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Thomas K. Bauer and Kathrin Schulze[1]

International Migration from and to Prussia: 1862-1871

Abstract

Migration has always been an omnipresent topic in Germany. However, unlike today, in the 19th century the German territory was a country of emigration, not immigration. Using county-level data for the period from 1861 to 1871, this paper examines the determinants of emigration from and immigration to Prussia. The empirical results indicate that emigration from Prussia was positively associated with increasing land ownership inequality, urbanization, available transport infrastructure and previous emigration experience, and negatively related to the distance to the nearest port. Average land ownership had an inverted U-shaped effect on emigration. Immigration was concentrated in counties with a high degree of urbanization and a high proportion of industrial workers.

JEL-Codes: J15, K37, N33, N9, R23

Keywords: Age of mass migration; historical migration; determinants of migration; Prussia

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1 Introduction

Similar to other European countries, such as the United Kingdom, Ireland or Italy, the German territory experienced large waves of emigration in the 19^{th} and the early 20^{th} century. This period of huge waves of migration, often referred to as the Age of Mass Migration, lasted from 1850 to 1913. German-speaking immigrants were always one of the largest groups during this heyday of overseas migration. In particular, they constituted the largest group of migrants to the United States between 1861 and 1890 (Hatton and Williamson, 1998). While the emigration flows, determinants and effects of emigration from the UK or Ireland to North America are very well documented (see, among others, Bertocchi and Strozzi (2008), Ferrie and Hatton (2015), Gould (1979), Hatton (1995), Hatton and Williamson (1998), O'Rourke (1991)), analyses of the determinants of German emigration and immigration flows before World War I are scarce. The existing historical literature on this period focuses primarily on the pull-factors, performance and assimilation of German immigrants from the perspective of the United States as destination country (Abramitzky and Boustan, 2017). A limited number of studies deal with the determinants of German emigration to the United States either using very aggregated data (Bade, 1980; Hochstadt, 1981) or individual data from small regions, such as Hesse-Cassel (Wegge, 1998, 2002).

This paper contributes to the existing literature by providing a detailed descriptive analysis of the international migration flows to and from the Prussian Empire between 1862 and 1871. In doing so, it provides a more complete picture of migration into and out of the German territory during this period than previous research. In particular, Prussia was the largest state of the German Confederation (1815-1866) and the North German Confederation (1867-1871), both in terms of population and area (e.g. Boch, 2004; Ehlers, 2012), and can thus be considered more representative of the entire German territory. For the years 1861-1871, we use newly compiled detailed data on cumulative emigration from and immigration to Prussia at the county-level and enrich these migration data with socio-economic, structural, and transportation infrastructure data on the counties as of 1861. Using these data, we estimate multivariate regression models to analyze the push factors driving emigration from and the pull factors driving immigration to Prussia.

Our results largely support previous empirical research on smaller German regions, not empirically based historical migration research and economic theory on the push factors of emigration between 1861 and 1871. Specifically, we show that emigration increases with landholding inequality, urbanization, family size, available transportation infrastructure, previous emigration at the level of governmental districts, and the total population of a county. Moreover, average land ownership has an inverted U-shaped effect on emigration, and emigration decreases with the distance to the nearest port. Regarding the pull-factors

on immigration, we observe negative effects of landholding inequality, family size and transportation infrastructure, while we see positive effects of the share of industrial workers, urbanization, distance to the nearest port, total population and previous immigration. Finally, we see a U-shaped effect of average landholding. Overall, the signs are reversed compared to the results obtained for emigration except for urbanization, total population and previous migration networks.

The paper is organized as follows. Section 2 provides a brief description of the migration policy of the Prussian Empire in the 19th century. Our data and the size and structure of the emigration and immigration experience of Prussia in this period are discussed in Section 3. Section 4 explains our empirical strategy and presents the regression results. Section 5 concludes.

2 Migration Policy in the Prussian Empire

The German territory was mainly characterized by population growth and immigration until the middle of the 18^{th} century. This was followed by large scale emigration from Germany, which began at the beginning of the 19^{th} century, after the Congress of Vienna brought peace to the continent following the Coalition Wars. While emigration in the early years of the 19^{th} century was mainly to Eastern and Southern Europe, transatlantic emigration dominated the second half of the century. This sharp increase in transatlantic emigration was fueled largely by technological advances in steam shipping. Early emigration took place mainly in southern Germany - immigration to and emigration from Prussia was rather negligible (Oltmer, 2016). Thus, migration policy was not a major issue on the political agenda of the Prussian Empire. Until 1818, emigration from Prussia was regulated by a law called *Allgemeines Landrecht*, which required potential emigrants to inform the respective public authorities about their emigration plans and to obtain an official permission to leave the empire (Leidig, 1892). In principle, Prussia also followed a policy of free movement of persons within its national territory. However, the government pursued strict registration measures to control the movement of the population, mainly for security and tax reasons (Jackson, 1991). Foreigners required proper passports and visas and both, citizens and non-citizens had to be able to present identification documents at all times.

After the Congress of Vienna, politicians in the German states became convinced that migration needed to be more tightly managed and controlled. The Prussian Empire, however, maintained its liberal emigration policy. Following the *Allgemeines Landrecht*, an emigration decree of September 15^{th}, 1818, confirmed that emigration required prior notification and approval of the public authorities. However, this decree clarified that the permission to emigrate should be granted as long as the responsible authorities had

no serious concerns and that only members of the military and civil servants required a special permission. In addition, men between the ages of 17 and 25 needed a certificate from the military that they were not emigrating for the sole reason of avoiding military service (Leidig, 1892; Königlich Preußisches Statistisches Bureau, 1874). These regulations were not changed after that. Following the March Revolution in 1848/1849, the freedom to emigrate rather became more of a civic right, as Article 11 of the Prussian Constitution from January 1850 stated that

> *The freedom to emigrate may be restricted by the state only in connection with military service. Emigration deductions may not be levied*[1].

In the late 1840s and early 1850s, the Prussian government was engaged in heated debates about emigration policy. While in 1848 the government discussed whether it should subsidize the emigration of impoverished families in order to reduce the social costs for the communities, in the early 1850s a heated discussion began whether emigration should be organized and controlled in a stricter way (Leidig, 1892). The latter was pushed mainly by representatives of the northeastern provinces of Prussia, who asked for stricter emigration rules because it was becoming increasingly difficult to recruit workers for the agricultural sector. Despite these discussions, the Prussian government maintained its neutral position on emigration and ignored requests for stricter regulations.

