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German emigration via Bremen in the Weimar Republic (1920–1932)

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Abstract

This paper analyzes the oversea emigration of German passengers via the port of Bremen in the period of the Weimar Republic (1920–1932). We use a novel micro-dataset of digitalized passengers lists including about 181,000 emigrants as an estimation of the outflow of Germans from the German Reich. The descriptive analysis shows that the dataset is overall representative compared to official statistics except for the years 1924 and 1929 in which the data loss is huge. Furthermore, we deduce the skill level of the emigrating working population on the basis of information about occupations in the dataset. We find that male migrants had higher skills than female migrants and that South American countries attracted a relatively better skill distribution than the United States although the latter represented the main destination country for emigrants of any skill level in absolute numbers.

JEL Classification: F22, N33, N34, O15

Keywords: Bremen, migration accounting, migratory outflows, skill level

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1 Introduction

Germany seldomly regarded itself as a country of migration, immigration or emigration. However, revisiting the history of the past ten years clearly shows that Germany is an immigration country, and, in addition, the primary destination for immigrants in the EU. In this period, 9.3 million foreigners entered the country corresponding to 11 % of the total population in 2015, compared to only 1.5 million Germans who emigrated (cf. Federal Statistical Office, 2017; OECD, 2017). The analysis of historical migration flows reveals, by contrast, that there had been different times. Predominantly in the so called “age of mass migration” (1850–1914) Germany was primarily an emigration country: about four million Germans left their homeland corresponding to 6 % of the total population in 1914.¹ This picture of Germany as an emigration country was still persistent in the following years of the Weimar Republic. It is worth analyzing this changing history of migration and the different sources of inflows and outflows of migrants during the last two centuries as it can give valuable insights in the determinants of the migration decision as well as in the impact of migration on the economic development of Germany and the receiving countries over time.

This paper aims at surveying the literature on the extent of mass migration out of Germany and provides new evidence on German emigration. We will concentrate on a significant wave of German emigration subsequent to the age of mass migration—the period of the Weimar Republic which started after the First World War in 1918 and ended in 1933 with the beginning of the reign of the Nazi regime. The Weimar Republic constitutes a unique period of large scale and voluntary emigration from Germany predominantly to the United States, but also to Canada and the Southern American countries such as Argentina and Brazil. Historical migration research on this period is still very scarce and until recently widely unreflected by economists. A difference to a pure literature survey is the use of a novel micro-dataset based on administrative records from passenger ship companies from one of the main emigration ports Bremen. These records are publicly available and provide details on about 738,000 passengers, thereof about 181,000 German emigrants between 1920 and 1932.² We are first in comparing this new dataset with official German emigration statistics on German emigration to evaluate the representativeness of the dataset. Additionally, we analyze into detail the skill composition of German emigrants in the period of the Weimar Republic which we carry out on the basis of information about occupations in the dataset.

This paper enlarges three main strings in the existing literature. First, it contributes to the subject of migration accounting and to the examination of the validity of micro-datasets on migration. Especially in the historical context it is crucial to be able to assess the representativeness of a dataset and to explain the reasons for differences between different datasets and sources (see, e.g., Burgdoerfer (1931) for the gap between German and US statistics on migration during the age of mass migration). Our backbone paper in this context is the study

¹Thereof about 1.1 million between 1850 and 1870 (cf. Moenckmeier, 1912) and about 2.9 million between 1871 and 1914 (see Statistical Yearbooks of the Imperial Statistical Office).

²Hamburg was the second main emigration port, but passenger records are not publicly available for research purposes.

of Bandiera et al. (2013) who compare lists of passengers who entered the United States via Ellis Island between 1892 and 1924 with census data on immigration. Bandiera et al. (2013) find that numbers of immigrants are largely underestimated in the US census of 1900, 1910, and 1920—by 20 % for the decade 1900–1910, and by even 170 % for the decade 1910–1920. This gap has to be taken into account when using the US census as the basis for an analysis on immigration in this period. Our paper follows the approach of Bandiera et al. (2013) and will compare vice versa German passenger lists with German official statistics on emigration.

Second, our paper will enlarge the literature on the selection of emigrants in terms of skills in a historical context for Germany. The study of Wegge (2002) is—to the best of our knowledge—the only study which examines on the basis of a micro-dataset the skill composition of German emigrants as well as their selection compared to the non-emigrating German population for the age of mass migration. Wegge (2002) finds a positive selection of emigrants in terms of skills and shows that—although unskilled emigrants represented the largest proportion of the total emigrant population—skilled migrants had the highest propensities to emigrate. However, the study is regionally restricted to Hesse–Cassel and exclusively concentrates on the early phase of mass migration (1832–1857). A recent study of Wulfers (2017) uses the same novel dataset of passengers from Bremen and examines the skill composition of passengers of any nationality in the dataset for the whole interwar period (1920–1939). For the subsample of German passengers he describes an overall time trend of a rising skill level since the late 1920ies. Our analysis of the skill composition of German emigrants for the period of the Weimar Republic (1920–1932) goes a step further and provides a far more detailed description of their skill composition according to all the individual characteristics in the dataset for this period. This description represents groundwork for further contributions to the literature on the impact of migration of differently skilled labor on destination and source countries (see, e.g., Abramitzky et al. (2012)) and on different migration motives for differently skilled labor (see, e.g., Borjas (1987) and Chiswick (1999)).

Third and finally, this paper will enrich the literature on German emigration during the Weimar Republic. Although the Weimar Republic represents a period with high emigration rates—also compared to the age of mass migration—the existing literature is relatively scarce. For the age of mass migration there exists a comprehensive literature by economists and by historians (see, e.g., Bade (1979), Grant (2005), Hatton and Williamson (2005), Marschalck (1973), Moenckmeier (1912), and O’Rourke and Williamson (2001)). However, for the Weimar Republic, there exist mainly two contributions of Bickelmann (1980) and Burgdoerfer (1930, 1931). Both studies analyze German emigration flows and its composition on the basis of aggregated official statistics and lack a description of the skill composition of German emigrants. They give furthermore an overview of migration motives. The recent empirical study of Wulfers (2017) represents in this respect the first empirical study that explores more concretely the effect of the introduction of US immigration quotas during the Weimar Republic on the skill level of passengers from Bremen to US ports. Other literature treat the period of the Weimar Republic only partially (see, e.g., Bade (2004), Benschmidt and Kube (2006), Oltmer (2005),

and Thalheim (1926)).³ Our paper will survey this literature to give especially insights with respect to emigration motives in the course of the Weimar Republic.

This paper has two main contributions to the existing research on historical migration. Following the approach from Bandiera et al. (2013) we match in a first step official German emigration statistics for the port of Bremen with passenger lists from Bremen. As official statistics are aggregated port statistics, they allow for a direct comparison with passenger lists. However, passenger lists from Bremen—which have been recorded since 1832—have mainly been destroyed until 1914 due to a lack of interest in the emigrant population and due to a lack of storage capacities. It was then especially the increasing demand for family research which led in the following period between 1920 and 1939 to a preservation of the lists. After the Second World War about one third of the more than 4,500 original lists were lost. The remaining lists were digitalized since 1999 by Bremen’s family research society “DIE MAUS, Gesellschaft für Familienforschung e.V., Bremen”. The digitalized lists represent a unique micro-dataset (the MAUS-dataset in the following) that is publicly available and that has only recently been studied by Wulfers (2017). It is thus the first contribution of our paper to examine into detail the representativeness of this novel MAUS-dataset for the period of the Weimar Republic by comparing it with official statistics from Bremen—especially against the background of a considerable data loss *vis-à-vis* the original lists. This analysis is crucial for any further empirical research that will be conducted on the basis of the MAUS-dataset to ensure the validity of the results. Compared to Wulfers (2017) we will focus our analysis exclusively on the period of the Weimar Republic (1920–1932) which represents a relatively uniform institutional framework and we will not consider the years 1933 to 1939 to avoid structural breaks. This is due to the fact that the freedom of individuals to emigrate has been hindered substantially or has totally been prohibited by a variety of measures and laws by the Nazi regime which started in January 1933. In addition, an exclusive focus on the years of the Weimar Republic is necessary as official statistics for Bremen only exist until 1932. Restricting our sample furthermore to German emigrants results from the assumption that the emigration decision of individuals from other nationalities differs most probably from those of Germans.

