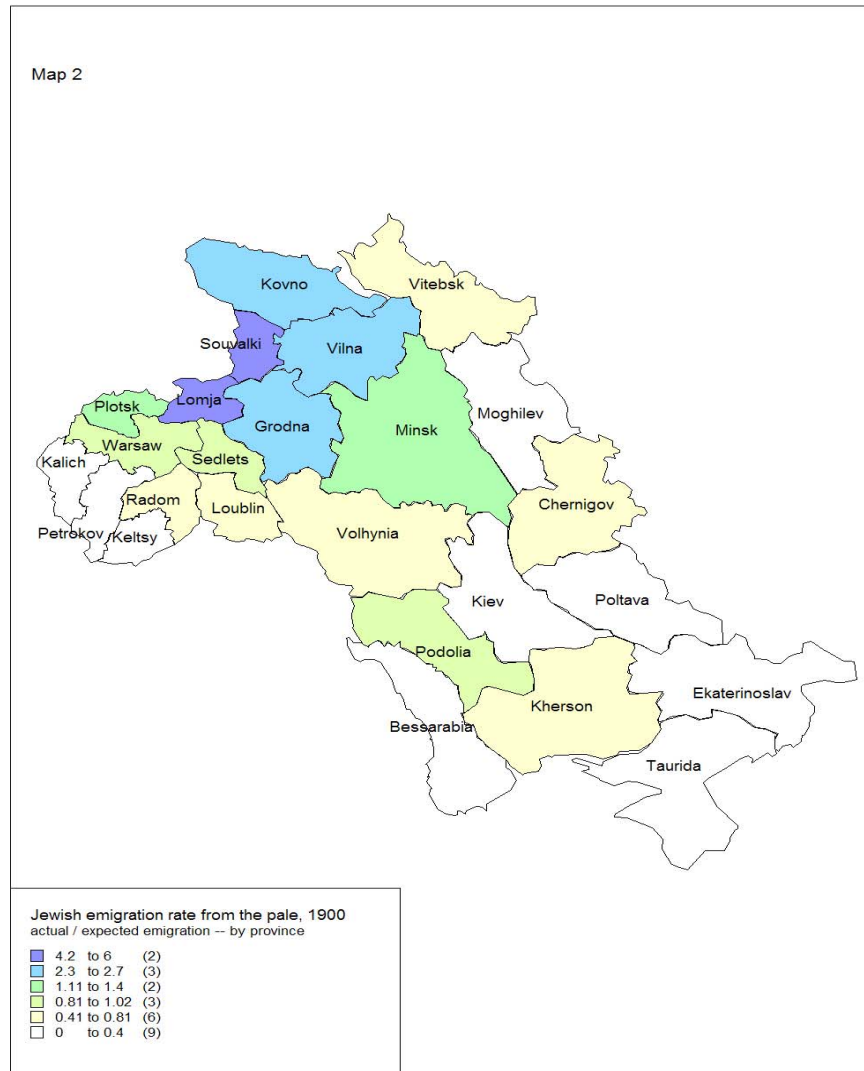
We can view our evidence on local origins in terms of two issues. One is the composition of the Jewish immigrant community: how fully were various parts of the Pale represented among the immigrants? For example, what proportion came from the three Lithuanian provinces? This perspective allows us to have some additional feel for the character of the immigrant community being established in the new world. My hunch is that this is the less interesting issue that the data addresses because it is difficult to be sure that immigrants from different regions really differed systematically, at least in terms of any measurable characteristic. On the other hand, we can also explore the likelihood of emigration from a particular geographic area within the Pale—for example, how much more likely were Jews from Lithuania to emigrate to the United States than Jews from the Pale as a whole, or than Jews from the southern provinces of the Pale. This issue differs from the first in quantitative terms because it takes into account the proportion of Jews living in each area of the Pale, and not merely the proportion from a particular area among the immigrants. If we were interested only in the composition of the American immigrant community, the likelihood of leaving would be unnecessary to explore. But we are also, after all, interested in the process of emigration (including why people tended to leave). Indeed, the likelihood question might be restated to stress that even if the Jews in different parts of the Pale did not differ in social, economic, or cultural characteristics at all, we would still want to know whether and why Jews from certain areas were much more likely to leave than Jews from other area.

I discuss both these issues in this paper, but most of my effort is focused on the likelihood of emigration. I measure the likelihood of emigration to the United States from a particular district as: a) the proportion of all sample members from the Pale of Settlement who came from this district *divided by*, b) the expected proportion. The expected proportion, in turn, is simply the proportion of the Pale's entire Jewish population who lived in the district at the time of the 1897 Russian Census.⁴

⁴Theoretically, the method could be refined by taking into account the likelihood that people who emigrate are disproportionately young adults. However, when I weighted the age groups reported in the 1897 Census in terms of the age distribution in the sample of immigrants, the expected proportions were almost identical to those obtained without weighting by age.

PROVINCE-LEVEL ANALYSIS OF EMIGRATION, 1900

In 1900, immigration came very disproportionately from three groups of provinces (Map 2). And since these provinces were contiguous, we can discuss a single high-emigration area. Included are: 1) the provinces of Lithuania (Grodno, Kovno, and Vilna); 2) Minsk; and 3) several provinces in eastern Poland (Lomja, Suwalki, and Plotsk).



Together these seven provinces included 25% of the Pale's Jewish population in 1897, but accounted for 61% of the immigrants in 1900. Ignoring Minsk and Plotsk, in which the likelihood of emigration was not as high as in the rest of the contiguous area, we are left with the three Lithuanian provinces, and the two Polish provinces of Suwalki and Lomja. Fifteen percent of the Pale's Jewish population lived in these provinces, while 53% of Russian Jewish immigrants came from there.

The other seven Polish provinces contributed 13% of the immigrants. The two White Russian provinces, Vitebsk and Moghilev, contributed only 4% more. In the mid-Pale region, the great Jewish populations of Volhynia, Podolia, and Kiev provinces, with a quarter of the Pale's Jewish population, provided 15% of the immigrants. And the provinces of the south and southeast, with 19% of the Jewish population of the Pale, accounted for but 7% of the immigrants. In sum, we can contrast two areas of the Pale, one, comprising the five provinces with the highest emigration rates (Kovna, Vilna, Grodno, Suwalki, and Lomja), included 15% of the Pale's Jewish population and sent 53% of the 1900 immigrants. The other, comprising the entire south and southeast of the Pale, included 19% of the Jewish population but sent only 6% of the immigrants.

It is possible, of course, that some areas may have sent more emigrants to one part of the world while other areas sent more emigrants to other parts of the world—some to New York, for example, others to South Africa or France. Indeed, Gur Alroey's data seem to suggest subtle differences of this type (Alroey 2006). It is possible that the “expected” emigration (measured by the proportion of the 1897 Jewish population of the Pale found in the area) might approximate somewhat more closely the actual emigration if we took into account all destinations, and the likelihood of emigration might then appear less unequal across the parts of the Pale. In essence, we are measuring expected emigration to the United States on the assumption that emigration to different parts of the world did not differ substantially from different parts of the Pale. Nevertheless, the sort of extreme differences in likelihood of emigration that we have just reviewed are not likely to be explained to a great extent by differences in the propensity of Jews (from areas as large as whole regions) to go to one destination rather than another.