Over time, the Prussian government felt an increasing obligation to protect the emigrants by providing them with better information about the potential destination countries, and regulating the work of emigration agencies and the equipment and travel conditions on the ships carrying the emigrants (Königlich Preußisches Statistisches Bureau, 1874; Leidig, 1892). For example, because of the poor living conditions and the exploitation of German emigrants, the Prussian government banned the passage of emigrants as well as the emigration agencies that recruited emigrants to Brazil. The requirements for ships carrying emigrants included a detailed list of provisions the ship had to load per 100 passengers, a list of medicines and medical instruments, as well as detailed regulations concerning the accommodation of unattended females over the age of 10 (Königlich Preußisches Statistisches Bureau, 1874). It should be noted that these regulations were only applied to ships departing from one of the two Prussian ports, i.e. Stettin and Swinemünde. The two main German ports of the time, Bremen and Hamburg, introduced and continuously developed emigration regulations based on the American Steerage Act of 1819 (Baasch, 1892).

The Prussian Empire also maintained the principle of freedom of movement and location choice for its permanent residents, although it significantly tightened its registration requirements considerably in the 1830s. The respective measures included, among others,

[1] See http://www.documentarchiv.de/nzjh/verfpr1850.html

the obligation of citizens to report the presence of non-residents staying overnight to the local police, of landlords to inform the police of changes in their tenants, and of mobile workers to be registered by their employers within twenty-four hours (Jackson, 1991). In 1857, these regulations were further strengthened by requiring all persons changing their permanent residence to inform the police within 14 days of their arrival in order to obtain a special residence certificate. Throughout this period, the main motives of migration control, both for internal migrants and for international migrants, were aimed at the protection of internal security and welfare. While the Prussian municipalities were instructed to admit economically useful persons, they were also responsible for expelling migrants who might become an economic burden or endanger local security (Schubert, 2019). The latter included, for example, vagabonds, tramps, and other homeless and impoverished migrants. In 1851, several German states even agreed to the controlled repatriation of these "illegal residents" to their home states along fixed travel routes (Schubert, 2019).

In addition to this unwanted immigration, labor migration became increasingly important for both the eastern and the western parts of Prussia. The agriculturally shaped provinces in the east increasingly needed more seasonal and non-seasonal workers to cultivate new crops. These workers came mainly from Polish speaking and other German-speaking rural areas, where industrialization reduced the demand for agricultural workers. Immigration to the western Prussian provinces was mainly due to the growing demand for labor in the emerging mining and steel industries of the Ruhr area. Other migratory movements into the Prussian Empire included internal Jewish migration to urban areas, internal migration between rural areas, and cross-border migration of seasonal workers and agricultural laborers[2] (Oltmer, 2016).

3 Migration in Prussia: Size and Structure

This section provides a detailed discussion of the size and structure of migration flows in Prussia. The migration data for the descriptive analysis are predominantly taken from Königlich Preußisches Statistisches Bureau (1874), which documents the number of immigrants and emigrants at the level of the Prussian *governmental districts* from 1845 to 1871, and at the level of the *counties* for the period from 1862 to 1871.[3] Although migration data are available for each year, we used the cumulative number of immigrants and emigrants over the entire period because most of our explanatory variables for the empirical analysis in Section 4 are only available for 1861. Due to the limited availability

[2]Examples included "Deutschlandgänger" from the Netherlands who supported farms near the border, "Schnitter" who assisted the cultivation of new crops in eastern Prussia or "Sachsengänger" who helped with the labor-intensive sugar beet harvest.

[3]The Prussian administration was organized in three regional layers: the *provinces*, which were subdivided into *governmental districts*, and the latter further into *counties*.

of explanatory variables, we were also forced to aggregate all information on the definition of the Prussian *counties* as from 1858,[4] even though the migration data are in principle available for the Prussian territory as of 1871. In particular, we do not use information on the Prussian provinces of Schleswig-Holstein, Hanover and Hesse-Nassau, which were annexed in 1866 after the German wars of unification.

As noted above, potential emigrants in Prussia had to inform the authorities of their plans to emigrate plans and obtain official permission to leave the Empire, which was usually granted - at least after 1850. Only potential conscripts, i.e., male citizens between the ages of 17 and 25, required a permit to emigrate. However, many emigrants did not de-register and emigrated without a suspension certificate. Therefore, the Königlich Preußisches Statistisches Bureau (1874) published two emigration figures, which counted (i) those who officially notified the administration of their emigration (which we denote as *Registered Emigration*), and (ii) an estimate of the total number of emigrants including those who emigrated without a suspension certificate (which we denote as *Total Emigration*). A comparison of the latter with immigration statistics in the United States, as well as with the number of passengers counted at the major emigration ports in Bremen and Hamburg, suggests that even the estimated emigration figures underestimate the true emigration (Königlich Preußisches Statistisches Bureau, 1874). It should be noted, however, that U.S. statistics and passenger lists from these ports tended to overestimate the number of emigrants from the German territory.[5]

Figure 1 summarizes the emigration and immigration flows for the entire Prussian Empire in the period from 1845 to 1871, as well as the total emigration from the German territory in this period. Prussian emigration appears to resemble the overall German emigration pattern at a lower level. In particular, we see two out of the three major German emigration peaks, which lasted from 1846 to 1857 and from 1864 to 1873, respectively.[6]

Despite its relatively liberal regulations, emigration from Prussia remained at low levels until 1851/1852. Only in 1846 and 1847 did more than 10,000 Prussians emigrate, mainly from the western provinces. More than 40 % of the emigrants in these two years came from the two neighboring *governmental districts* Trier and Koblenz in the Rhine-Province. Beginning in the early 1850s, emigration increased to an average annual level of about 25,000 between 1852 and 1857, then dropped to about 17,000 individuals between 1858 and 1864. The latter may be partly explained by the Civil War in the United States and the Danish-German War in 1864. After 1864, emigration increased steadily to a maximum of 30,000 individuals in 1869, before dropping again to about 20,000 individuals

[4]There were no county-level reform differences in the data for 1861 and 1858 so that 1861 and 1858 indicate the same level of aggregation.

[5]This is due to the fact that in the U.S., for reasons of doubt or out of convenience, all German-speaking emigrants were registered as Germans. The same is true of the passenger lists at the German ports, which were largely kept by US-Americans (Burgdörfer, 1931).

[6]The last wave occurred between 1880 and 1893 and is thus outside the period analyzed in this paper.

during the Franco-German War in 1870/1871. During this period, the main source regions of emigrants gradually shifted from the western to the northeastern provinces. For example, in 1869, more than half of all emigrants came from five governmental districts, i.e. Stralsund, Stettin, and Köslin in Pomerania, and the two neighboring governmental districts Bromberg in the Provinces Posen and Marienwerder in the Province West-Prussia.