The second contribution of our paper is a comprehensive analysis of the skill composition of the emigrating working population in the MAUS-dataset. Wegge (2002) analyzes the skill level and thus the human capital acquisition of German emigrants in the 1832–1857 phase of emigration. We go beyond that providing new evidence on the skill level of German emigrants for the higher industrialized German Reich in the later period of the Weimar Republic, and for the whole German territory, *i.e.*, for a significantly larger sample of about 122,000 emigrants who represent the working population in the MAUS-dataset. Thereby, we deduce the individual skill level of an emigrant from his or her occupation and distinguish between low-, medium-, and high-skilled emigrants. Compared to Wulfers (2017) our analysis gives additional insights in the skill composition of German emigrants especially with regard to the skill level of emigrants

³Thalheim (1926) analyzes German emigration until 1924. Oltmer (2005) focusses predominantly on immigration during the Weimar Republic. Benschmidt and Kube (2006) describe emigration via Bremen between 1830 and 1974, and Bade (2004) analyzes emigration and immigration in the nineteenth and twentieth century.

to different destination countries and different origin states within the German Reich. Having profound knowledge about the skill composition of migrants on an individual level allows, first, for further research on the impact of a loss or gain of human capital on the side of the destination and the origin country, the corresponding effects on the labor market, and the effects on country-specific developments of economic growth. Second, it allows for further research on the self-selection of differently skilled migrants into different destination countries, and on skill-specific determinants for migration.

Our results confirm that the MAUS-dataset is—compared with official statistics—overall representative in terms of gender (except for 1920), marital status (except for 1920 and 1921), and age, as well as in terms of destination countries, origin provinces in the German Reich, and economic sectors. However, there exists the following shortcomings of the MAUS-dataset: first, two years (1924 and 1929) show a significant data loss and thus should be excluded. Second, in the years 1920–1923, the MAUS-dataset even contains more emigrants than the official statistics. This can be explained by two factors: a lack of a uniform definition of an emigrant until 1924 and a lack of a distinction between emigrants and travelers in the dataset. During the Weimar Republic the number of travelers was considerably higher than in the age of mass migration, especially due to easier and less costly transportation.

Concerning the analysis of the skill composition we restricted our sample to the emigrating working population in the Weimar Republic, excluding the years 1924 and 1929. The results show that a majority of 54 % was low-skilled, followed by 39 % medium-skilled emigrants and only 7 % high-skilled emigrants, i.e., we observe a negative relationship between the frequency rate and the skill level. This distribution is even more pronounced for female emigrants who constituted a third of the working population: 77 % of female emigrants were low-skilled, 21 % were medium-skilled, and only 2 % were high-skilled. The skill level of male versus female emigrants was considerably higher, and we observe for male emigrants an inverse u-shaped pattern between the frequency rate and the skill level.⁴ As expected, the skill level of emigrants increased with their age. The vast majority of the emigrant population (84 %) has chosen the United States as destination. This pattern also holds if we analyze each of the three skill levels separately. For the United States, the frequency rate is negatively correlated with the skill level. Interestingly, we observe an inverse u-shaped pattern for the second most important destination South America (thereof especially Argentina and Brazil), i.e., the group of medium-skilled workers constituted by far the largest emigrant population. As a result, emigrants to South America were—in relative terms—higher skilled. This is due to the fact that the emigrating working population to South America was on average older and consisted of a significantly higher share of males and of married emigrants. Furthermore, it appears that the skill level of emigrants was higher in more industrialized regions compared to rural regions within the German Reich.

The paper is structured as follows. In the next section, we provide an overview of the existing literature and the official statistics regarding the emigration of Germans from the

⁴The provided MAUS-dataset is anonymous and therefore members of one family can not be interconnected to analyze the skill level per family or household.

German territory in the age of mass migration and during the Weimar Republic. Section 3 describes the MAUS-dataset. In Section 4 we compare the emigrant population in the MAUS-dataset with official statistics from Bremen in order to examine the representativeness of the MAUS-dataset. Section 5 analyzes the skill composition of the emigrating working population in the MAUS-dataset. Section 6 summarizes our key findings and concludes.

2 Existing literature and statistical database

Before describing the extent of German oversea emigration in absolute numbers per year, it is necessary to give a definition for the term “emigrant”, as i) this definition has changed over time, ii) source and destination countries applied different definitions, and iii) the two main German emigration ports Bremen and Hamburg also defined emigrants differently in the beginning of oversea emigration. Until 1924 no uniform definition of an “emigrant” existed, and as a general rule steerage passengers (“Zwischendeck”) and Third Class passengers were considered as emigrants. Cabin class passengers were not classified as emigrants which led to a general underestimation of emigrants (cf. Burgdoerfer, 1931, p. 329ff., and Ferenczi and Willcox, 1929, p. 686ff.). Since 1924, the Imperial Statistical Office of the German Reich adapted its definition to the US definition: a passenger to the United States who is an emigrant according to the US American definition, had to be recorded as an emigrant without regard to the travel class, all other passengers were recorded as non-emigrants, i.e., as travelers (cf. Burgdoerfer, 1931).⁵ The period for a previous residence in the German Reich as well as the declared period to reside in the respective destination countries was obliged to be at least one year.⁶

The differences in the definition of an “emigrant” explain a certain gap between German emigration statistics and US immigration statistics. Further explanation for the differences in emigration versus immigration numbers are the following: German statistics reported emigration rates per calendar year and US statistics per fiscal year (ending on June 30). German statistics lacked data for German emigration via foreign ports (certainly until 1871). Finally, US statistics classified immigrants rather by language than by residence, i.e., for example many Austrian immigrants were classified as Germans which led to a general overestimation of German immigrants. With the adaptation of the definition since 1924, however, the gap is rather small for the period 1921–1928 during the Weimar Republic: 340,900 emigrants in German statistics versus 338,900 emigrants in US statistics. Larger gaps prevailed for Brazil (53,800

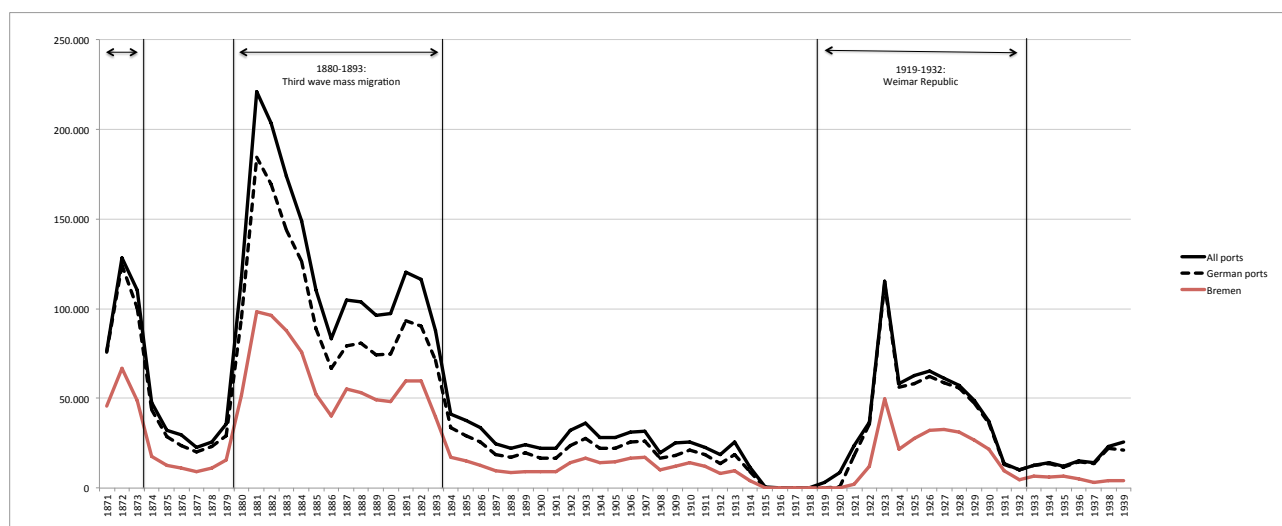
⁵In contrast to the German definition, the United States counted until 1868 all alien steerage passengers as immigrants irrespective of the fact whether they just traveled to the United States or if they sought to reside in the United States. Between 1868 and 1891 all passengers were defined as immigrants who declared their intent to stay in the United States and between 1892 and 1907 the definition was gradually extended to four characteristics: i) alien, ii) officially admitted, iii) previous residence in former country, and iv) declared intention to reside in the United States. After 1907 all characteristics were essential (cf. Willcox, 1931).