In any event, there is no particular reason to think that provincial borders mark the areas of highest emigration in a particularly close manner; we use the measure because it

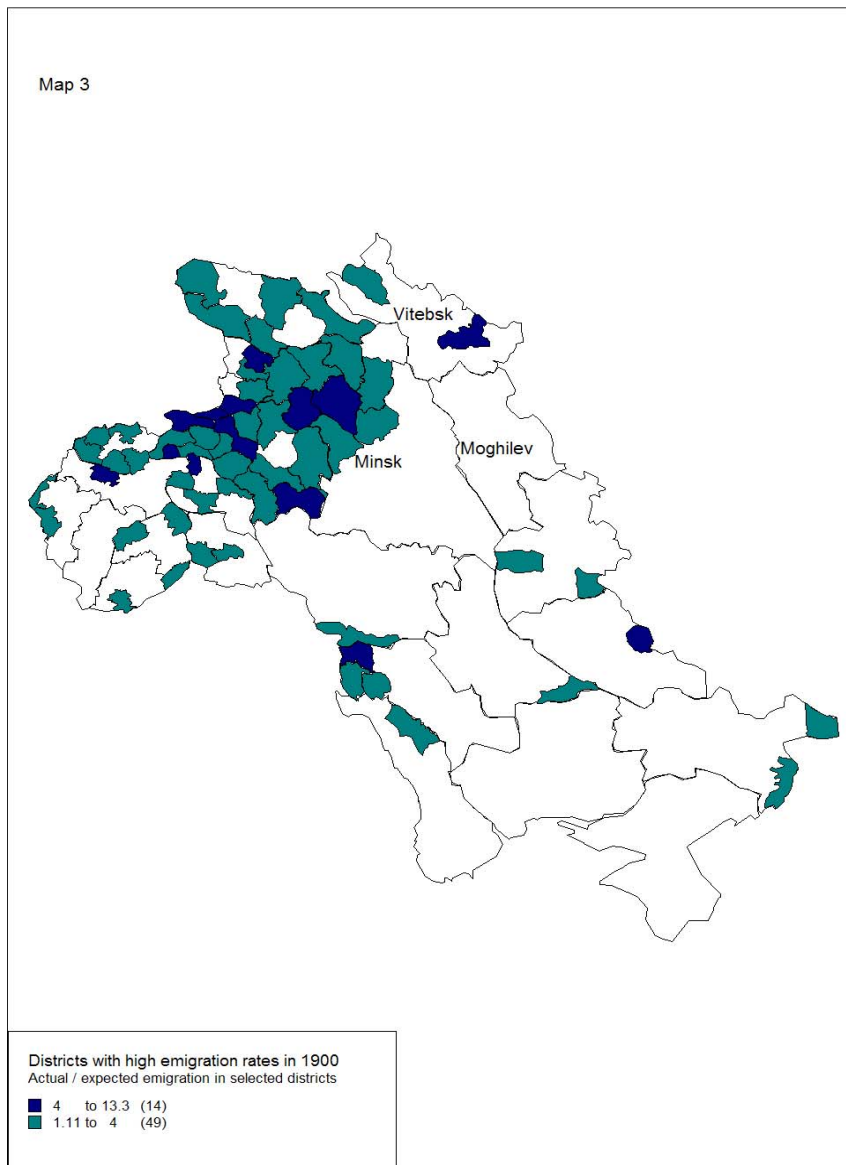
is convenient. But it is reasonable to expect that a smaller unit of geographic analysis will show that parts of provinces have higher emigration and some parts lower. Consider the province of Minsk, for example. It is on the edge of the high emigration region, it displays only an above-average (not an extremely high) likelihood of emigration, and it covers a large area. A more refined analysis, therefore, might show that the areas of the province closer to Lithuania had the higher emigration rates, and areas farther away lower rates.

DISTRICT-LEVEL ANALYSIS OF EMIGRATION, 1900

The method for measuring the likelihood of emigration remains the same as at the provincial level, but for a smaller unit of geography: actual emigration to the United States relative to expected emigration from the district, and expected emigration is defined as the proportion of the Pale's 1897 Jewish population found in the district. Of course, now the sample is divided into over 230 possible areas of origin, rather than into 25 provinces (on sampling issues, see the appendix). However, the overall patterns are determined by any given district but precisely by proximate districts to share independent results, namely similar emigration rates.

The division of the sample into so many districts also means that no sample members at all reported having lived in 105 of the districts in 1900; as I explain in the appendix, this is what we should expect. Many districts had few Jewish inhabitants, and many of these were in the parts of the Pale sending the fewest immigrants. In the accompanying maps, then, the districts from which no immigrant is listed should not be understood to involve missing data; rather, the lack of representation from those places is a finding.

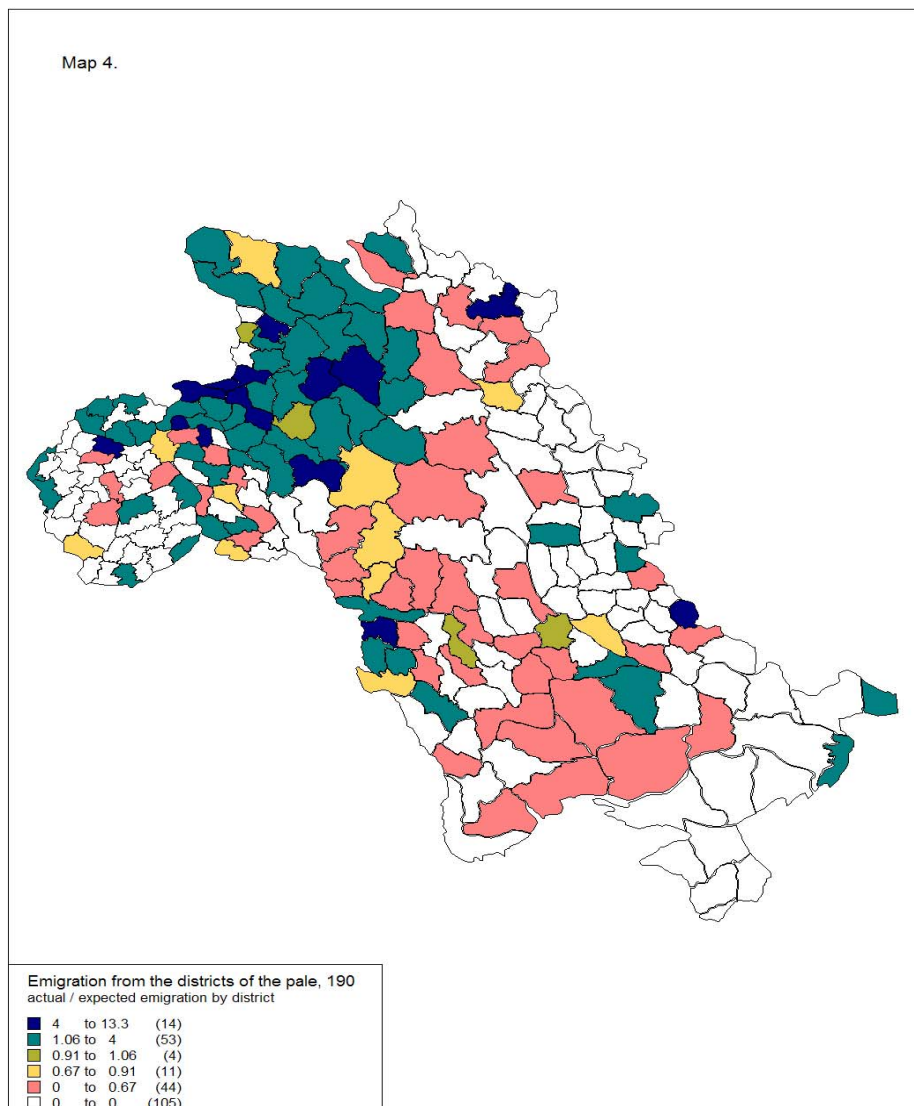
Map 3 shows the districts with high emigration (districts in which actual emigration exceeded expected emigration by a factor of 1.11 or more) against the background of the province boundaries. The three White Russian provinces of Minsk, Vitebsk, and Moghilev deserve attention first. Even in the provincial-level data, we observed that two of these provinces, though contiguous with the Lithuanian-proper area, simply did not have the high emigration of that area.



We can now observe that in the Minsk province, only two districts actually had high emigration rates, both in the northwest part of the province, contiguous with the Lithuanian area (and including the city of Minsk). Most of this large province, then, was not part of the high emigration pattern.

The map also suggests that much of the Polish province of Sedlets, much of it contiguous with the Lithuanian area, shared the high emigration pattern by 1900. In general, beyond the clearly contiguous area, the high emigration districts seem to be spread, if unevenly, mostly across the rest of Poland. Perhaps there was also a secondary pattern of districts near the western border being more likely to experience high emigration, both across Poland and in a cluster of districts further south.