The Königlich Preußisches Statistisches Bureau (1874) identified two main motives for emigration: political and economic motives.[7] According to the authors, the political motives were mainly driven by the desire to avoid military conscription, which they derive from increasing emigration rates after wars, especially the Danish-German war of 1864. They also argue that economically motivated emigration was the result of the interaction of population growth, increasing industrialization and the unequal distribution of agricultural land.

Early emigration from the Rhine-Province in the West of Prussia is often attributed to the tradition of dividing inheritances equally among heirs, often leaving farms too small to be self-sustaining. While in the eastern provinces farmland was usually bequeathed to the eldest son, these provinces were characterized by an extremely unequal distribution of land, with a few landlords owning most of the available farmland (Mönckmeier, 1912; Bade, 1980). In Pomerania, for example, only 4.4% of all landowners owned farms of more than 300 Morgen, which accounted for 68.1% of the available arable land. In Posen, large farms represented 3.5% of all landowners, who owned 61.7% of the available farmland (Königlich Preußisches Statistisches Bureau, 1874, Table 22). Since the landlords of these large farms were unwilling to sell land, it was almost impossible, or at least very expensive, for those who did not inherit enough resources to buy farmland. This left them with the options of either working as agricultural laborers, which was considered to be a social descent, or emigrating either overseas or to the new industrial centers in Prussia.[8] Emigration from these regions resulted in a shortage of agricultural workers, making it increasingly difficult to hire seasonal agricultural workers, especially for small landowners (Königlich Preußisches Statistisches Bureau, 1874). These small landowners in turn emigrated in increasing numbers, leading to a further increase in landowner inequality.

A similar argument has been made about the emigration of self-employed craftsmen and journeymen in small cities (Königlich Preußisches Statistisches Bureau, 1874; Leidig, 1892). The latter increasingly moved either to the rising industrial centers or overseas in search

[7] It is interesting that the verbal discussion in Königlich Preußisches Statistisches Bureau (1874) already outlined modern migration theory, including not only the basic human capital theory of migration, but also the idea of network migration. The authors also attempted to calculate the net burden of emigration on the Prussian economy, taking into account, among other things, the potential gains from increased trade facilitated by the emigrants as well as the effects of remittances. A detailed discussion of the determinants of emigration from Germany in the 19^{th} and early 20^{th} century is also given, for example, by Mönckmeier (1912) and Bade (1980).

[8] A detailed description of the living conditions of agricultural workers in the Eastern Provinces is provided by Leidig (1892).

of higher wages, resulting in an increasing shortage of workers for self-employed craftsmen. In addition, the relatively cheap products supplied by the factories in the industrialized regions led to a decrease in the competitiveness of small craft enterprises, which caused an increasing number of the owners to emigrate as well. Another important determinant of emigration was network migration, as those who remained in Prussia received more and better information about the living conditions in the potential destination countries from former emigrants. In many cases, these emigrants even sent money for their relatives and friends to join them (Königlich Preußisches Statistisches Bureau, 1874).

Table 1 provides a more detailed picture of the emigration flows in Prussia and its nine provinces for the period from 1862 to 1871. During this period, the Prussian Empire experienced the emigration of almost 247,000 persons or about 1.4% of its 1861 population. As noted above, the emigration rate was highest in Pomerania with an emigration rate of almost 4.4% of its 1861 population, followed by Posen and the Rhine Province with emigration rates of 2.1%, and 1.3%, respectively. Although West Prussia had a relatively low total number of emigrants, almost 2% of its population in 1861 emigrated during the period under consideration. Due to the considerable heterogeneity of the willingness to register for emigration in the different provinces, a slightly different picture emerges with regard to the actual registered emigration. Registered emigration would also suggest that total emigration was highest in Pomerania, but now followed by the Rhine Province, Westphalia, Brandenburg, and Saxony. Nevertheless, unregistered and registered emigration are highly positively correlated. A regression of unregistered emigration on registered emigration shows that for every registered emigrant there are on average 0.3 additional unregistered emigrants.[9]

For registered emigrants, the Königlich Preußisches Statistisches Bureau (1874) provides further information on the characteristics of the emigrants and their region of destination. A comparison of the gender distribution of registered emigrants with the corresponding distribution in the population in 1861 suggests that males were more likely to emigrate for all provinces (see Table 1), i.e., the proportion of males among the registered emigrants was 59% compared to a corresponding proportion of 49% in the total Prussian population in 1861. About 22% of the emigrants were employed in agriculture and 11% were craftsmen or industrial workers. More than 70% of the emigrants in this period migrated to either the United States or Canada, and another 11% went to other states of the German Empire. There is considerable heterogeneity among the different provinces in terms of destination. While 91% of the emigrants from Pomerania and 81% of those from Westphalia headed to North America, only 24% of those from East Prussia and 39% from Silesia did so. Significant proportions of emigrants from West and East Prussia as well as Posen migrated

[9]The regression *Unregistered Emigration* $= \alpha + \beta$ *Registered Emigration* $+ \varepsilon$ yields a $\hat{\alpha}$ of 129.6 with an estimated standard error of 27.733 and a $\hat{\beta}$ of 0.265 with an estimated standard error of 0.029.

to Central and South America. Finally, many emigrants from West and East Prussia, Posen, and Silesia went to the eastern neighboring countries, i.e., Poland and Russia.

In contrast to the volatile emigration rates, immigration to Prussia remained fairly stable between 1845 and 1871 at about 3,200 persons per year (see Figure 1). Table 1 shows that total immigration in the period from 1862 to 1871 was only 0.2% of the population in 1861, resulting in an overall net international migration rate of -1.2% of the Prussian population in 1861. Table 1 further shows that the migrants predominantly moved to Prussia's large cities, such as, e.g., Berlin in the Brandenburg Province and Cologne in the Rhine Province, and to its industrial centers, such as the Ruhr Valley in Westphalia and the Rhine Province, Breslau (Wroclaw) and Beuthen (Bytom) in Silesia, or Erfurt and Halberstadt in Saxony. Accordingly, these regions reported a high proportion of industrial workers among the immigrants. In East- and West-Prussia as well as in Posen, a substantial share of the immigrants were agricultural workers, partly offsetting the loss of agricultural workers through emigration. Overall, almost 74% of the immigrants were male. Their region of origin appears to be very heterogeneous. Note, however, that in West and East Prussia, Silesia and Posen, many migrants originated from nearby Poland and Russia.