⁶“Als Auswanderer gelten grundsatzlich alle Personen, die im Deutschen Reich seit mindestens einem Jahr ansaessig waren und das Reichsgebiet dauernd (auf mindestens ein Jahr) verlassen, um sich in anderen Laendern niederzulassen.” (cf. Imperial Statistical Office, 1925b). See also Thalheim (1926, p. 19ff.) for the development of a German definition of an “emigrant” over time.

versus 67,300 emigrants) and Argentina (39,100 versus 50,400 emigrants) (cf. Burgdoerfer, 1931).

Since 1871 the Imperial Statistical Office started to publish reliable emigration statistics (see section 2.3).⁷ Figure 1 gives a corresponding overview of annual emigration rates of German citizens for the years 1871–1939.⁸ In sum, 3.6 million Germans emigrated in this period. This represents 5 % of the population in 1939. Thereof, 2.9 million Germans left between 1871 and 1918, 0.6 millions in the years of the Weimar Republic (1918–1932) and further 0.1 million between 1933 and 1939. Furthermore, Figure 1 shows numbers of German emigrants via all ports (German and foreign, black line), via German ports (black dashed line) and via the port of Bremen (red line). In the period 1871–1939 Germans have mostly chosen to emigrate via German ports and especially during the Weimar Republic foreign ports played only a minor role.⁹ Among the German ports, Bremen and Hamburg were the two main emigration ports which gained importance due to the construction of a railway network and the growth of German shipping companies (cf. Burgdoerfer, 1930, and Benschmidt and Kube, 2006).¹⁰

Figure 1: Oversea emigration of German citizens (1871–1939)



Source: Statistical Yearbooks of the Imperial Statistical Office

Between 1871 and 1918 about 57 % of German emigrants left the German Reich via the port of Bremen compared to 42 % who emigrated via Hamburg. During the Weimar Republic the share of German emigrants via Bremen decreased to 45 %, the respective share via Hamburg increased to 54 %. Thereby, Figure 1 confirms that German emigration via Bremen represents total German emigration relatively well.

⁷For the years before, there exist only estimations (see Burgdoerfer (1931) and his review of Moenckmeier's (1912) calculations).

⁸See Table A1 in the appendix for the respective absolute numbers of Figure 1.

⁹During the third wave of mass migration a comparably larger share of Germans emigrated via foreign, i.e., especially via Belgian, Dutch, and French ports.

¹⁰The two largest German shipping companies Norddeutscher LLOYD in Bremen (founded in 1857) and HAPAG in Hamburg (founded in 1847) were competing (also with foreign shipping companies) in the transportation of emigrants.

2.1 German oversea emigration in the age of mass migration (1850–1914)

For a better understanding of German oversea emigration during the Weimar Republic we will first summarize the literature on the earlier period of large-scale emigration from 1850 to 1914 which is known as the “age of mass migration”. In this period about 55 million Europeans emigrated to the so-called New World—North and South America as well as Australasia—in search of a better life.¹¹ Three fifth of them have chosen the United States as country of destination.¹² The United States remained the major target through all decades with the exception of stronger flows to the Southern American countries Brazil and Argentina.¹³ This mostly free movement of masses was dominated to the first half of the nineteenth century by emigrants from the British Isles followed by German emigrants. From the 1890ies onwards new source countries located in Southern and Eastern Europe took over the majority¹⁴—especially Italy and Austria-Hungary, but also Spain, Portugal, Russia, and the Balkans (see, e.g., Easterlin (1961), Ferenczi and Willcox (1929), Hatton and Williamson (1998), and Hatton and Williamson (2005)).¹⁵

Concerning German oversea emigration in the age of mass migration there are three peak periods: 1846 to 1857 (first wave), 1864 to 1873 (second wave), and 1880 to 1893 (third wave) (see, e.g., Bade (1979), Burgdoerfer (1931), Grant (2005), Marschalck (1973), Moenckmeier (1912), and Walker (1964)). During the *first wave* of mass migration (1846–1857) the number of German oversea emigrants increased significantly compared to the years since 1820, and fluctuated between 63,000 and 239,000 emigrants per annum. The majority of emigrants from this period came from Southwestern Germany and were mostly related to rural emigration focused on agricultural employment.¹⁶ The area of cultivated land per landowner became smaller and smaller in light of a strongly increasing population in Germany and an equal division of the land among all children of a farmers’ family (which was common in this region). Together with crop failures and rising food prices, a rising number of farmers and artisans

¹¹Large migration flows also occurred within Europe, e.g., from Belgium to France and the Netherlands, from Italy to France and Germany, and from Austria-Hungary and Russia to Germany (see, e.g., Bade (1979), Britschgi-Schimmer (1915), Burgdoerfer (1931), Grant (2005), Hatton and Williamson (1998), Herbert (2001), Oltmer (2005), and Weber (1892)).

¹²Emigration figures relate to gross migration and thus do not include return migration. Return migration which was initially too costly had especially in the later periods a significant impact on net migration figures (cf. Hatton and Williamson, 1998).

¹³German emigrants have chosen to a much larger part the United States as destination: 91 % emigrated to the United States between 1871 and 1914 compared to 4 % to South America (especially to Brazil and Argentina) (cf. Ferenczi and Willcox, 1929).

¹⁴This change in the composition of migrants influenced the introduction of US immigration quotas later on in the years of the Weimar Republic (see section 2.2).

¹⁵In terms of relative emigration rates per 1,000 of population in the source countries, Germany ranged already at the beginning of the age of mass migration on the lower end compared to, e.g., Ireland or the Scandinavian countries Norway, Sweden, and Denmark. This pattern prevailed in the later years compared to the Southern and Eastern European countries (cf. Ferenczi and Willcox, 1929, and Hatton and Williamson, 1998).

¹⁶This is in line with emigration patterns from other countries in the very early period of mass migration: farmers and artisans from rural areas, traveling in family groups, intending to acquire land (cf. Hatton and Williamson, 1998).

emigrated (cf. Moenckmeier, 1912). Thereby, the poorest were retained by high costs of the passage which decreased decisively later in the nineteenth century (cf. Hatton and Williamson, 2005). To give a more precise characterization of this periods' type of emigrants, we can rely on one of the few micro data related studies from Wegge (1998) or Kamphoefner (1987). Wegge (2002) shows that emigrants from Hesse-Cassel relied on networks, i.e., information provided by previous emigrants from the same village encouraged new migration. These chain migrants were more likely to travel alone than with family members, they were younger, and needed to carry less money. Apart from economic and network factors, emigration in the first wave of mass migration was also influenced by religious and political reasons (in particular after the revolution of 1848) which caused higher skilled individuals to emigrate as well (cf. Burgdoerfer, 1931, and Moenckmeier, 1912). Kampfhoefner (1987) confirms the importance of networks for Westfalians and shows in terms of occupations that most of the emigrants in the analyzed Westfalian districts stem from the rural lower class or worked as independent artisans close to the rural lower class.