Map 4 extends Map 3 to shift away from the provincial perspective completely and view all the districts of the Pale in terms of the likelihood of Jewish emigration. We have already seen the districts with above average emigration in Map 3. Now we see them in the context of the range of lower rates. Almost no districts are found to have



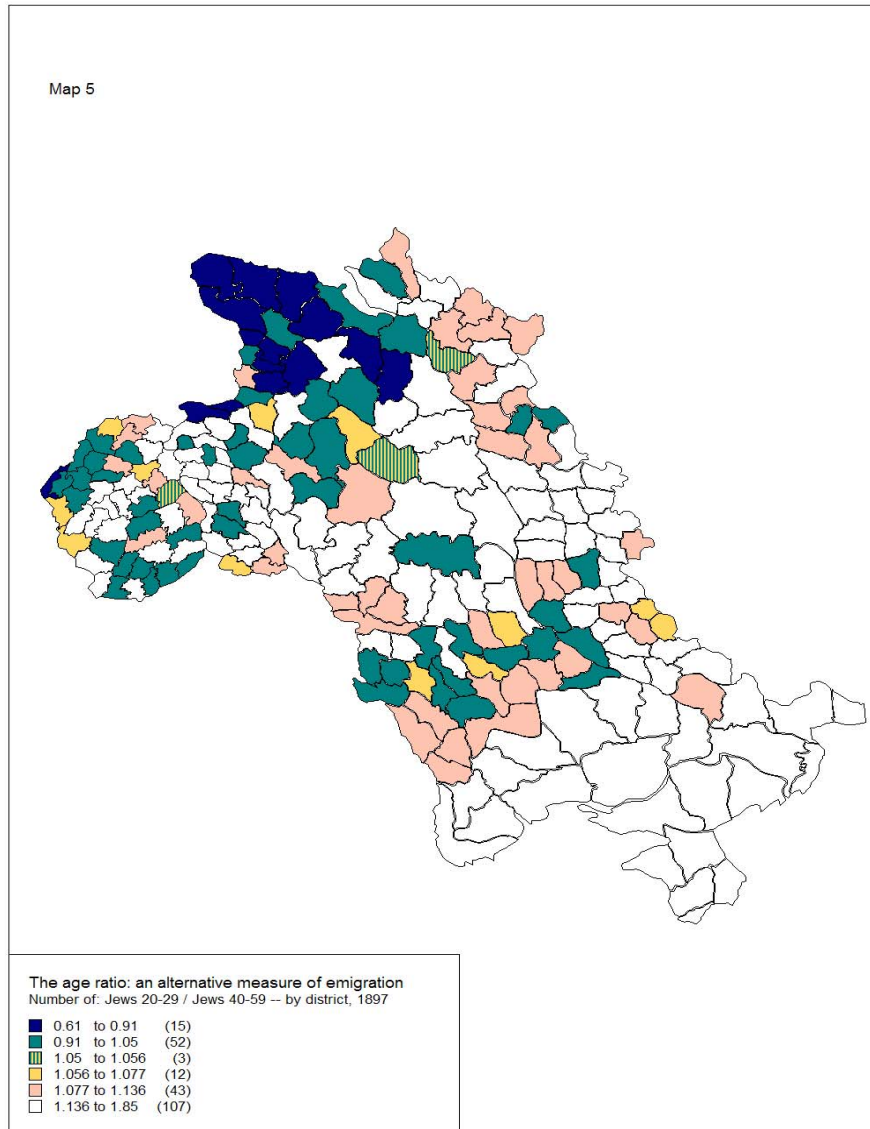
actual emigration rates between .9 and 1.1 times the expected rate. Rather, most districts not characterized by high emigration are characterized by quite low emigration.

Moreover, nearly all of those with emigration rates between .67 and .9 are contiguous with the high emigration, or near it, in Poland. By contrast, the districts with emigration rates above 0 but below .67 are found in the central Pale, south of the city of Minsk, and generally west of that city as well. The most concentrated group of districts entirely unrepresented in the sample are found in the along the eastern third of the Pale and in the far south.

Before concluding this survey of 1900 emigration patterns from the districts, we can also glance at another measure. Since emigration is concentrated among the young, the ratio of the number of younger to older adults should be low where emigration was high. I compared the ratio based on adults 20–29 and 40–59 years of age. Individuals in the latter age would have been older than most emigrants by the mid-1880's when emigration became widespread—that is, past their early thirties. By contrast, the younger adults spent their twenties during the years of greatest emigration through the date of the census.⁵ However, we cannot expect the age ratio data to exactly mirror the data from the immigration sample, and not only because of sampling variability. Rather, the age ratio is bound to differ from measures of immigration because the ratio is sensitive to all outmigration from a local district, including, in particular, internal migration within the Pale. And we know there was considerable internal migration because the Jews were moving to various urban centers—the largest of which were Warsaw, Lodz, and Odessa. Moreover, while many Jews would be moving to a place like Warsaw, giving the district that includes the city a large net inflow, it is also true that many Jews would have emigrated from a major center, showing up strongly in the sample.

Nevertheless, the age ratio pattern is reasonably similar to that derived from the sample. In Map 5, I have once again divided the districts into six categories, with the same number of districts in each category as were presented in Map 4, but this time the

⁵ A second method based on census data would be to compare the ratio of female to male residents, and it behaves similarly in regard to broad conclusions, but because the number of males and females to leave were simply not so different among the Jews, it is easier to work with the age data. Also, the nature of specific local economic opportunities probably influenced gender-related local migration in unknown ways, whereas most any economic opportunity would have encouraged migration of younger rather than older people.



data pertains to the age ratio in the district, not the emigration rates. The patterns are similar: where age ratio is low, emigration rates were high. With this measure, too, most of the White Russian districts, including those in the province of Minsk, are in one of the two highest age ratio categories.

There are more spotty exceptions with the age ratio data, probably caused by the presence of small cities that both drew migrants and sent out many immigrants—places like Suwalki district, which is found in the second-highest age ratio category, and Bialostok, Grodno, Vilna, and Minsk in the very highest. More contiguous Polish districts seem to have lost young people and the same is true for a band of districts in Podolia and Kiev, across the center of the Pale. The differences, as I already suggested, are probably due to the age ratio reflecting a good deal of internal migration to nearby and rapidly-growing cities—Warsaw and Lodz in Poland and several large cities in the south of the Pale, especially Odessa, Kishinev, and Ekaterinoslav.

The early emigration, then, was coming disproportionately from the Lithuanian area and contiguous Polish provinces. Within this contiguous area, it is possible that Suwalki, Lomja, and Kovna were especially prevalent, or perhaps the unusually high likelihood of emigration from Kovna was already slowing by the late 1890's, relative to what it may have been a few years before. The remarkably low age ratios from nearly all the Kovna districts, coupled with Suwalki and Lomja's much-higher representation in the sample of immigrants, would be consistent with such a pattern. That all three of these provinces—Kovna, Suwalki, and Lomja—were border provinces may also suggest a secondary reason for their early prevalence in the emigration patterns.

In any case, a full 15% of the sample members reported a place in Lomja or Suwalki as their last residence, while these districts were home to only 1 in 100 of the Pale's Jewish residents. The imbalance was not as great in the Lithuanian provinces, but these three provinces contained much larger Jewish populations (14% of the Pale's Jewish population). Consequently, many more immigrants came from the three Lithuanian provinces than from Suwalki and Lomja: fully 36% of the sample.

While the rest of the provinces of the Pale were greatly underrepresented, the fact is that these other provinces included the large majority, some three-quarters, of the Pale's Jewish population. Therefore, even low emigration rates there produced a considerable number of immigrants. By 1900, just about a third of all immigrants were coming from the many provinces of the Pale that were under-represented in terms of emigration rates.