4 Determinants of Emigration

4.1 Empirical Approach

The theoretical framework for the following empirical analysis is the standard model of migration, which states that migration occurs when the net benefits of moving to another region are greater than those of staying at home.[10] Since we have to rely on aggregate data and only have information on the Prussian counties from 1861 or earlier, we focus on the push factors of emigration and pull factors of immigration as well as migration costs by estimating regression models of the form

$$Y_r = \beta X_r + \delta C_r + \varepsilon_r, \tag{1}$$

where Y_r refers to different dependent variables describing emigration from, immigration to, and net migration in source region r, X_r is a vector of potential push factors for emigration and pull factors for immigration, respectively, C_r a vector of variables describing migration costs, β and δ the parameters to be estimated, and ε_r a normally distributed error term.

As dependent variables Y_r we consider the logarithm of the total cumulative number of immigrants ($log\ I_r$) and emigrants ($log\ E_r$) as well as net migration (NM_r) from 1862 to

[10] Bodvarsson et al. (2015) provide a recent review of migration theories.

1871, respectively. Equation (1) is estimated by OLS. The information on the dependent variables is taken from Königlich Preußisches Statistisches Bureau (1874) and has already been described in Section 3. Since the explanatory variables X_r and C_r are measured in 1858 and 1861, we had to aggregate some counties that were split into different units between 1858 and 1871[11] and dropped three counties that did not report migration data[12], leaving us with a final sample of 337 counties. In the regressions with $log\ I_r$ as the dependent variable, we lose five counties with zero immigration[13], and two counties with zero emigration[14] when using $log\ E_r$ as dependent variable.

According to the standard migration theory, migration flows are expected to depend on income. However, income information (such as regional GDP) is not available for the time period under consideration. As an alternative indicator for material prosperity, we rely on land ownership data, i.e., we control for mean land ownership and mean land ownership squared. Several analyses of emigration from Prussia in the 18th century further suggest that the concentration of land ownership was an important driver of emigration, especially in the eastern provinces (Königlich Preußisches Statistisches Bureau, 1874; Leidig, 1892; Bade, 1980). To account for this potential push factor, we use a standardized Gini-Index of land ownership inequality in a county. These variables were constructed using information on the number of farms in six size groups in 1858.[15] Since standard methods for estimating means and inequality measures from binned incomes do not appear to be robust, we rely on the robust Pareto midpoint estimator (RPME) as proposed by von Hippel et al. (2016) to construct this Gini-index. To analyze the impact of the regional socio-economic structure of a county on migration flows, the vector X_r also includes the share of the total number of residents employed in the industrial sector, the average household size, and an indicator for the urbanization calculated as the share of the population of a county living in cities.[16]

The accelerating improvement of the transportation infrastructure through, e.g., trains and steamboats, substantially reduced migration costs, as already noted by Ravenstein (1885). To capture potential direct migration costs C_r, we include an indicator for the state of transportation infrastructure, calculated as the sum of the length of rail tracks, country roads and navigable waterways per square km of a county in 1862. We also include the minimum distance from the center of a county to one of these two ports.[17]

[11] In particular, we had to aggregate West- and Oststernberg, Koslin and Bublitz, Tarnowitz, Zabrze and Kattowitz, the cities of Goslar and Liebenburg, and the cities and rural districts of Posen, Liegnitz, Erfurt, Krefeld, Duisburg, Essen, and Düsseldorf.

[12] I.e., Johannisburg, the Duchy of Lauenburg and the Jade Region.

[13] Greifenberg, Lauenburg and Rummelsburg in the Province Pomerania, and Darkehmen and Angerburg in East Prussia.

[14] Darkehmen and Angerburg in East Prussia.

[15] The data is obtained from Meitzen (1869). The size groups consist of farms with arable land up to 5 morgen, 5-30 morgen, 30-300 morgen, 300-600 morgen, and farms with more than 600 morgen. 1 morgen is approximately 0.3 ha.

[16] The data are taken from Königlich Preußisches Statistisches Bureau (1864).

[17] The railroad data were calculated from data provided by Koch (1873) and the data on country roads

The literature on the determinants of migration is unanimous that migration networks are one of the best predictors of migration flows (Gould, 1979; Bodvarsson et al., 2015). The importance of these networks is usually linked to improved information about the social and economic situation in the destination areas provided by former emigrants, support through remittances from relatives already living abroad to finance direct migration costs, and reduced integration costs upon arrival at the destination. Migration networks are already considered by Königlich Preußisches Statistisches Bureau (1874) as a main driver of emigration from Prussia. Following the majority of the existing literature, we use past migration flows as an indicator for the existence of migration networks. In particular, we use the cumulative number of emigrants, immigrants, and total net migration between 1845 and 1861 as a share of the population in 1845. Note that these variables are only available at the level of the *governmental district*. Therefore, we cluster all standard errors at the level of the *governmental district* when estimating equation (1). Finally, we control for the log of the population in 1861 when using $log\ I_r$ and $log\ E_r$, and the level of the population in 1861 when using NM_r as dependent variable to control for exposure.

4.2 Baseline Results

Table 2 reports our main estimation results. Columns (1) and (2) of Table 2 show the estimation results for registered and total emigration, respectively, the latter including an estimate of the number of emigrants leaving a county without a suspension certificate. It appears that the estimation results for the two specifications do not differ in a notable way. Our indicator of material prosperity, mean land-ownership, shows an inverted U-shaped effect on emigration, although the coefficient on squared mean land-ownership does not appear to be statistically significant at conventional levels. This result is consistent with the existing evidence of the so-called migration hump, i.e. that emigration first increases and then decreases with increasing income.[18]. Confirming the hypothesis of several commentators on Prussian emigration (Königlich Preußisches Statistisches Bureau, 1874; Leidig, 1892; Bade, 1980), emigration appears to be strongly positively correlated with the Gini-Index of land-ownership inequality.

Emigration also increases as the average family size in a county increases. This result is also consistent with standard migration theory, since, conditional on income, an increasing number of household members reduces the per-capita resources available for subsistence. Counties with a high share of industrial workers show statistically significant lower emigration, which may reflect the higher wages individuals could earn with the accelerating industrialization at that time. In addition, our indicator for urbanization is

and waterways were taken from Becker et al. (2014).

[18]See McKenzie (2017) and Bencek and Schneiderheinze (2020) for recent reviews of the respective literature.

positively related to emigration. Several arguments can be put forward to explain these results, all of which we cannot explore further with the data at hand. First, as already mentioned by Königlich Preußisches Statistisches Bureau (1874), many journeymen and self-employed craftsmen emigrated either to the new industrialized centers in the Empire or overseas in search of higher wages or, in case of self-employed craftsmen, because of increasing competition from factories with mass production on both the product and the labor market. Another explanation could be that population growth and the increased rural-urban migration observed in this time period led to an increase in the supply of labor in the cities that could not be absorbed by the increasing demand for labor caused by industrialization, leading to increased emigration flows out of the cities (see, e.g., Zelinsky (1971)). Finally, our results confirm migration theory also with respect to the direct costs of migration, as better transportation infrastructure increases emigration, while an increasing distance to the nearest port decreases emigration. Consistent with the bulk of empirical evidence on the determinants of international migration (see, e.g., Wegge (1998) for historical Germany), migration networks, proxied by past emigration flows, appear to be a strong predictor of emigration.