In the subsequent years emigration stabilized again on a much lower level of about 45,000 emigrants per annum on average. This resulted especially from favorable economic conditions at home, from the economic crisis of 1857 in the United States, as well as from the outbreak of the US American Civil War (1861–1865; cf. Burgdoerfer, 1931). However, this slowdown was followed by the *second wave* of mass migration from 1864 to 1873 when emigration numbers peaked at about 139,000 per annum. The attractiveness of the United States rose again. After the end of the Civil War a phase of political stability and economic recovery started. Emigrants who postponed their passage now took the opportunity to leave. Furthermore, political reasons were important emigration motives after the Danish-Prussian War of 1864, the Austro-Prussian War of 1866, and the Franco-Prussian War of 1870/71. Dissatisfaction with the change of political conditions and, e.g., the introduction of a compulsory military service triggered increasing emigration numbers (cf. Burgdoerfer, 1931, and Moenckmeier, 1912). However, and most essentially, Germany was a country in deep transition. Coming from a relative backwardness, Germany experienced an outstanding industrialization which raised economic, social, and political instability (cf. Grant, 2005).¹⁷ The country showed large productivity gaps between the traditional sectors (agriculture and handicraft) and the newly developing industrial sector, large inequalities regarding rural versus urban areas, unresolved constitutional problems, and a related lack of modernization concerning its social and political institutions.¹⁸ Land reforms in, e.g., East-Elbian agriculture even increased rural inequality in favor of the feudal aristocracy, and the position of landless laborers worsened (cf. Grant, 2005). This led in light of a still strong demographic pressure to rising emigration rates and supported a shift of the major regions of origin from the Southwest to the Northeast. Furthermore, emigrants were now mainly single and male (cf. Burgdoerfer, 1931, and Moenckmeier, 1912).

¹⁷The expression of a “relative backwardness” follows Gerschenkron (1962). See Grant (2005) for a general overview of the different explanations for the development of Germany from 1870 to 1913.

¹⁸Grant (2005) explains the specific development of Germany due to the fast economic development, high internal migration and the resulting inequality based on a development economic background. Wehler (1985) and Mommsen (1995) argue more versus a lack of modernization of social and political institutions.

Following this second peak, a *third wave* arrived from 1880 onwards, when emigration figures only rarely fell below 100,000 per annum and peak years like 1881 occurred with about 221,000 emigrants. In these years, emigrants were mainly recruited from agricultural districts which suffered from competition with newly opened and higher productive overseas regions while industrialization in, e.g., the Western parts of the German Reich (the “Ruhrgebiet”) only absorbed some part of potential emigrants (cf. Bade, 1979, Burgdoerfer, 1931, Grant, 2005, and Moenckmeier, 1912). After 1893 emigration figures decreased steadily and never reached the level of the third wave. In that time, a large part of the surplus of agricultural workers could be absorbed by the industrial sector, and large internal migration flows from rural to urban areas (especially to the great cities) could be observed (cf. Burgdoerfer, 1931, and Grant, 2005).¹⁹ This resulted in diminishing numbers of German emigrants from the agricultural sector. The majority of German emigrants now stemmed from the secondary sector (industry and handicrafts, trade and commerce) (cf. Burgdoerfer, 1930, Grant, 2005, and Marschalck, 1973). Finally, German emigration stopped completely during the First World War.

2.2 New rise of German emigration rates during the Weimar Republic (1919–1932)

During the Weimar Republic, emigration numbers increased only slowly in the first place, but then very sharply until 1924, which represents the peak year of German emigration with annual numbers of about 115,400 emigrants. This level has last been achieved at the end of the third wave of mass migration in the late 1880ies and first 1890ies. A considerable reduction in emigration numbers followed already in the subsequent year 1925. Since then, emigration numbers stabilized at on average 60,000 emigrants per year until 1928. In the following years emigration rates decreased steadily to only about 10,300 German emigrants in 1932 (cf. Table A1 in the appendix). The emigration type of the Weimar Republic is thereby significantly different to the pre-war period of mass migration and we will describe the influencing factors in the following (see, e.g., Bade (2004), Bickelmann (1980), Burgdoerfer (1931), and Thalheim (1926)).²⁰ We will distinguish between push factors on the side of the German Reich and pull factors on the side of the destination countries. We will address if these factors have an impact on the migration decision of certain population groups or of different types of labor.

Push Factors The war years and the subsequent disorder resulted in low emigration rates until 1922 which might be surprising with regard to the estimated number of 1.5 million returning Germans from ceded territories, lost colonies, and foreign countries. Additionally, many men returned from the front and could not find employment. However, emergency legislation in foreign countries hindered immigration and was only slowly repealed (cf. Burgdoerfer, 1931).

¹⁹Additionally, the US Census Bureau declared in 1890 the western frontier line to be closed. This means that the Western population expansion advanced to such an extent that unsettled regions no longer existed (cf. US Census Bureau, 2012).

²⁰See also, e.g., Ernst (2002) and Krieger (1928) for regional emigration studies concerning Schleswig-Holstein and Wuerttemberg in the period of the Weimar Republic.

Beyond, the German merchant fleet had almost been lost through the Treaty of Versailles and therefore emigration from German ports became almost impossible in the first after-war years (cf. Benschmidt and Kube, 2006, and Burgdoerfer, 1931).²¹ Thus, *political instability* had a relatively minor effect on emigration numbers and even the rise of the national socialists since the collapse of the Grand Coalition in 1930 onwards did not lead to a significant rise in the first place.²²

Unfavorable economic conditions played a more prominent role in rising emigration: emigration numbers increased to 36,600 in 1922 and 115,400 in 1923 mainly due to the decline in the value of German currency and the corresponding hyperinflation in 1923, which caused real wages to fall while unemployment rates increased (cf. Burgdoerfer, 1931, Galenson and Zellner, 1957, and Williamson, 1995). Many emigrants who had to postpone their emigration decision as a result of the after-war hinderances took now the opportunity to emigrate—especially in light of a shrinking real value of their seed capital to build up a new existence abroad (cf. Bade, 2004). Between 1924 and 1928, the Weimar Republic showed a phase of relative stability and economic recovery.²³ Confidence was regained and numbers of emigrants dropped to about 60,000 in the subsequent years (cf. Burgdoerfer, 1931). However, the Great Depression in 1929—which might have led to increasing German emigration numbers due to, e.g., increasing unemployment rates up to 30 % in 1932 (cf. Galenson and Zellner, 1957)—hit the economies internationally and resulted in protecting measures in the destination countries especially via a further reduction of immigration quotas and/or the implementation of immigration restricting measures (see, e.g., Bade (2004), Bickelmann (1980), Burgdoerfer (1931), and Hatton and Williamson (2005)). As a consequence, emigration rates decreased steadily to only about 10,300 German emigrants in 1932.

Besides the business cycle impact on immigration, the Weimar Republic showed different structural challenges. A further urbanization and industrialization resulted in diminishing numbers of emigrants from the agricultural sector while emigration from the secondary and tertiary sector gained importance (cf. Burgdoerfer, 1931).²⁴ Additionally, the population was again growing (+ 5 % in 1932 compared to 1920) even though the extent was significantly smaller than in the period between 1871 and 1914 (+ 65 %, cf. Besser, 2008).

Simultaneous migration flows in Germany might have influenced emigration rates as well (via their impact on employment opportunities and wages)—especially significant internal migration flows from rural to urban and industrialized areas as well as large scale immigration

²¹This explains the high share of German emigrants via foreign ports in 1919 and 1920. HAPAG could reestablish oversea transportation slightly earlier from Hamburg than the Norddeutsche Lloyd from Bremen, both via cooperations with foreign shipping companies (cf. Bickelmann, 1980).