EXPLANATIONS FOR THE REGIONAL ORIGINS OF THE EARLY JEWISH EMIGRATION AND ITS SIGNIFICANCE

Isaac Rubinow (1907), a most knowledgeable observer, briefly addressed the first issue I mentioned earlier, the importance of selective migration to the Jewish immigrant community in America. He noted in an aside that that Lithuanian domination in the early Jewish emigration was an advantage because "The general culture of the Polish Jews is considerably lower than that of the Lithuanian Jews."⁶ Actually, 13% of our sample of immigrants in 1900 was coming from the seven under-represented Polish provinces, and another 17% were coming from the three over-represented Polish provinces (Suwalki, Lomja, Plotsk). Against these 30%, a total of 36% were coming from the three Lithuanian provinces. If we understand Rubinow to be invoking the formal geographic meanings of Polish and Lithuanian, the dominance of the latter was in fact quite minor by 1900. The Lithuanian dominance may have been greater in earlier years; on this we have no systematic evidence. But Rubinow seems to have in mind a period extending to the end of the nineteenth century.

Nevertheless, it is worth asking what characteristics of Polish and Lithuanian Jews Rubinow had in mind when he offered his aside. Measurable social characteristics—class standing, literacy, urban concentration, and so on—would probably not support the claim that the Lithuanians differed so much. Perhaps he had in mind a greater prevalence of elite institutions (such as leading Yeshivas) and their graduates, or the concentration of the anti-Hasidic religious and cultural forces; but whether these really were terribly relevant to the mass immigration's acculturation one may wonder. Observers often comment that the concentration of Jews in artisanal and even factory work (rather than in trade) was higher in the Lithuanian provinces than in the Pale at large, but even this difference was not extreme. And finally, it is not clear what social and cultural characteristics such an economic difference would have produced.⁷

⁶ Rubinow (1907); Hersch (1913); Kuznets (1975). Kuznets also takes Rubinow's comment seriously.

⁷ For example, the 1897 census reported 38% of the Pale's Jews to be working in manufacturing and 34% in trade; in the seven provinces of high emigration, the figures were 43% and 36% respectively. (Determined from Russian census publications made machine-readable.)

A different sort of distinguishing characteristic of this region was already becoming clear by the time Rubinow was writing, but he, eager to defend the Jews against American nativism, would not have been eager to emphasize it, and especially so as he was writing for an American government publication. The socialist and broadly revolutionary workers movement among the Jews, the Bund, would be most active in this region (Mendelsohn 1970). The Bund became one of the most active and powerful workers' movements in the Empire. However, the Bund did not have great influence until the end of the 1890's, after the immigrants observed in our first sample were working in American cities. The most we can say is that whatever would soon facilitate the rise of the Bund in this region may also have had shaped emigrant outlooks. Moreover, when the Bund did come to predominance, the emigrants were still close to their roots, still in touch with events back home. And of course they were in touch with the huge numbers of later immigrant arrivals from the same region. Thus, their origins may have facilitated immigrant Jewish socialism in America through contact with later events in the Pale, or—as Tony Michels (2005) has argued—even well before those events.

The second issue, what generated such a selective emigration by region, has stimulated several closely related explanations; I merely mention them here. The Jewish population was relatively high in concentration among the total population in the high-emigration area. That numerical dominance alone, in the legally restricted conditions of the Pale, may have meant too many commercial brokers, shopkeepers, peddlers, and artisans for the economy to sustain; in other areas of the Pale, the economic competition among Jews in these sectors would have been less severe, other things being equal, on demographic grounds alone. Moreover, the general economy in the high-emigration area could no longer support the Jewish occupations as before, either because of a collapse of living standards among the peasantry whom they served, or because of other changes within the trade or industrial sectors. And finally, some other parts of the Pale did not merely suffer fewer of these disadvantages, but actually witnessed new opportunities created by rapid urban growth. Such changes were especially obvious in the Polish cities of Lodz and Warsaw and in Odessa, Kishinev, and Ekaterinoslav in the southern region of the Pale. By 1897, seven cities in the Pale boasted a population of over 100,000. But there could also be rapid growth and accompanying opportunities in smaller, but still

substantial cities. There were another 14 cities with 50,000 to 100,000 inhabitants and 27 more with 25,000 to 50,000. Of these 48 cities, the five provinces with the highest emigration rates included one of seven with a population over 100,000, two of 14 with a population of 50,00 to 100,000 and four of 27 with a population of 25,000 to 50,000, a relatively similar proportion across the three categories. However, the proportion may not have been high enough, or those centers may have been growing more slowly in economic terms than others in the rest of the Pale, particularly when compared to Lodz, Warsaw, and the major centers in the south.

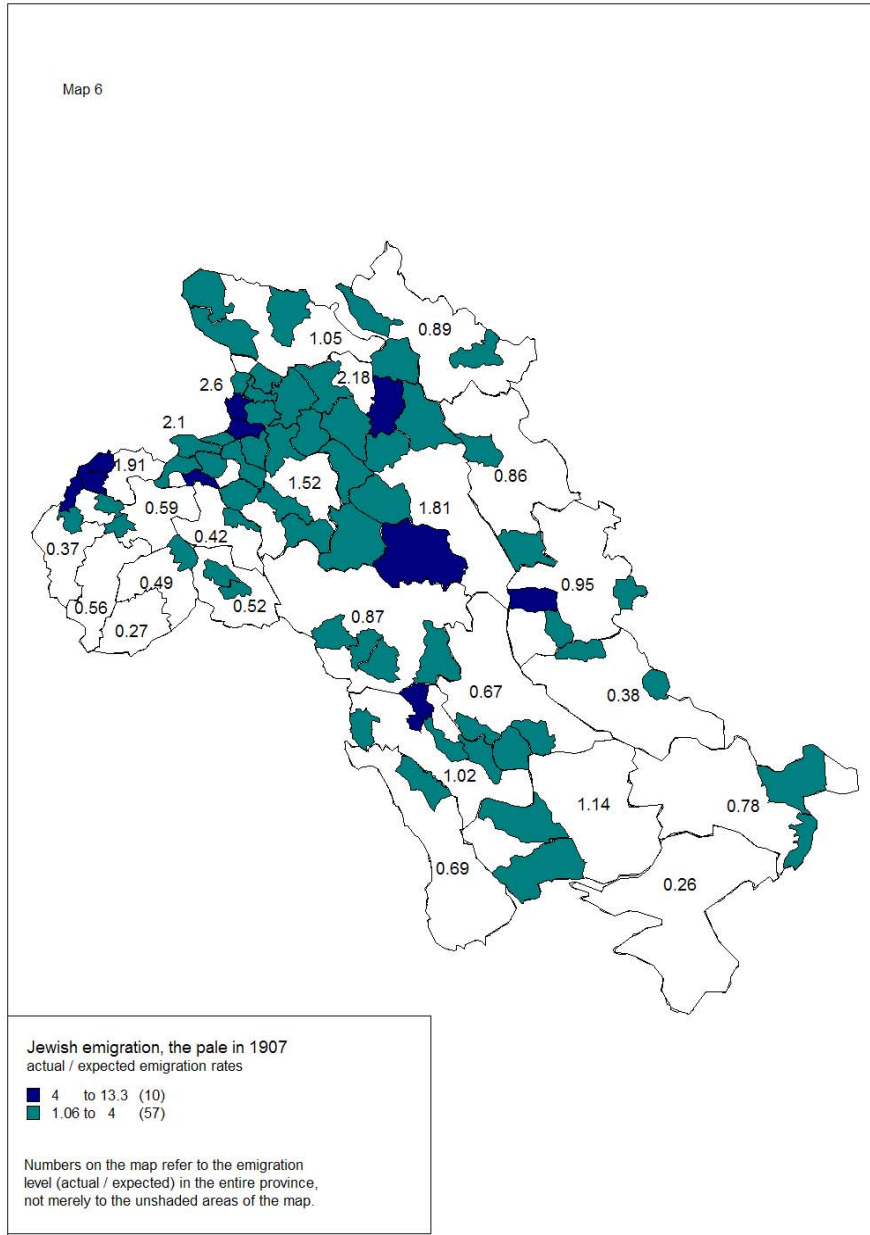
Besides all these economic factors, a secondary explanation for some early concentration of the emigration may have been related to border patterns; the dominance of Lomja, Suwalki, and Kovna are suggestive in this regard. An exploration of the local patterns of non-Jewish emigration, and the use of other Empire sources, might confirm such a pattern.