The estimation results concerning the pull factors of immigration are largely in line with the descriptive evidence of Section 3 that immigrants tend to move to the big cities and the industrial centers of Prussia (see column (3) of Table 2). Both the share of industrial workers in the population and the degree of urbanization of a county are significantly positively related to the number of immigrants. Although only statistically significant at the 10%-level, mean land-ownership and land-ownership inequality, both of which are highly related to the dominance of the agricultural sector in a county, are negatively related with immigration. Similar to the estimation results for emigration, past immigration appears to be a strong predictor of current immigration, reflecting network effects as well as the strong urbanization processes that occurred during the period of industrialization in Prussia. The regression results using net migration as the dependent variable (see column (4) of Table 2) largely mirror those on emigration with reversed signs, which is not surprising given the dominance of emigration in net migration flows already documented in Section 3.

4.3 Heterogeneity Analysis and Robustness Checks

The migration statistics provided by Königlich Preußisches Statistisches Bureau (1874) also allows us to take a closer look at the determinants of migration for different groups of registered emigrants as well as immigrants, i.e., the number of male and female migrants and migrants with agricultural, craft, or industrial occupations. The regression results for different groups of registered emigrants are shown in Table 3. The results for male and female emigrants in columns (1) and (2) of Table 3 mirror those of our baseline results

reported in column (1) of Table 2. In particular, the estimated coefficients for males and females do not differ in any important way.

However, there are notable differences between emigrants with agricultural and industrial occupations (see columns (3) and (4) of Table 3). For those with agricultural occupations, we obtain a significant inverted U-shaped effect of average land-ownership on emigration, while we observe no statistically significant relationship between land-ownership and emigration for those with industrial occupations. Similarly, the effect of land-ownership inequality is much stronger for agricultural emigrants than for industrial emigrants, and the average share of family size is positively related only to the emigration of agricultural workers. While the share of industrial workers in a county has a negative effect on the emigration of agricultural workers, it is positively related to the emigration of industrial workers. Furthermore, the degree of urbanization of a county is positively related to the emigration of industrial workers. Both results support the hypothesis of Königlich Preußisches Statistisches Bureau (1874) that many craftsmen left the country because of the increasing competition from the large factories in the centers of industrialization. Migration costs and migration networks show similar effects on the emigration of both, agricultural and industrial workers.

Similar to the structure of emigration, neither the sign nor the magnitude of the estimated coefficients on the pull factors of immigration differ between males and females (see columns (1) and (2) of Table 4). A notable difference is that female immigrants tend to avoid counties with a high average family size. The only statistically significant pull factor for immigrants with agricultural occupations are existing migration networks, while the immigration of industrial workers is also positively related to the share of industrial workers and the degree of urbanization of a county (see columns (3) and (4) of Table 4).

All of the regression results discussed so far have been obtained by estimating equation (1) using OLS, with the disadvantage of losing counties with either zero immigration or emigration. To check the robustness of our results, we alternatively estimated equation (1) using count data models, i.e., Poisson- and NEGBIN-models, with the cumulative number of immigrants and emigrants as dependent variable, respectively. Since the dependent variables suffer from overdispersion, the Poisson-model is rejected against the negative binomial (NEGBIN)-model for all our specifications. Therefore, only the results from the NEGBIN-models are reported in Appendix-Tables A2 and A3. Note that the estimation results from these models are not qualitatively different from the OLS-results.

Finally, almost 14% of all immigrants to the Prussian Empire between 1862 and 1871 settled in the capital Berlin. To test whether the dominance of Berlin as a destination for many immigrants affects our estimation results reported in columns (3) and (4) of Table 2 and in Table 4, we re-estimated these models also on a sample excluding Berlin. However, the exclusion of Berlin does not affect our estimation results (see Appendix-Table 4).

5 Conclusion

This paper provides a detailed descriptive analysis of the pull and push factors of immigration and emigration to the Prussian Empire between 1862 and 1871, using data on migration flows at the level of the Prussian counties. During this period, nearly 250,000 persons, or about 1.4% of the population of the Prussian Empire in 1862, left the country, mostly for the United States and Canada. Regions in the east of Prussia also experienced some emigration to nearby Poland and Russia. Most emigrants came from the Rhine-Province in the west of Prussia and the Provinces Pomerania, Posen, and West Prussia in the north and east of Prussia.

Immigration to Prussia during this period was rather negligible, amounting to 0.2% of the Prussian population in 1861, and consisted mainly of seasonal agricultural workers and industrial workers moving to the industrial centers. The countries of origin of these immigrants are rather heterogeneous, but they mostly originated from neighboring countries such as Poland, Russia, Austria or the Netherlands. As might be expected, there was also some return migration from North America. Most of the immigrants went either to the large Prussian cities such as Berlin, the industrial centers in the Ruhr-Area, Silesia, and Saxony, or to some rural eastern parts of Prussia.

Similar to the literature on contemporaneous emigration from developing countries, our regression results suggest an inverted U-shaped effect of our indicator of material prosperity (average land-ownership on the county-level) on emigration. Moreover, as suggested by previous analyses, inequality in land-ownership appears to be an important driver of emigration. In line with standard migration theories, higher migration costs, measured by an indicator of the development of the transport infrastructure and the distance to one of the three main seaports Hamburg, Bremen, and Stettin, reduce emigration flows. In contrast to emigration, immigration tended to occur in counties with a high degree of urbanization and industrial centers, the latter being measured by the share of industrial workers in the population. For both, emigration and immigration, migration networks measured as the cumulative emigration and immigration between 1845 and 1861, respectively, appear to be an important driver of migration flows.