²²Thalheim (1926) mentions in this respect also the discontent of Germans with the political and societal change from the German Empire to the Weimar Republic which has been expressed as an emigration motive especially in the first after-war years.

²³Since 1925, real wages increased again and unemployment rates fell (cf. Galenson and Zellner, 1957, and Williamson, 1995).

²⁴This explains the declining trend of emigration from the rural Northeastern states during the Weimar Republic (cf. Bickelmann, 1980, and Burgdoerfer, 1931). See in this regard the analysis of the emigrants' origin states in section 4.

flows in the agricultural and the industrial sector that ranged between 295,000 immigrants in 1920 and 109,000 immigrants in 1932 (see especially Bade (2004), Burgdoerfer (1930), and Oltmer (2005)).²⁵

Transport conditions were no relevant hinderance for emigration during the Weimar Republic. Quite the opposite was the case: significantly lower voyage times of only several days and better equipped passenger ships which were operated on a regular service between Bremen and Hamburg and the oversea destinations made the passage much more comfortable compared to the age of mass migration. As a result, emigration was no longer irrevocable, and return migration and traveling became more common (cf. Burgdoerfer, 1931). Additionally, Bremen and Hamburg had direct connections to the well developed German railway system, e.g., there existed a direct line Cologne–Bremen and Leipzig–Bremen (cf. Bade, 1979). Transportation costs to the United States remained relatively stable at about 115 US Dollars in the cheapest Third Class between 1925 and 1930, whereas rates to South America ranged between 18 and 20 British Pounds in the same period. Thereby, a high share of prepaid tickets also suggests that existing networks helped to overcome a potential lack of financial means (cf. Bickelmann, 1980).

Pull Factors *Wage differentials* between Germany and the destination countries were a strong pull factor for emigration. Williamson (1997) confirms a positive real wage gap between Germany and the United States and between Germany and Canada for the year 1921.²⁶ Without distinguishing between different types of labor, Williamson (1997) shows that German workers earned only about 40 % of the real wage of workers in the United States and about 50 % of the real wage of workers in Canada. Thereby, wage differentials widened compared to the period 1870–1913 (at about 10 percentage points for both destination countries). Thalheim (1926) describes the real wage gap for skilled and unskilled workers between the United States and Germany that existed in April/May 1922, just before the start of the large scale depreciation of the German currency. Thalheim shows on the basis of calculations from Hilton (1922) that the real wage of skilled workers in Germany were less than 25 % of the respective US American real wage whereas the gap for unskilled workers was only minor. Unskilled German workers earned about 96 % of the respective real wage in the United States. This might suggest that skilled workers had a significantly higher incentive to emigrate at this point in time. For the remaining years of the Weimar Republic 1924–1932, the studies of Bry (1960) and Williamson (1995) document a still positive wage differential between Germany and the United States. However, the real wage gap became smaller. Bry (1960) compares weekly or daily real wages in terms of earnings on average for all types of workers between Germany and the United States. In 1932, German real wages represent about 80 % of US American real wages compared to 55 % in 1924. In contrast, Williamson (1995) calculates international real

²⁵Immigration was a strongly state-controlled system according to which a large part of the immigrants had to return to their home countries during the winter period in order to apply for a new legitimization in the following year.

²⁶See also Metz (2005) as described in Ralph (2015) for the development of an index of German real wages over time during the Weimar Republic.

wage indices for unskilled building workers and finds that unskilled workers in Germany earn 55 % of the US American real wage in 1932 compared to 42 % in 1924. Although a direct comparability between the cited studies is not possible, these findings may suggest that in the later years of the Weimar Republic the incentive to emigrate was relatively higher for unskilled workers due to the higher differential in real wages.²⁷ Against the fact that emigrants are not exclusively interested in wage differentials, but also in employment opportunities, we can argue that the US American unemployment rate was always lower in all years between 1924 and 1932 (by four to 16 percentage points) than the German unemployment rate (as reported for union members) (see Galenson and Zellner (1957) for Germany, and US Department of Commerce (1976) on the basis of Lebergott (1964) for the United States).²⁸

Immigration policies/quotas are apparently also a relative strong argument for changing emigration patterns, and have been increasing throughout the years of the Weimar Republic compared to the (relatively) free emigration pre-war era. The major receiving country, the United States, introduced three immigration policies during the Weimar Republic in order to restrict immigration successively (cf. Bernard, 1982, and Hatton and Williamson, 2005). The Emergency Quota Act from May 19th, 1921 (which became effective in July 1st, 1921) limited total immigration to 356,000 annually to protect the own labor force from the massive postwar inflow of European refugees. For the first time, the United States introduced numerical quotas for immigration. The quotas were dependent on nationality, i.e., no more than 3 % of the foreign-born population per country as recorded in the census of 1910 was allowed to immigrate, and no more than 20 % of the yearly quota could be admitted in a single month of the fiscal years 1922 and 1923. The objective of this quota was to favor “old” immigration countries from Northwestern Europe which were overrepresented in the 1910 census, and to massively reduce “new” immigration from Southern and Eastern Europe which was viewed as mainly unskilled and less assimilating (cf. Bernard, 1982, and Hatton and Williamson, 2005).²⁹ In 1923 with the culminating inflation, Germany nearly completely exhausted its quota of 67,607 immigrants in the first half of the American fiscal year. In the second half of the year German immigration was practically stopped and started again in July 1924 with the new fiscal year (cf. Burgdoerfer, 1931).

The Immigration Act (also known as National Origins Quota Act or Johnson-Reed Act) followed in 1924 with the objective to further restrict immigration from Southern and Eastern European countries. The number of total annual immigrants was further capped at 156,000 and no more than 2 % of the foreign-born population per country as recorded in the census of 1890 was allowed to enter.³⁰ Additionally, no more than 10 % of the yearly quota could

²⁷Williamson (1995) also confirms a positive real wage gap for unskilled workers between Germany and Canada as well as between Germany and Argentina. In contrast, there existed a higher real wage level in Germany compared to Brazil which suggest that other factors must have a decisive influence on German emigration to Brazil.

²⁸For the development of the US American labor market see also, e.g., Lindert and Williamson (2016).

²⁹Immigration from most Asian countries was banned since the Immigration Act from 1917.

³⁰The limit for Northwestern European countries was reduced from 198,000 to 135,000 immigrants whereas the limit for (mainly Southeastern European) new-source countries was reduced from 158,000 to 21,000 immigrants.

be admitted in a single month in order to better distribute immigration over the fiscal year (cf. Bernard, 1982, and Hatton and Williamson, 2005). The German quota was reduced to 51,227 immigrants. As a consequence, German emigration to the United States was greatly curtailed, and Germans choose other destination countries—especially Brazil and Argentina (cf. Burgdoerfer, 1931). However, wives and unmarried minor children of (male) US citizens were still admitted as non-quota immigrants to allow for family reunification (cf. Garis, 1927, and Hatton and Williamson, 2005).

The third restrictive legislation became effective on July, 1st, 1929: the annual cap from 1924 was further reduced to 150,000 annual immigrants, and the 2 % share was linked to the 1920 census. As the US population in 1920 was still predominantly Anglo-Saxon, and German immigration in the first two postwar years 1919 and 1920 was still low, the new legislation restricted German immigration severely. The German quota halved to 25,967 immigrants per year (cf. Bickelmann, 1980). From 1930 onwards, immigration to the United States was further hampered by administrative measures such as raising financial requirements imposed upon immigrants, demanding the possession of more capital or the furnishing of securities (cf. Bickelmann, 1980).