PATTERNS OF EMIGRATION, 1907

The years between the time of our first sample in 1900 and our second in 1907 witnessed the first Russian revolution (1905). There were also many hundreds of pogroms (anti-Jewish riots) that began well before the revolution (in 1902) and continued through 1907. While these outbursts affected all the major regions of the Pale, they were especially important in the south and southeast, where Jewish communities were growing rapidly. Major pogroms occurred in Kishinev (Bessarabia) in 1903, and in Odessa (Kherson), Simferopol, and Melitopol (Taurida) in 1905. The Odessa pogrom resulted in the deaths of several hundred Jews, with estimates ranging as high as 800. The changing patterns of emigration between 1900 and 1907, then, were not merely the result of diffusion of a social pattern of emigration, or even diffusion quickened by general unrest across the Pale. Rather, events made the southern centers of Jewish growth seem less attractive than before.

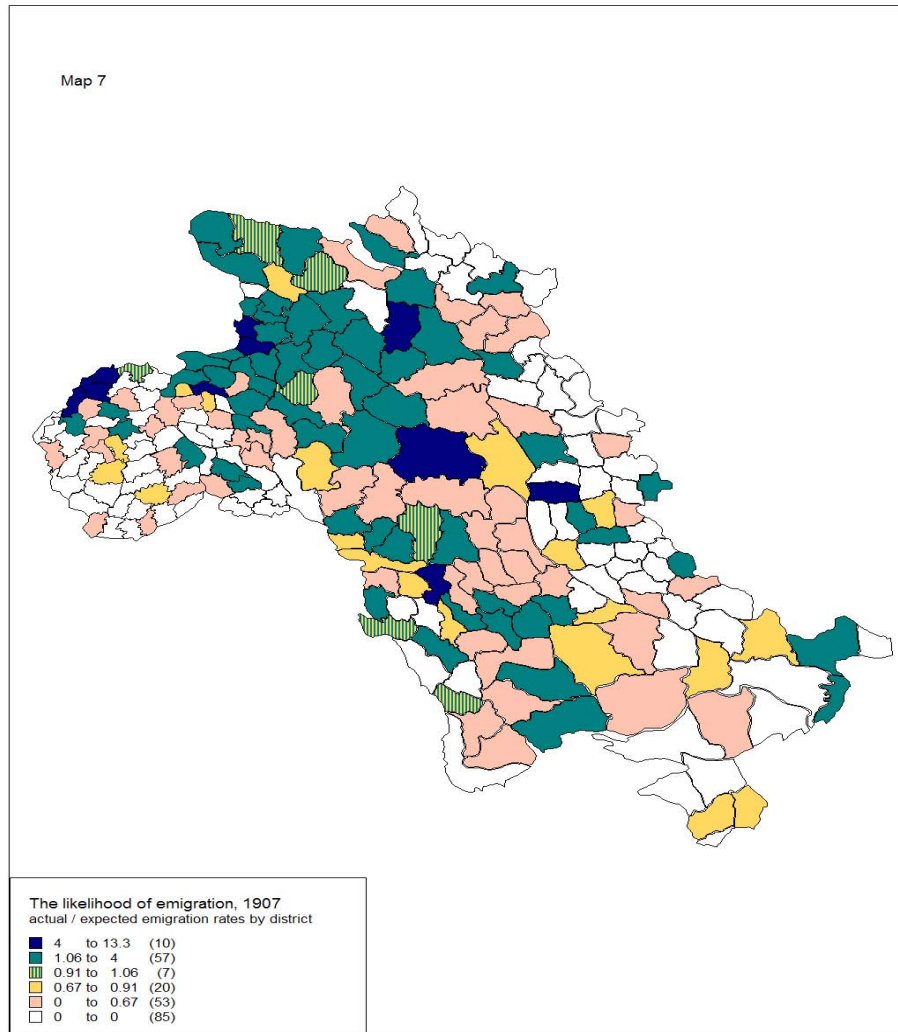
Generally, the provinces over-represented in the 1900 sample were also overrepresented in the 1907 sample (Map 6), however the extent of overrepresentation

was lower, and in the important case of Kovna, it had dropped nearly to the average for the Pale.



The emigration rate from the province of Minsk rose so that it was higher by 1907 than in two of the three Lithuanian provinces, and generally the emigration was dispersing southward across the western half of the Pale. In 1900, there had been 6 districts in Volhynia, Podolia, and Kiev with above-average emigration rates. In 1907, the average emigration rate (from the Pale to the United States) was probably well over four times as high as it had been in 1900 (see average annual immigration rates in Table 1). Yet 12 of the districts in those three provinces were now exceeding this heightened average. In general, the pattern of high-emigration districts shows a southward pattern more than the westward pattern that was been obvious in 1900.

Map 7, showing the 1907 emigration pattern across all districts, allows us to add that the entire north-south line in the west of the Russian provinces are now represented in the sample.



This map can usefully be compared to Map 4, which shows the comparable pattern for the 1900 sample of immigrants. I used the same ranges of emigration rates in both maps, thereby keeping the degree of over-representation steady rather than the number of districts in each category. Nevertheless, both maps show about the same number of districts in the two categories of high emigration taken together. But among the other four categories there has been a shift away from the most unrepresented. Whereas 105 districts were not represented in the 1900 sample, 85 were unrepresented in 1907; and each of the three levels above the lowest one included more districts than in 1900. Also, the under-

represented districts (as distinct from the unrepresented districts) are spread more evenly across the same north-south line in the western Pale, rather than being contiguous with the high-emigration area, or in Poland as they had been in 1900.

So much for the change in the likelihood of emigration, the *relative* levels of emigration between, 1900 and 1907. What change did these patterns imply for the regional origins of the immigrants, which is the result of both likelihood of emigration and the size of the regional population subject to that likelihood? In 1900, over 36% of all immigrants in the Russian Jewish sample gave a place in Lithuania as their last residence, and more than 15% mentioned a place in Suwalki or Lomja. By 1907, Lithuanians accounted for 23% of the immigrants sampled, and only 7% more came from Suwalki and Lomja. Thus, the earlier domination of the contiguous territory of highest emigration rates had slipped from 53% of all emigrants to 30% in seven years' time. By contrast, Minsk and the three adjacent heartland provinces of Volhynia, Podolia, and Kiev now sent a greater number, a total of 35% of the immigrants. The rest of the Pale—two White Russian provinces and the southern provinces—now accounted for almost a quarter of the immigrants. In sum, the effects of any social and cultural characteristics related to region would have declined between 1900 and 1907.

There was, as already mentioned, a short-term spur to Jewish emigration from the southern provinces of the Pale in the pogroms. How important the pogroms were, compared to longer-term patterns of diffusion, in changing the emigration patterns is hard to say. The only province in the southern part of the Pale which exceeded the average rate of Jewish emigration for all provinces was Kherson, in which the city of Odessa was located; and Odessa had recently experienced the terrible pogrom of 1905. Still, perhaps the most famous of the pogroms had occurred in the Bessarabian city of Kishinev in 1903; yet by 1907, Bessarabia's emigration rate was only modestly higher than it had been in 1900. Perhaps then the Odessa rate simply reflects a short-term response to the violence that had already passed in Kishinev? But then too, Taurida also experienced pogroms in the same period as Kherson, yet remains very underrepresented in the later sample, so it is hard to point to the local effects of particular pogroms.