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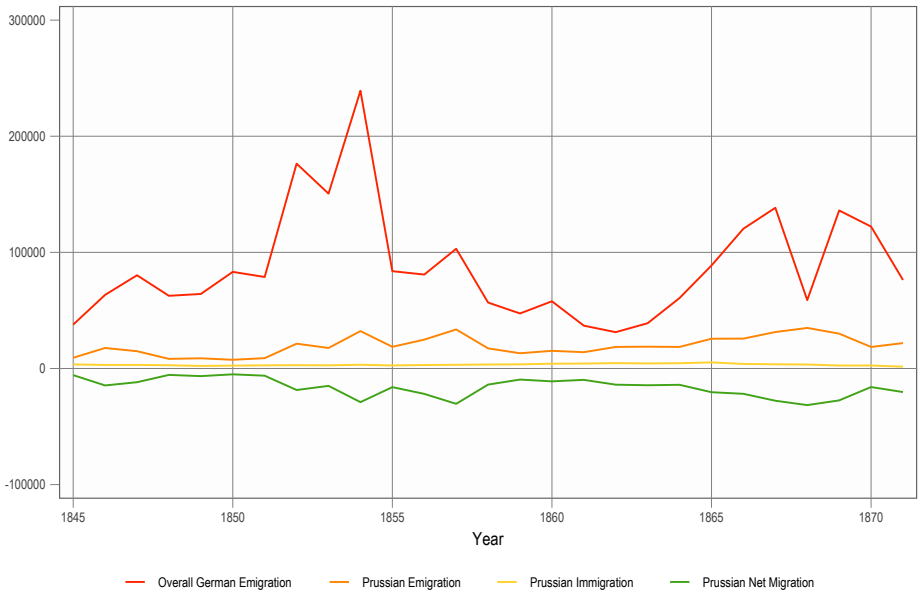
Figures

Figure 1: Migration from the German territory the Prussian Empire 1845-1871



Note: Immigration and emigration numbers of Prussia refer to the 1^{st} of October to 30^{th} of September for the period from 1844-1853, from 1^{st} of October 1853 to 31^{st} of December 1854, and from 1^{st} of January to 31^{st} of December for the period 1855-1871. Emigration numbers of Prussia include only registered emigration for the period from 1844-1854, registered and unregistered emigration thereafter. Sources: Königlich Preußisches Statistisches Bureau (1874); Burgdörfer (1972).

Tables

Table 1: Structure of Migration in Prussia, 1862-1871

	Total	East Prussia	West Prussia	Branden-burg	Pomerania	Posen	Silesia	Saxony	West-phalia	Rhine Province
1861:										
Population	18,038,316	1,544,611	1,170,252	2,412,066	1,368,969	1,467,604	3,349,495	1,946,003	1,603,628	3,175,688
Share Males	49.266	48.664	49.269	49.333	49.327	48.868	47.928	49.319	50.554	50.417
Employment Share										
in Agriculture	45.963	52.598	48.340	36.102	43.295	48.813	50.914	41.436	49.937	44.476
in Industry	17.211	12.260	11.728	19.136	13.196	10.938	17.672	120.281	19.146	21.647
Emigration:										
Total[1]	246,946	2,901	21,977	23,781	59,835	30,186	16,506	22,406	28,128	41,226
	(1.369)	(0.188)	(1.878)	(0.986)	(4.371)	(2.057)	(0.493)	(1.151)	(1.754)	(1.298)
Registered Emigration[2]	160,362	1,476	7,677	19,047	42,487	12,046	9,079	18,595	21,097	28,858
	(64.938)	(50.879)	(34.932)	(80.093)	(71.007)	(39.906)	(55.004)	(82.991)	(75.004)	(70.000)
of which										
(in % of Registered Emigration)										
Males	59.126	69.851	58.864	56.124	53.798	57.978	62.408	60.414	62.696	64.481
Agriculture	22.384	8.333	28.149	20.150	22.372	28.831	13.239	10.675	32.777	23.193
Industry	10.905	17.954	7.881	10.227	5.030	10.394	16.731	19.172	10.869	13.528
Destination:										
German Reich	11.727	14.499	2.214	9.293	1.690	1.154	24.782	51.697	7.394	8.216
Russia/Poland	4.360	37.940	23.121	3.570	0.588	21.468	11.158	0.339	0.076	0.166
North America	70.304	24.390	67.031	70.179	91.122	72.057	39.421	40.005	81.362	63.379
Middle/South America	4.360	37.940	23.121	3.570	0.588	21.468	11.158	0.339	0.076	0.166
Immigration:										
Total[1]	36,141	1,570	1,412	7,043	1,182	1,850	3,643	6,874	4,007	8,560
	(0.200)	(0.102)	(0.121)	(0.292)	(0.086)	(0.126)	(0.109)	(0.353)	(0.250)	(0.270)
of which										
(in % of Immigration)										
Males	73.520	70.127	83.286	77.098	76.988	61.027	69.421	66.075	87.197	73.131
Agriculture	13.080	20.764	36.969	9.016	17.767	31.946	11.062	11.318	8.810	10.607
Industry	26.990	10.064	14.943	36.902	22.250	7.351	19.874	22.432	40.978	28.949
Origin:										
German Reich	64.063	15.732	15.935	82.862	76.988	5.243	29.920	91.751	80.784	60.794
Austria	6.754	2.739	2.125	4.671	3.722	3.027	45.512	1.833	0.948	1.367
Belgium/Netherlands	5.888	0.064	4.958	0.426	0.592	0.000	0.220	0.262	7.836	19.626
Russia/Poland	13.237	77.580	66.714	3.905	6.091	84.270	17.678	0.873	0.175	0.082
North America	3.600	0.828	3.895	2.456	4.907	4.486	1.620	2.793	5.141	5.397
Net Migration[1]	-210,805	-1,331	-20,565	-16,738	-58,653	-28,336	-12,863	-15,532	-24,121	-32,666
	(-1.169)	(-0.086)	(-1.757)	(-0.694)	(-4.284)	(-1.931)	(-0.384)	(-0.798)	(-1.504)	(-1.029)

Notes: [1]: In % of total population in 1861 in parentheses; [2]: In % of total emigration in parentheses.
Sources: Königlich Preußisches Statistisches Bureau (1874), Königlich Preußisches Statistisches Bureau (1864)

Table 2: Determinants of Emigration and Immigration, 1862-1871

	log(Emigration)		log(Immigration)	Net
	Registered	Total		Migration
	(1)	(2)	(3)	(4)
Land-ownership (Morgen)	0.015**	0.014**	−0.012*	−0.027***
	(0.007)	(0.006)	(0.007)	(0.009)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	−0.007	−0.004	0.004	0.009**
	(0.005)	(0.004)	(0.003)	(0.004)
Land-ownership: Gini (Std.)	0.420**	0.525***	−0.189*	−0.404***
	(0.155)	(0.157)	(0.100)	(0.138)
Share of Industrial Workers	−0.015*	−0.035***	0.032***	0.016**
	(0.008)	(0.010)	(0.009)	(0.007)
Urbanization	0.011***	0.011***	0.019***	−0.004
	(0.003)	(0.004)	(0.003)	(0.003)
Average Family Size	0.406**	0.537***	−0.065	−0.305**
	(0.184)	(0.190)	(0.187)	(0.134)
Transport Infrastructure	0.223**	0.201*	−0.091	−0.238**
	(0.096)	(0.101)	(0.070)	(0.095)
Min. Distance to Port in 100 km	−0.225***	−0.215***	0.057	0.090***
	(0.047)	(0.050)	(0.056)	(0.031)
Emigration 1845-1861 (Share)	0.427***	0.402***		
	(0.048)	(0.046)		
Immigration 1845-1861 (Share)			3.363***	
			(0.332)	
Net Migration 1845-1861 (Share)				0.258***
				(0.051)
log(Total Population)	0.797***	0.988***	1.136***	
	(0.198)	(0.242)	(0.169)	
Population in 1,000				0.002
				(0.003)
Constant	−6.292**	−8.269***	−9.505***	2.130**
	(2.271)	(2.815)	(2.004)	(0.834)
Observations	335	335	332	337

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Heterogenity Analysis, Dependent Variable: log(Emigration of ...)