Wulfers (2017) examines the effect of these three legislations on the skill level of passengers of any nationality departing from Bremen to US ports in the MAUS-dataset. He finds that the first two legislations led to a rising skill level of migrants. For the quota restriction in 1929 no significant effect could be observed which might stem from the fact that “old” emigration countries with a higher skill level of emigrants (such as Germany) faced a stronger reduction of numbers of immigrants.

Immigration to Canada was allowed since 1922 (cf. Neufeld, 1931). In 1930, the permission to enter was also largely restricted by exclusively allowing immigration of wives, minor children, and young girls who aim to marry their fiancés in Canada (cf. Bickelmann, 1980, and Emigration Authority of the Free Hanseatic City of Bremen, 1931). Brazil introduced an immigration legislation in 1919 which excluded immigrants that might be a burden for the country, e.g., single women, minors under the age of 16, and men over 60. This legislation was moderated at the end of 1924 by allowing their immigration dependent on financial means, securities, employment opportunities, etc. Argentina followed a more liberal immigration policy but limited immigration in 1930 as well by administrative measures—especially via high visa fees (cf. Bickelmann, 1980, and Emigration Authority of the Free Hanseatic City of Bremen, 1931).

2.3 Statistical database

The literature on German oversea emigration since 1871 is mostly based on the official statistics of the Imperial Statistical Office for the German Reich as a whole or the yearbooks and reports of the different regional statistical offices (e.g., the Statistical Yearbooks of the State Statistical

Office of Bremen and Hamburg).³¹

For the period of the Weimar Republic, the Statistical Yearbooks of the German Reich include information about the total number of German emigrants per year. Total numbers are further distinguished by sex, age, port of departure, oversea destination, and state of origin within the German Reich. Since 1925, information about previous economic sectors of emigrants was added, with a distinction between employed persons and family members, and a distinction between four states of origin (Prussia, Bavaria, Saxony, and Wuerttemberg; cf. Imperial Statistical Office, 1922 until 1932).

As the statistical data of Bremen represents the basis for the statistics of the German Reich, the figures from the State Statistical Office of Bremen, the Emigration Authority of Bremen (“Behoerde fuer das Auswanderungswesen Bremen”), and the Imperial Statistical Office are consistent concerning German emigrants via Bremen. However, the statistical data of Bremen contains additional information. First, it distinguishes emigrants *from Bremen* by sex, age, oversea destination, state of origin within the German Reich, and economic sectors (the latter already since 1924). Second, it includes the marital status and the travel class of German emigrants via Bremen as well as a short description of changes in the annual outflow, the composition of German emigrants, and the underlying emigration motives.³²

Before we will match the statistical data of Bremen with the original passengers lists in order to derive conclusions about the representativeness of the still existing original lists, we will describe the history of Bremen’s passenger lists as well as our procedure to prepare the corresponding dataset.

3 Bremen’s passenger lists: the MAUS-dataset

3.1 History

The obligation to record every passenger that leaves the port of Bremen by ship dates back to October 1, 1832, when the Senate of the Free Hanseatic City of Bremen published the “Verordnung wegen der Auswanderer mit hiesigen oder fremden Schiffen” (Legislation concerning emigrants on local and foreign ships; cf. Senate of the Free Hanseatic City of Bremen, 1832). The objective of this first German regulation law was to control the transportation of emigrants in line with US legislation, which prescribed immigration or passenger arrival records already since 1820 (cf. Hofmeister, 2002, and National Archives, 2017a). The regulation aimed especially at the protection of emigrants and counteracted their widespread economic exploita-

³¹See the supplement to Table A1 in the appendix for a historical development of annual statistical reports for the German Reich and the Free Hanseatic City of Bremen.

³²The State Statistical Office of the Free Hanseatic City of Hamburg also published Statistical Yearbooks that included data about oversea emigration via the port of Hamburg on the basis of passengers lists from the shipping companies. First reports were published since 1867, yearbooks since 1874. In contrast to the original passengers lists from Bremen, the lists from Hamburg (which started to record emigrants in 1836) are not publicly available. Family research can be conducted via the commercial platform ancestry.de for the years 1850–1934 (see <http://www.hamburger-passagierlisten.de/>).

tion, but also organized more efficiently the handling of emigrants from their arrival in Bremen (mostly by train) until their check-in and boarding in Bremerhaven (cf. Benschmidt and Kube, 2006). A nationwide regulation concerning the transportation of emigrants was introduced in 1897 (“Gesetz ueber das Auswanderungswesen”; cf. Emigration Authority of the Free Hanseatic City of Bremen, 1931).

Four copies of each emigration list had to be compiled by the shipping companies itself, in Bremen predominantly the Norddeutsche Lloyd (NDL), or by agencies who attracted emigrants for a commission.³³ However, due to a lack of interest in the lists and storage capacities in the late nineteenth century, a bombing raid in 1944, not returned lists from the Soviet Union where a large part of them were stored after the Second World War, mainly the lists for the period 1920–1932 are preserved today. More precisely, about 3,000 of more than 4,500 lists (about 67 %) still exist for this period.³⁴ The loss of passengers lists is especially high for the years 1924 and 1929 (see section 4). Concrete reasons why certain lists returned and other lists not are not known to the authors so we assume for our purposes a loss at random.

The digitalization of the passenger lists for the period 1920 to 1939 started after an agreement between the Chamber of Commerce and “DIE MAUS – Gesellschaft für Familienforschung e.V.” in July 1999. The latter is a society for family research which was founded in Bremen on March 20, 1924, by citizens of Bremen.³⁵ The quality of the digitalized lists is positively influenced by the high requirements of e.g., the immigration service at Ellis Island, the principal federal immigration station in the United States from 1892 to 1954, where more than 12 million immigrants were processed. In case of incomplete lists or information and especially in case of diseases and exhausted immigration quotas, passengers could be forced to return to their port of origin on their own expense or on the expense of the shipping company (cf. Emigration Authority of the Free Hanseatic City of Bremen, 1928, and Hatton and Williamson, 2005). Furthermore, data quality is also ensured in the process of the digitalization of the lists. This has been carried out by native German speakers who were most suitable to read the hand written lists. In contrast, data quality is negatively influenced by poorly legible or illegible entries. This is due to handwriting, damaged lists, corrections, or deletions. The lists for First and Second Class passengers in the MAUS-dataset are carefully written and clearly legible whereas the legibility for Third Class passengers is significantly worse. In addition, there exist writing errors (which have been corrected during the transcription in case of no doubts) and major errors concerning the content. The latter stems for example from a column by column duplication of lists (in order to compile four copies of each list). As soon as one entry has been

³³The main agency of the NDL was Friedrich Missler with its headquarter in Bremen and several offices all over Central, Southern, and Eastern Europe.

³⁴See the supplement of Table A2 in the appendix for a detailed overview of the history of the lists.

³⁵In 2007 further lists for the period 1907/08 and 1913/14 were added after they returned from the Federal Archives in Koblenz to Bremen (in sum 96,300 passengers). They were stored in Koblenz after they have been made available to the “Deutsches Auslands-Institut” (Institute for Germans abroad) in Stuttgart in 1941 for statistical purposes. Today, the MAUS-dataset also contains a few passengers lists for the years 1796, 1830 to 1860, 1900, and 1909 from various sources (in sum about 3,800 passengers, for sources see DIE MAUS, 2017). These lists will not be part of our analysis.