We reviewed the explanations for the early concentration in the six northwestern provinces before turning to the 1907 sample. The spread of information extended the

flow into new areas, and once numbers of immigrants from these new areas began to climb, young adults making decisions about emigration later still would have known their own close relatives, neighbors, or friends in the new world, and have been encouraged to go themselves. The generally worsening political situation and the widely-dispersed pattern of anti-Jewish violence are entirely consistent with this picture, and probably accelerated the changes that diffusion would have brought, even if the data will not reward efforts to find reflections of specific city pogroms.

APPENDIX

1. The 1900 and 1907 Samples of Immigrants

By American law, an official of the steamship company was responsible for filling out the passenger list form for each ship bound for the United States from a foreign port. Information about each immigrant arrival was to be recorded on one row of the form. Blank copies of the form itself were printed by the federal government and distributed to the steamship companies along with directions for their use. The information to be filled out on the form was specified and periodically new questions were added by the successive immigration acts of Congress. Upon arrival at an American port, the passenger lists were turned over to American immigration authorities and they served as the basis for the Commissioner of Immigration's *Annual Reports*, in which the number and characteristics of immigrants from each country of origin were presented. It is from these reports, in turn, that the American historical series on arriving immigrants is derived.⁸

Beginning in 1903, the forms include an item on the "race or people" of the arriving immigrant, together with a list of races and peoples from which to chose. Consequently, in the 1907 sample that I drew from the passenger lists, Jews were identified as members of the "Hebrew" race or people. I have written extensively elsewhere on the intellectual and political history of this race or people classification system; here its demographic value is what counts (Perlmann 2001). Although the race or people item was only added to the printed forms in 1903, it was actually in use during the four preceding years as well, as evidenced by the reporting of race or people in the *Annual Reports* of the Commissioner General of Immigration for 1899–1902. The data was, at first, collected from a temporary supplemental form that did not call for race explicitly but listed instead questions from which race could be determined: province of birth, mother tongue, religion, and color. Following a protest by Jewish groups, the religion question was officially dropped on January 1, 1900.

The passenger lists from each port have been preserved on microfilms arranged chronologically by day of arrival in the United States. I selected a systematic sample of 8 reels drawn from July 1899–June 1900 (every Nth reel, starting with a randomly chosen

⁸ See, for example, Wilcox (1929).

reel in the first period of the year), and included in the sample every immigrant on these reels who was listed as Jewish by religion on the first five rolls or mother tongue on the last three. An analysis of the first five rolls shows that only one person classified as a Jew from Russia was listed as not having Yiddish as a mother tongue. Similarly, the 1897 Census of the Russian Empire reported that 97% of Russian Jews, defined by religion, reported Yiddish as their mother tongue (Rubinow 1907).

2. Coding Place Of Origin Data

The passenger list forms ask for country of origin and I used this item to select the subsample of Russian Jews studied in this paper. In addition, in 1900, each immigrant was asked to report his or her province of birth and a specific place of last residence—that is a town or city. By 1907, the province of birth question had been replaced by a question about specific place of birth. I report on place of last residence in this paper. I chose to study last permanent residence rather than birthplace in order to be able to compare responses to the same origins question at the district level in the subsamples.

The advantages of having the specific city or town (rather than merely a large province) was partly undercut because the immigration authorities had not directed that the *province* had to be provided, too. There were countless specific locations in the Empire, many with similar or identical names—and many with different names in the several relevant languages—Polish, Russian, Lithuanian, German, and so on. And these place names had often been recorded by an official who typically did not speak the relevant language—a steamship official in Hamburg, Rotterdam, or Southampton, for example. Added to all this is the more familiar problem of illegibility in handwritten lists read on a microfilm. Consequently, unambiguously matching the place name mentioned by the immigrant to a single entry in a list of place names in the Pale was a major challenge.

A very extensive effort to do so involved multiple checks by Russian-speaking coders who used the various lists of places produced by the Russian Census officials and later by genealogists. The substantive point to bear in mind is that large places were much more common among successfully matched place names than small places. Of course, this may in part represent an actual social pattern—that most emigrants really came from

large places. But there are at least two reasons to suspect that the large places turn up so often for other reasons. First, immigrants were more likely to mention larger places in the vicinity from which they came than a small town in which their home may have actually been located—as an American might say to an official on the other side of the world that his or her home was in Boston, not Watertown. This consideration suggests that even under conditions of perfect matching, the evidence is of limited use for the study of the *size* of place from which the immigrant actually came. But here our concern lies elsewhere, with the *geographic area* of origin within the Pale. The second reason that large places turn up most often in the sample of immigrants is that they are easier to identify successfully in the passenger list records. There were relatively few large places in the Russian Pale of Settlement—only 21 with over 50,000 residents, another 166 with 10,000 to 50,000—so coders could easily enough become quite familiar with all of the larger place names; not so for the names of countless smaller places.

In the face of these difficulties the matching process proceeded in several steps. First, the coders who copied the sample data from microfilms onto my data-collection forms only coded the largest and most obvious place names ("Warsaw," "Vilna," etc.). Second, the other research assistants who knew Russian well returned to the microfilms to focus only on the place names. However, in the first stage, they only sought to code place names that appeared on a list of 330 cities in the provinces of the Pale (produced by the 1897 census).⁹ These Russian speakers copied the other place names as carefully as possible onto the data-collection forms, and the names were made machine readable. Third, using other publications of the 1897 Census, the most advanced of the Russian-speaking research assistants compiled—for the entire Pale—a codebook listing a) *all* places with over 3,000 inhabitants, and b) those places of 500–3,000 among whom Jews comprised at least 10% of the inhabitants. The same Russian census publications included the name of the district within which each city and town of the Pale was located, and this information was also listed in our codebook; the district information eventually enabled the connection between the names of towns and cities and the geographic

⁹ Actually the list is for places designated administratively as a *gorod*. All places of over 50,000 residents were so designated, nearly all with more than 10,000 and a considerable number of smaller places. Other census publications mentioned in this appendix list all places of various sizes, whether or not they had been designated as a *gorod*.

analysis of origins at the district level. Russian cities outside the Pale with a population over 50,000 were also included. I then created a computer program to exploit a soundexing system developed by genealogists working with eastern-European place names (Mokotoff and Amdur Sack 1991). I used the program to group together similar names from the sample and codebook and then to print these place names out in parallel columns. And then I, along with several helpers knowledgeable in Russian (including my father, who had grown up in the Pale and had been a student of Russian Jewish history), carefully reviewed the unidentified place names. We made a self-conscious effort to be consistent in our criteria for choosing or rejecting matches, but we did not use the sort of rules that would be programmable, or that we could provide to others to ensure consistency. Finally, several more intensive searches were conducted using a very much shorter list of all places with a population of over 10,000 in the Pale in order to be sure that no such place had been missed. For example, we used a word-processing search tool to seek out the most distinctive part of a place name among all as yet unidentified places named by the immigrants.

In general, the goal to code only places that could be identified with considerable certainty and then to satisfy ourselves that the remaining unidentified place names did not refer to any place with as many as 10,000 inhabitants. Where there was ambiguity about the latter point, we rejected the match but flagged the case.

Step 1 of Table A1 summarizes the results of the coding efforts. Step 2 of the table summarizes the effort to estimate the proportion of unidentified names of last permanent residence that referred to places with fewer than 10,000 inhabitants. Finally, Step 3 shows how weights were computed for the sample members whose place of last permanent residence had been successfully identified. One weight was assigned to those from places with more than 10,000 inhabitants and a greater weight was assigned to those from smaller places, so that the successfully identified sample members could represent the entire sample of Russian-Jewish immigrants from the Pale.

3. Evaluating the Results of the Place Name Coding.

Two tests with the manuscript data were possible (summarized in Table A2). First, I exploited the over-zealousness of one steamship company official who filled out a 1907 passenger list. This writer, from Libau in the Baltic province of Kurland, not only wrote in a remarkably clear hand, he also gratuitously provided the name of the province within which every immigrant's town or city was located. Consequently, I was able to narrow the search for these place names to one province. This advantage, combined with the clarity of writing, meant that almost every place name he had recorded could be identified (panel A1). Most places names found in the routine search, indeed, referred to places with a population of over 10,000 inhabitants (panel A2, "routine"). And crucially, the great majority of cases *missed in the routine search and found in the intensive search*—about seven out of eight—involved places with fewer than 10,000 inhabitants (panel A2, "intensive").