	Male (1)	Female (2)	Agriculture (3)	Industry (4)
Land-ownership (Morgen)	0.012	0.021**	0.029***	0.007
	(0.006)	(0.008)	(0.008)	(0.004)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	−0.005	−0.008	−0.011**	−0.003
	(0.003)	(0.005)	(0.004)	(0.003)
Land-ownership: Gini (Std.)	0.412**	0.499**	0.465*	0.283**
	(0.159)	(0.175)	(0.208)	(0.098)
Share of Industrial Workers	−0.013	−0.017	−0.031*	0.014*
	(0.008)	(0.010)	(0.015)	(0.007)
Urbanization	0.013***	0.008*	−0.006	0.018***
	(0.004)	(0.004)	(0.005)	(0.002)
Average Family Size	0.377*	0.398	0.613**	−0.103
	(0.174)	(0.242)	(0.199)	(0.105)
Transport Infrastructure	0.215*	0.290**	0.200	0.087
	(0.099)	(0.111)	(0.118)	(0.063)
Min. Distance to Port in 100 km	−0.210**	−0.222***	−0.199*	−0.167***
	(0.064)	(0.066)	(0.090)	(0.047)
Emigration 1845-1861 (Share)	0.417***	0.453***	0.581***	0.361***
	(0.064)	(0.063)	(0.063)	(0.052)
log(Total Population)	0.816***	0.726***	0.482**	0.703***
	(0.217)	(0.190)	(0.166)	(0.190)
Constant	−6.747**	−6.799**	−6.221*	−5.063**
	(2.683)	(2.853)	(2.810)	(2.086)
Observations	335	332	322	330

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Heterogenity Analysis, Dependent Variable: log(Immigration of ...)

	Male (1)	Female (2)	Agriculture (3)	Industry (4)
Land-ownership (Morgen)	-0.011^{*}	-0.015^{**}	-0.006	-0.012^{*}
	(0.005)	(0.004)	(0.008)	(0.005)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	0.003	0.008^{***}	0.004	0.003
	(0.002)	(0.002)	(0.002)	(0.003)
Land-ownership: Gini (Std.)	-0.191	-0.124	-0.161	-0.157
	(0.143)	(0.140)	(0.206)	(0.096)
Share of Industrial Workers	0.033^{***}	0.023^{*}	0.019^{*}	0.056^{***}
	(0.009)	(0.012)	(0.008)	(0.014)
Urbanization	0.020^{***}	0.013^{**}	-0.003	0.028^{***}
	(0.003)	(0.004)	(0.004)	(0.002)
Average Family Size	0.034	-0.451^{**}	-0.290	-0.070
	(0.193)	(0.176)	(0.241)	(0.104)
Transport Infrastructure	-0.094	0.011	-0.149	-0.084
	(0.091)	(0.088)	(0.161)	(0.057)
Min. Distance to Port in 100 km	0.049	0.030	-0.036	-0.003
	(0.038)	(0.055)	(0.049)	(0.054)
Immigration 1845-1861 (Share)	3.344^{***}	3.453^{***}	3.307^{***}	3.349^{***}
	(0.382)	(0.685)	(0.899)	(0.380)
log(Total Population)	1.150^{***}	0.764^{***}	0.610^{***}	1.132^{***}
	(0.186)	(0.175)	(0.145)	(0.190)
Constant	-10.479^{***}	-4.603^{*}	-4.072^{*}	-11.488^{***}
	(2.412)	(2.000)	(2.146)	(2.272)
Observations	332	310	297	299

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A Appendix

Table A1: Descriptive Statistics

Variable	Description	Mean	Standard Deviation	Observations
log (Emigration)	Registered Emigration	5.299	1.408	338
log (Total Emigration)	Registered and unregistered Emigration	5.766	1.427	338
log (Emigration Male)	Registered Emigration Males	4.842	1.362	338
log (Emigration Female)	Registered Emigration Females	4.292	1.469	335
log (Emigration Agriculture)	Registered Emigration from Agriculture	3.286	1.764	325
log (Emigration Industry)	Registered Emigration from Industry/Handcraft	3.349	1.225	333
log (Immigration)	Registered Immigration	3.781	1.345	335
log (Immigration Males)	Registered Immigration Males	3.455	1.326	335
log (Immigration Females)	Registered Immigration Females	2.595	1.276	313
log (Immigration Agriculture)	Registered Immigration from Agriculture	1.884	1.230	299
log (Immigration Industry)	Registered Immigration from Industry/Handcraft	2.310	1.428	302
Net Migration	Net Migration in 1,000	-0.620	1.119	340
Land-ownership	Mean Land-ownership in Morgen	63.771	39.102	340
Gini-Index Land-ownership	Gini-Index of Land-ownership	0.669	0.094	340
Industrial Workers	Share of Industrial Worker on Population in 1861	15.017	6.643	340
Urbanization	Share of Population living in Cities	26.205	20.567	340
Family Size	Average Family Size	4.800	0.385	340
Transportation	Sum of Train, Street and Water km per km^2 area	0.127	0.626	337
Distance to next Port	Minimum Distance to the ports Bremen, Hamburg, Stettin in km	2.167	1.423	340
Past Emigration	Total Emigration 1845-1861 as Share of Population in 1845	1.948	1.805	340
Past Immigration	Total Immigration 1845-1861 as Share of Population in 1845	0.227	0.149	340
Past Net Migration	Total Net Migration 1845-1861 as Share of Population in 1845	-1.721	1.752	340
Population	Population in 1861 in 1,000	53.054	31.262	340