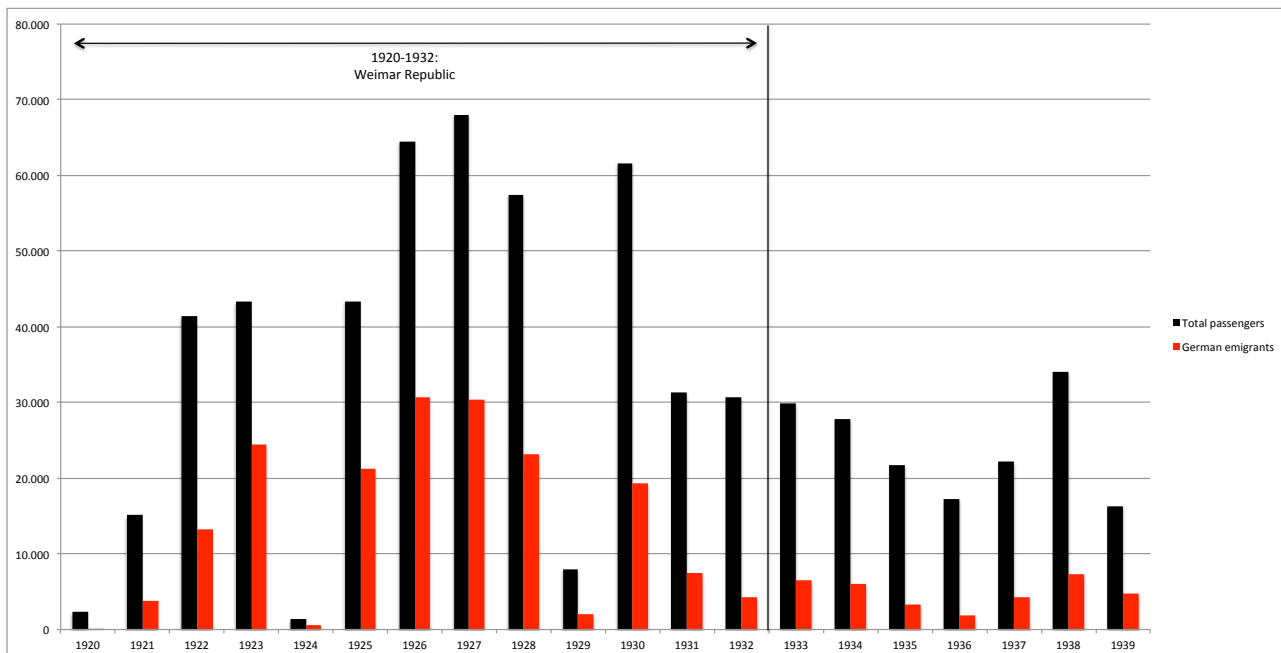
forgotten, all other entries are written in the wrong line. We marked these kind of errors as far as they could be detected by plausibility checks. Finally, a loss of data quality also results from the fact that emigrants provided the necessary information orally which can lead to misheard entries or alterations by the person who compiled the list (cf. Wesling, 2002, and Historisches Museum Bremerhaven, 2017b).

3.2 Data preparation

The whole MAUS-dataset consists of 738,100 passengers in the period between 1796 and 1939. In a first step, we only consider about 638,000 passengers that were traveling in the interwar years 1920 to 1939. Within this period, most of the passengers traveled in the years of the Weimar Republic, i.e. about 468,000 passengers (73 %) travelled between 1920 and 1932. A considerably smaller part of about 169,000 passengers (27 %) travelled in the subsequent years 1933 and 1939 (cf. Table A2 in the appendix).

In the course of the data preparation, we followed the objective to extract exclusively passengers of German nationality that left the territory of the German Reich (in its borders in the respective year) via the port of Bremen for the purpose of oversea emigration. This reduces our sample in the interwar period from 638,000 total passengers to 215,000 German emigrants (- 66 %), thereof about 181,000 German emigrants in the Weimar Republic and about 34,000 German emigrants in the subsequent years 1933–1939 (cf. Figure 2 and Table A2 in the appendix).

Figure 2: Share of German emigrants over total passengers (1920–1939)



Source: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

This large reduction by 66 % results from three facts. First, the MAUS-dataset contains not only German emigrants but also a significant share of foreign passengers. Thereby, the share of German emigrants over the total number of passengers ranges between 6 % in 1920 and 57 % in 1923 (cf. Table A2 in the appendix). Second, the dataset includes not only emigrants but

also travelers and, e.g., crew members of the ships. And third, German passengers or emigrants that live outside the German territory are also included.

As a consequence, we reduced stepwise our sample of total passengers in order to define our sample of German emigrants. Therefore, we analyzed into detail the entries for the available variables which are: date of emigration, port of departure, port of arrival, travel class, nationality, sex, age, marital status, current place of residence and the corresponding state or province, place of destination and the US state in case of emigration to the United States, occupation and position, and finally, remarks.³⁶

At the beginning, we dropped all other nationalities except Germans. The analysis of all nationalities has shown that the original dataset includes about 189,000 passengers in the years 1920 to 1939 who indicated USA or USC (US citizen) as their nationality. This represents a share of about 30 % of all passengers in this period. We assume that these passengers are most probably former emigrants who visit their relatives at home. The rising number over time furthermore indicates that traveling from the United States to the European continent became relatively common in the interwar period—especially compared to the early phase of the age of mass migration when emigration was almost exclusively an irreversible decision.

Apart from Germans and US citizens, the dataset also includes passengers from other countries on the European continent, thereof the vast majority from Southeastern Europe. The three largest groups of passengers from the European continent—apart from Germans—had a nationality of Czechoslovakia (33,000 passengers or 5 %), of the Republic of Austria (14,000 passengers or 2 %) or of Lithuania (11,000 passengers or 2 %).³⁷ In sum, passengers with a nationality of a Southeastern European country (about 98,000) accounted for 15 % of all passengers. The original dataset consists furthermore of passengers from Northwestern European countries (23,000 or 4 %), passengers from outside the European continent (8,000 or 1 %), of stateless passengers (5,000 or 0.08 %) and of passengers with a missing nationality (15,000 or 2 %). For about 1,000 passengers (0.01 %) there exists a wrong entry for their nationality. Here, mostly a German town is observable. German passengers, in total 298,000, accounted for 47 % of all passengers in the MAUS-dataset. For the subsample of German passengers only, we identified and deleted passengers that are most probably no emigrants (in sum about 83,000 of 298,000 passengers) via the following procedure and ended up with about 215,000 German emigrants who represent 34 % of total passengers between 1920 and 1939 in our dataset.³⁸

First, we dropped passengers that are crossed out on the list (for not documented reasons). Then we dropped passengers that were listed twice and are marked as such by the person who digitalized the list. This occurs for example if passengers are listed by an agency and then again by the NDL. We checked the whole dataset (which we received anonymized) for

³⁶The dataset also contains the variables emigrant (A if yes), ethnicity, religion, writing and reading, ticket paid, amount of money, former stay in the United States with data and place. However, as information only exists for very few passengers (about 1 to 3 %), we do not consider these variables for our analysis.

³⁷Around 88 % of the passengers of these three countries traveled already in the Weimar Republic.

³⁸Wulfers (2017) reports a higher number of 224,040 German passengers for the period 1920–1939 in the dataset which might result from the fact that we excluded more strictly travelers as well as Germans living outside the territory of the German Reich from the sample.

further duplicates but the number was relatively small and could also be explained by having twins in the dataset. Consequently, we carried out no further drop outs in this regard. We further dropped passengers marked as “were not traveling” although they were listed in the first place. Then we dropped passengers that were on board for other purposes than emigration, e.g. crew members, NDL employees, travelers (mostly passengers of the First or Second Class) and persons that may accompany travelers, tourists, roundtrip passengers (especially in the years 1933 to 1939), returning passengers, passengers traveling for job-related reasons (e.g., consuls, ambassadors, diplomats, etc.), and passengers with occupations that indicate a former residency in the United States (e.g., plantation owner).