The second test was based on a reexamination of another group of especially legible pages, this one found in the 1900 sample (Table A2, panel B). However, without the advantage of the province information available in the first test, most of the places not identified in the routine search could not be identified in the intensive search either. I then simply tried to determine whether any of the still-unidentified place names could pertain to cities with as many as 10,000 inhabitants. Of 55 relevant entries missed in the routine search, only two seemed as if they could have possibly been from such larger places.

Thus, two tests suggested that between 2% and 12% of the unidentified place names referred to places of 10,000 inhabitants or more (Table A2, panel C). The tests are hardly definitive, and not only because they rest on a relatively small number cases. It is also possible that the clear handwriting helped coders identify the larger towns during the first two steps of the matching process described above, the steps which focused on large places and which involved looking at the manuscripts. If so, it is possible that the 2%–12% estimates should be considered a lower-bounds estimate for the proportion of place names missed that referred to places of 10,000 inhabitants or more. But the extremely low estimates nevertheless are suggestive of the fact that the great majority of unidentified places were, indeed, of smaller size.

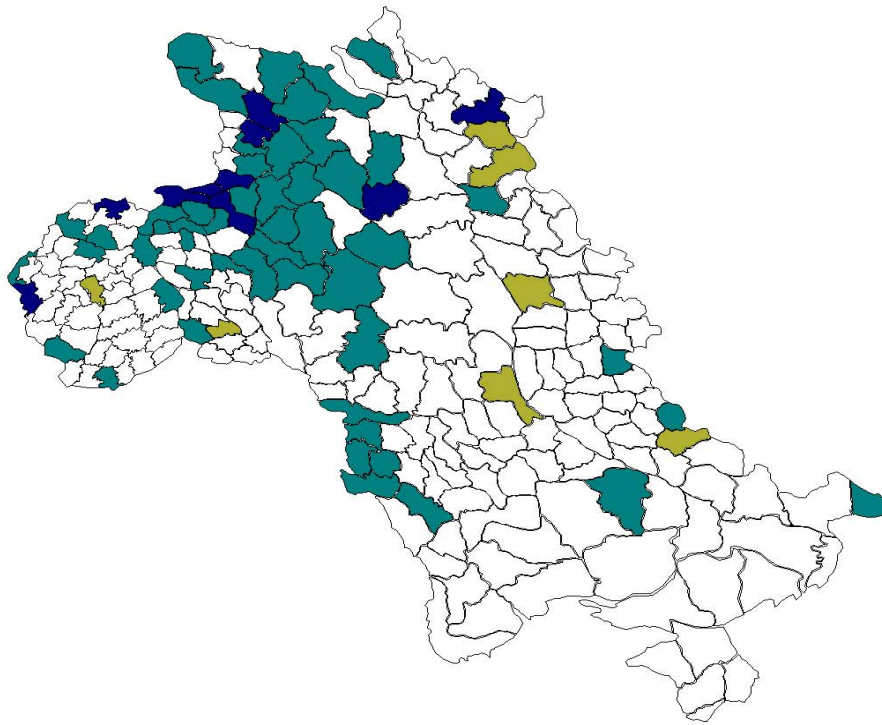
4. Weighting the Cases Identified by Size.

I first estimate the proportion of unidentified place names that refer to a place in the Pale (Table A1, step 2, and Table A2, panel C) and then *assume that 10% of the unidentified place names from the Pale refer to places with at least 10,000 inhabitants*. The weighting thus means that the number from large urban places is hardly affected, while the number from places of under 10,000 residents rises more than threefold (Table A1, step 3).

Yet the weighting is not responsible for the substantive findings regarding areas of emigration.¹⁰ The key patterns are, in fact, visible in both the weighted and unweighted samples. Compare Maps 3 and 7 in the text, which are based on the weighted sample, to Maps 8 and 9 respectively, which are based on the unweighted samples. Of course, the individual results for any district might differ as a result of the weighting. However, the point is the larger patterns, each based on many districts, and these are visible in both pairs of maps.

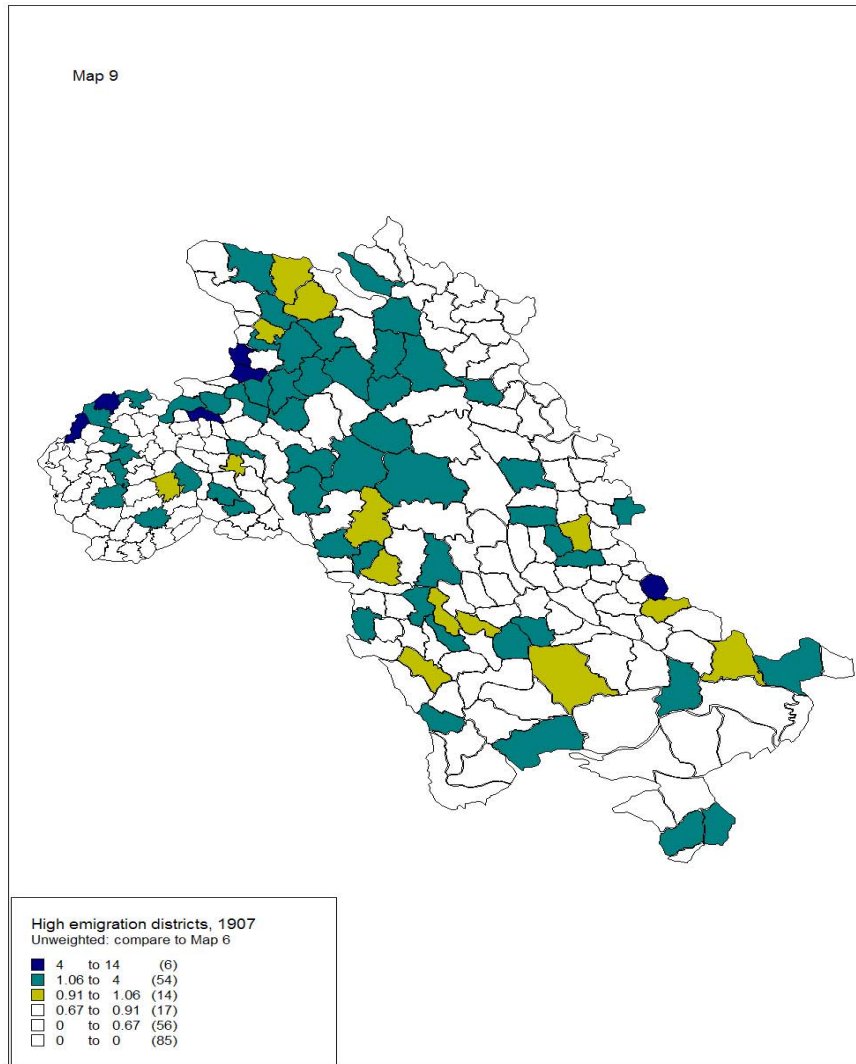
¹⁰ Indeed, if anything, a bias against small places would bias the results against the Lithuanian area of the Pale and the nearby provinces, in which the proportion of Jews living in such places was larger than in the rest of the Pale.

Map 8



High emigration districts, 1900
From the unweighted sample: compare to Map 3

■	4 to 13.3	(10)
■	1.06 to 4	(51)
■	0.91 to 1.06	(7)
□	0.67 to 0.91	(16)
□	0 to 0.67	(42)
□	0 to 0	(105)
□	all others	(1)



5. Locating the Sample Members on Digitized Maps

The 1897 Census publications that recorded cities and towns also recorded their district. I found maps showing the district boundaries and digitized these with the Mapinfo mapping program. Each digitized district was assigned a discrete code, and a variety of social data about the district was then attached to the code for display on the map. One such item of data was: a) the proportion of the Pale's Jewish population resident in that district (reported in the 1897 Census), and b) the proportion of all immigrant sample

members successfully traced to a place of last residence in that district. The ratio b/a is used throughout as the ratio of actual to expected migration. The ratio was calculated both for the weighted and unweighted sample.