Table A2: Determinants of Emigration, Negative Binomial Model

	Registered Emigration	Total Emigration	Emigration of:			
	(1)	(2)	Male (3)	Female (4)	Agriculture (5)	Industry (6)
main						
Land-ownership (Morgen)	0.023***	0.023***	0.019**	0.029***	0.036***	0.013**
	(0.008)	(0.007)	(0.008)	(0.008)	(0.010)	(0.007)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	−0.008	−0.007	−0.007	−0.011*	−0.017***	−0.004
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.005)
Land-ownership: Gini (Std.)	0.474***	0.478***	0.443***	0.536***	0.490***	0.339***
	(0.142)	(0.141)	(0.141)	(0.144)	(0.174)	(0.124)
Share of Industrial Workers	−0.018	−0.031***	−0.016	−0.019	−0.027	0.014
	(0.012)	(0.011)	(0.011)	(0.013)	(0.017)	(0.010)
Urbanization	0.013***	0.012***	0.015***	0.009**	−0.003	0.021***
	(0.004)	(0.004)	(0.004)	(0.005)	(0.007)	(0.003)
Average Family Size	0.499**	0.631***	0.451**	0.581***	1.009***	0.021
	(0.199)	(0.193)	(0.192)	(0.218)	(0.288)	(0.142)
Transport Infrastructure	0.231***	0.169**	0.211***	0.281***	0.160	0.099
	(0.076)	(0.075)	(0.075)	(0.079)	(0.097)	(0.061)
Min. Distance to Port in 100 km	−0.194***	−0.161***	−0.178***	−0.216***	−0.213***	−0.131**
	(0.057)	(0.053)	(0.055)	(0.061)	(0.072)	(0.051)
Emigration 1845-1861 (Share)	0.402***	0.368***	0.395***	0.414***	0.492***	0.363***
	(0.055)	(0.050)	(0.052)	(0.060)	(0.073)	(0.045)
(first) Pop_Tot	0.000	0.000*	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	1.442	1.202	1.228	−0.027	−2.433	1.370
	(1.208)	(1.183)	(1.153)	(1.330)	(1.674)	(0.895)
/						
lnalpha	−0.071	−0.092	−0.155	0.079	0.449***	−0.343***
	(0.117)	(0.139)	(0.122)	(0.107)	(0.114)	(0.116)
Observations	337	337	337	337	337	337

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Determinants of Immigration, Negative Binomial Model

	Total Immigration	Immigration of: Male	Female	Agric	Industry
	(1)	(2)	(3)	(4)	(5)
main					
Land-ownership (Morgen)	−0.006	−0.003	−0.011*	0.008	−0.002
	(0.007)	(0.008)	(0.006)	(0.013)	(0.009)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	0.004	0.002	0.008***	0.001	−0.004
	(0.003)	(0.004)	(0.003)	(0.007)	(0.005)
Land-ownership: Gini (Std.)	−0.129	−0.170	0.003	−0.010	−0.173
	(0.182)	(0.184)	(0.186)	(0.265)	(0.136)
Share of Industrial Workers	0.025*	0.029**	0.014	0.020	0.059***
	(0.014)	(0.013)	(0.017)	(0.013)	(0.015)
Urbanization	0.014***	0.016***	0.009*	−0.010	0.030***
	(0.004)	(0.003)	(0.005)	(0.007)	(0.003)
Average Family Size	−0.052	0.039	−0.334	−0.009	0.026
	(0.231)	(0.236)	(0.249)	(0.554)	(0.192)
Transport Infrastructure	−0.053	−0.081	0.044	−0.046	−0.125
	(0.138)	(0.140)	(0.143)	(0.212)	(0.117)
Min. Distance to Port in 100 km	0.074	0.067	0.096	0.050	0.048
	(0.071)	(0.075)	(0.068)	(0.125)	(0.078)
Immigration 1845-1861 (Share)	3.512***	3.563***	3.263***	4.123**	3.415***
	(0.777)	(0.911)	(0.715)	(1.628)	(0.790)
(first) Pop_Tot	0.000**	0.000**	0.000	0.000*	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	1.981*	1.010	2.667**	0.119	−0.934
	(1.106)	(1.106)	(1.280)	(2.698)	(0.955)
/					
lnalpha	−0.154	−0.201	0.084	0.523***	−0.247
	(0.167)	(0.176)	(0.174)	(0.164)	(0.174)
Observations	337	337	337	337	337

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Determinants of Immigration and Net Migration without Berlin

	log(Immigration)		log(Immigration) of:			Net Migration
		Male	Female	Agriculture	Industry	
	(1)	(2)	(3)	(4)	(5)	(6)
Land-ownership (Morgen)	−0.013*	−0.012*	−0.015**	−0.006	−0.012*	−0.024***
	(0.007)	(0.005)	(0.005)	(0.007)	(0.005)	(0.009)
Land-ownership^2 (Morgen) $\times$ 100^{-2}	0.004	0.003	0.008***	0.004*	0.003	0.007*
	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
Land-ownership: Gini (Std.)	−0.186*	−0.188	−0.125	−0.158	−0.154	−0.408***
	(0.100)	(0.145)	(0.139)	(0.208)	(0.096)	(0.140)
Share of Industrial Workers	0.030***	0.031***	0.024*	0.017*	0.055***	0.024***
	(0.009)	(0.009)	(0.012)	(0.008)	(0.013)	(0.006)
Urbanization	0.019***	0.020***	0.013**	−0.003	0.029***	−0.004
	(0.003)	(0.003)	(0.004)	(0.004)	(0.002)	(0.003)
Average Family Size	−0.069	0.030	−0.450**	−0.291	−0.072	−0.270**
	(0.187)	(0.189)	(0.176)	(0.238)	(0.102)	(0.122)
Transport Infrastructure	−0.096	−0.100	0.012	−0.153	−0.088	−0.183*
	(0.070)	(0.090)	(0.090)	(0.159)	(0.058)	(0.096)
Min. Distance to Port in 100 km	0.052	0.044	0.030	−0.038	−0.007	0.112***
	(0.056)	(0.037)	(0.054)	(0.049)	(0.054)	(0.031)
Immigration 1845-1861 (Share)	3.451***	3.432***	3.436***	3.358***	3.410***	
	(0.349)	(0.436)	(0.719)	(0.957)	(0.421)	
Net Migration 1845-1861 (Share)						0.265***
						(0.050)
log(Total Population)	1.200***	1.213***	0.752***	0.649***	1.177***	
	(0.182)	(0.183)	(0.192)	(0.182)	(0.212)	
Population in 1,000						−0.007**
						(0.003)
Constant	−10.129***	−11.102***	−4.483*	−4.465	−11.928***	2.133**
	(2.096)	(2.398)	(2.223)	(2.558)	(2.473)	(0.772)
Observations	331	331	309	296	298	336

Notes: Clustered standard errors (at the level of governmental districts) in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$