6. Sampling Variability

With over 230 districts, the number of sample members who reported coming from any particular district was usually modest. However, the crucial statistic is the proportion of all immigrants coming from a particular district. The sample size for this computation is the number of sample members in each year successfully traced to a district, namely about 1,300 (the N in the formula for the standard error of a proportion, $\sqrt{pq/N}$). The confidence interval around the proportion coming from any given district (\pm twice the standard error) may fluctuate a good deal relative to the size of the proportion because the number coming from the district is modest (it constitutes n in the formula $p=n/N$). Nevertheless, because of the large sample size for the sample as a whole, we can be confident that the fluctuation is in a relatively circumscribed range: very small proportions will still be small when two standard errors have been added. Moreover, by definition, the random variability expected in sampling will not be systematic across a group of districts; random variability would be very unlikely to create patterns of *contiguous* districts with similar likelihoods of emigration.

7. Districts Unrepresented in the Sample of Immigrants

The 105 districts in 1900 and 85 in 1907 were unrepresented by any immigrant in the sample successfully traced to a district. This is as it should be, and in general, these districts should not be understood to involve “missing data,” but rather to have been sending very few immigrants to America. There may be exceptions, as in the case of such a district found in the heart of the high emigration area. But even in such cases, the district in question may well be one in which very few Jews lived.

While five million Jews lived in the Pale, 26 of the districts had fewer than 5,000 Jews, or 1/1,000th of the entire Jewish population. Assuming an average propensity to emigrate from these districts, we would expect to find no more than one sample member from a district with 5,000 Jews in our samples (which include, for both 1900 and 1907,

about 1,300 cases successfully traced to a specific place of origin). Of the 26 districts with fewer than 5,000 Jewish residents, 81% (21 districts) are not represented in the 1900 sample, whereas among the 12 districts with over 50,000 Jews, all are represented. At the middle levels, too, the relation between population size and emigration is unambiguous: in 63 districts with 5,000–10,000 Jews, 57% are unrepresented, in 87 districts with 10,000–25,000 Jews 49%, and in 46 districts with 25,000–50,000 Jews, 39%.

Many of the unrepresented districts were from the parts of the Pale least likely to send emigrants. In the Lithuanian provinces, no districts included fewer than 10,000 Jews, and no Lithuanian district was unrepresented in the sample of immigrants. In Souwalki, Lomja, and Plotsk, the three provinces of eastern Poland with the highest emigration, nine districts included fewer than 10,000 Jews, and four of these districts are not represented in the sample (all other districts from these provinces are represented). By contrast, in the south and southeast of the Pale, there were 38 districts with fewer than 10,000 Jews, and 33 of them are unrepresented in the sample. Indeed, in this last group of provinces there were also 18 districts with 10,000–50,000 Jews and half of these are also unrepresented in the sample.

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Table A1. PLACE OF LAST RESIDENCE IN THE RUSSIAN-JEWISH IMMIGRANT SAMPLES

<i>Step 1: Exploring the results of efforts to code place of last residence: 1900 and 1907 samples</i>				
<i>Categories of sample members</i>	1900	sample	1907	sample
A. All sample members reporting Russia as country of birth (total n)		2978		2457
B1. Sample members reporting a successfully identified placename in the pale of settlement		1295		1261
place of under 10,000 inhabitants	387		358	
place of 10,000 inhabitants or more	908		903	
B2. Sample members reporting a successfully identified place outside the pale of settlement		217		219
Other Russian Empire (mostly Baltic provinces)	36		35	
in UK, France or other western Europe	154		140	
All other	27		44	
B3. Other sample members who did not report an unidentified placename				
no "last permanent residence" entered		375		10
on the passenger list	333		0	
"last permanent residence entered as "Russia"	26		3	
other	16		7	
C. Others (A-B): sample members reporting unidentified placename		1091		967

Table A1 (cont.). PLACE OF LAST RESIDENCE IN THE RUSSIAN-JEWISH IMMIGRANT SAMPLES

NOTE: Step 2 shown for the 1900 sample only

<i>Step 2: Allocating the unidentified (those in row C) by size of place for weighting purposes</i>					
<i>D. Allocation procedures</i>	total in row	estimated cases in pale			est cases not in pale
		place 10K+	place lt 10K	total in p.	
D1. Assume 95% reported a place in the pale, and 5% should be excluded from weighting computations	1091			1036	55
D2. A small number of cases in row C had been flagged as possibly matched with a place of over 10,000 inhabitants assume 95% of these were in the pale, and half of those were correctly matched to a place of over 10,000	59	28	28	56	[3]*
D3. Assume that of those in row C as yet unallocated 90% refer to a place of under 10,000 inhabitants** 10% refer to a place of 10,000 inhabitants or more**	1036	104	933	1036	0
D4. Total allocated to places in the pale (by size of place)	1091	104	932	1035	56

<i>Step 3: Weighting.</i> Weighting sample members successfully identified with a place in the pale ("known") to also represent those reporting an unidentified placename assumed to be in the pale ("unknown").					
<i>Size of place</i>	computing the weights				
	rows B 1+D4	divided by	row B 1	=	weight
1900 sample					
place of 10,000 or more inhabitants	1012		908		1.114
place of fewer than 10,000 inhabitants	1319		387		3.408
1907 sample (step 2 not shown above)					
place of 10,000 or more inhabitants	1020		903		1.130
place of fewer than 10,000 inhabitants	1160		358		3.239

Cell entries in steps 2 and 3 are rounded to whole numbers. *Included above. ** See Table A2 and text.

Table A2. INTENSIVE ANALYSIS OF UNIDENTIFIED PLACENAMES IN TWO PASSENGER LISTS

A. The Libau passenger list, 1907: typified by clear writing and mention of province as well as city

A1. Results of identification efforts

Final status of placenames	<i>birthplace placenames</i>	<i>last permanent residence placenames</i>
blank entries	26	0
placenames unidentified even after intensive search	3	5
cases useful for further analysis:		
<i>identified in intensive search</i>	8	28
<i>identified in routine search</i>	79	79
total	116	112

A2. Cases useful for further analysis: size of place by type of search

size of place	<i>birthplace placenames</i>		<i>last permanent residence placenames</i>	
	type of search		type of search	
	intensive	routine	intensive	routine
500-2,999	4	0	7	2
3,000-4,999	0	2	10	4
5,000-9,999	3	3	8	26
10,000-24,999	1	7	2	15
25,000-49,999	0	27	1	12
50,000 and over	0	40	0	20
Total	8	79	28	79

* Excluded from Table A are reported places that were outside the pale. Also, some birthplace names appear to be province names listed twice, rather than a city and a province name; this is especially likely for 16 listed as "Kiev, Kiev, since the Jewish population of that city was relatively small compared to that of the province. This supposition might explain the greater prevalence of large places routinely identified in Table A2 under birthplace (74/79) compared to last residence (47/79).

Table A2 (Cont.).

INTENSIVE ANALYSIS OF UNIDENTIFIED PLACENAMES IN TWO PASSENGER LISTS

B. A very clearly written passenger list from 1900

B1. Results of identification efforts

Final status of placenames	<i>place of last res.*</i> <i>placenames</i>
Identified in routine search	59
Unidentified in routine search: useful for further analysis	55
total	114

B2. Cases useful for further analysis: by size of place

outcome type	<i>place of last res.*</i> <i>placenames</i>
no match to a place of over 10,000 inhabitants possible	53
a match to a place of over 10,000 inhabitants is possible	2 **

*In the 1900 passenger lists, birthplace was listed by province, not by specific town or city.

** In both cases the place is a city of over 50,000

C. Summary of the intensive analyses: size of places found in re-examination

size of place	Libau tests, 1907		1900 test
	birthplace	last residence	
under 10K	7	25	53
10-25K	1	2	0
25-50K	0	1	0
50K+	0	0	2
total	8	28	55