Second, we kept only passengers that were leaving via the port of Bremen (marked as Bremen, Bremerhaven, Bremen Freihafen or Bremen Kalihafen). We did not keep passengers that were traveling from, e.g., Hamburg, from other European ports such as Cherbourg, Antwerpen or Southampton or from New York.³⁹ Concerning the port of arrival we dropped German ports and European ports in order to stick to our definition of oversea emigrants.⁴⁰ On the basis of the remaining ports of arrival we deduced the country of arrival (equal to the country of destination) as well as the continent of arrival (equal to the continent of destination). For the latter we distinguish between North America (United States and Canada), Central America, South America, Africa, Asia and Australia.⁴¹ For very few passengers we corrected manually the country and continent of destination in case that the port of arrival and the stated place of destination were located on different continents (e.g., passengers arriving at the port of San Francisco with Mexico as country of destination).

In a third and last step, we dropped German passengers with a current place of residency outside the borders of the German Reich for two reasons: i) Germans living, e.g., in the neighboring countries of the German Reich may emigrate for other reasons than those described in section 2 and ii) Germans already living, e.g., oversea, can not be classified as current emigrants in the respective year. They might be former emigrants who had not become naturalized or filed their “first papers” which was voluntary in, e.g., the US, where this group represented about 25 % of foreign-born persons listed on the 1890 through 1930 censuses (cf. National Archives, 2017c). Furthermore, we dropped passengers with a German place of destination as we assume

³⁹The original dataset includes about 5,500 passengers from Hamburg which represents only a small and therefore not representative part of all passengers from Hamburg (see section 2).

⁴⁰We analyzed into detail European ports for passengers with German nationality regarding the question if they indicate their place of destination or if they only represent an intermediate stop (e.g. in Spain on the passage to South America). The analysis has shown that the number of German emigrants concerned was relatively low (about 200).

⁴¹Central America includes passengers to Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Cuba, Mexico, Nicaragua, Panama, and Puerto Rico. Australia includes passengers to Australia and Papua New Guinea. Asia includes passengers to China, Hong Kong, India, Indonesia, Iraq, Iran, Israel, Japan, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam. Africa includes passengers to Egypt, Equatorial Guinea, Angola, Ghana, Cameroon, Kenya, Congo, Liberia, Mozambique, Namibia, Nigeria, South Africa, Tansania, and Zaire. South America includes passengers to Argentina, Bolivia, Brazil, Chile, Columbia, Paraguay, Peru, Uruguay, and Venezuela.

that these passengers are travelers that return to the German Reich later on.⁴² In this third step of our deduction of German emigrants from all German passengers that are included in the original dataset, we dropped about 53,000 German passengers compared to 30,000 German passengers in the first two steps (in total 83,000 German passengers).

From our sample of 215,000 German emigrants in the period 1920–1939 we finally kept the 181,000 German emigrants that left the German Reich during the Weimar Republic.

4 Comparison of the MAUS-dataset with official statistics

We compare the MAUS-dataset with official statistics of the Free Hanseatic City of Bremen in order to evaluate if the MAUS-dataset is representative or not. In a first step, we compare on the most aggregated level the *total number of emigrants per year* for the years 1920 to 1932 (cf. Table 1). Seven of thirteen years are well represented: 1925–1928 and 1930–1932. In these years, the MAUS-dataset covers between 73 % and 95 % of total emigrants in the official statistics. Furthermore, we observe a medium coverage rate of 49 % in 1923. For the first three years in the dataset—1920, 1921, and 1922—the total number of emigrants in the MAUS-dataset exceeds the respective number in official statistics (by 136 % in 1920, 168 % in 1921, and 111 % in 1922). This might be explained by two reasons: first, the official data does not count cabin passengers as emigrants according to the prevailing general rule until 1924 (see section 2) which would lead to the effect that total numbers of emigrants are too low in the official statistics. Second, the total numbers of emigrants in the MAUS-dataset are too high because the MAUS-dataset lacks of a distinction between travelers and emigrants (see section 3). Therefore, travelers are still included in the MAUS-dataset, but not marked as such.⁴³ Finally, there exist two years with a very low coverage rate due to a large loss of passenger lists: 1924 (3 %) and 1929 (7 %).⁴⁴ Consequently, we exclude both years from our further analysis

⁴²We carried out both analyses of cities semi-automatically. We first compared entries in the lists with a digitalized list of all US American cities (cf. US Census Bureau, 2016) and German cities and municipalities (current territory as reported on December, 31, 2015, cf. Federal Statistical Office, 2016a, and Federal Statistical Office, 2016b) and then checked the remaining cities manually as far as they have not been detected automatically. The reason for the latter is by definition that it is neither a US American nor a German city, but, can also result from a different writing or a wrong transcription in the list. For the manual check we used www.google.de/maps.

⁴³If we would drop cabin passengers for the years 1920–1924 in order to stick to the general rule, the MAUS-dataset contains 83 emigrants in 1920 (78 %), 2,449 emigrants in 1921 (109 %), 8,439 emigrants in 1922 (71 %), and 17,156 emigrants in 1923 (35 %). In the year 1921 the total number of emigrants in the MAUS-dataset is still higher than the number in official statistics. This means that the question of the inclusion of cabin passengers is most probably not the only explanation for the gap between the MAUS-dataset and official statistics. However, the share of missing information for the travel class in the MAUS-dataset is especially in the first two years 1920 and 1921 relatively high (at 56 % and 65 %). For our analysis, we keep cabin passengers in the dataset due to the uncertainty if the official data includes cabin passengers or not.

⁴⁴For 1924, there exist only four lists from May, 31, June, 07, August, 02, and November, 25. For 1929, there exist three lists from June, 06, August, 14, October, 28, seven lists from November, and eight lists from December. Examining the dates of departure gives rise to the assumption that the lists of November and December 1928 are also completely lost (cf. DIE MAUS, 2017).

which reduces our sample to about 178,100 German emigrants.⁴⁵

Table 1: Total number of German emigrants per year (1920–1932)

Year	Official statistics All ports (German and foreign)	Official statistics Via Bremen	MAUS-dataset Via Bremen	Share MAUS-dataset/ Official statistics
1920	8,458	106	144	136 %
1921	23,451	2,239	3,759	168 %
1922	36,527	11,964	13,236	111 %
1923	115,416	49,660	24,502	49 %
1924	58,328	21,500	586	3 %
1925	62,705	27,850	21,261	76 %
1926	65,280	32,494	30,725	95 %
1927	61,379	32,866	30,396	92 %
1928	57,241	31,698	23,163	73 %
1929	48,734	26,952	1,981	7 %
1930	37,399	21,898	19,312	88 %
1931	13,644	9,717	7,460	77 %
1932	10,325	4,788	4,189	87 %
1920-1932	598,887	273,756	180,714	66 %

Sources: Statistical Yearbooks of the German Reich and Statistical Yearbooks of the Free Hanseatic City of Bremen. An exception represents the year 1920 for which emigration numbers via Bremen are only reported in the Statistical Yearbooks of the Free Hanseatic City of Bremen. The Emigration Authority of the Free Hanseatic City of Bremen reports a deviating number of 130 German emigrants for 1920 (also according to gender but without further distinction of age, destination, etc.). Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

In a second step, we display for each variable in the MAUS-dataset the respective official statistics. Then we describe how the existing literature reviews the development of each variable over time and possible reasons for this development. Thereby, we will focus on the most relevant studies by Burgdoerfer (1930, 1931) and Bickelmann (1980). Both studies describe the German emigrant population during the period of the Weimar Republic (Burgdoerfer at least until 1928) and although they do not analyze exclusively the emigrant population via Bremen, they still show general trends.⁴⁶ Finally, we evaluate if the MAUS-dataset represents the official statistics of Bremen by comparing for each variable in the MAUS-dataset the percentage share of each characteristic of the variable per year with the respective share in the official data. We assess the MAUS-data as representative if the gap between both shares is smaller or equal than 5 %.⁴⁷

According to official statistics, the United States represent the most preferred *destination country* with on average 84 % of total emigrants during the Weimar Republic (cf. Figure 3 and Table A3 in the appendix).⁴⁸

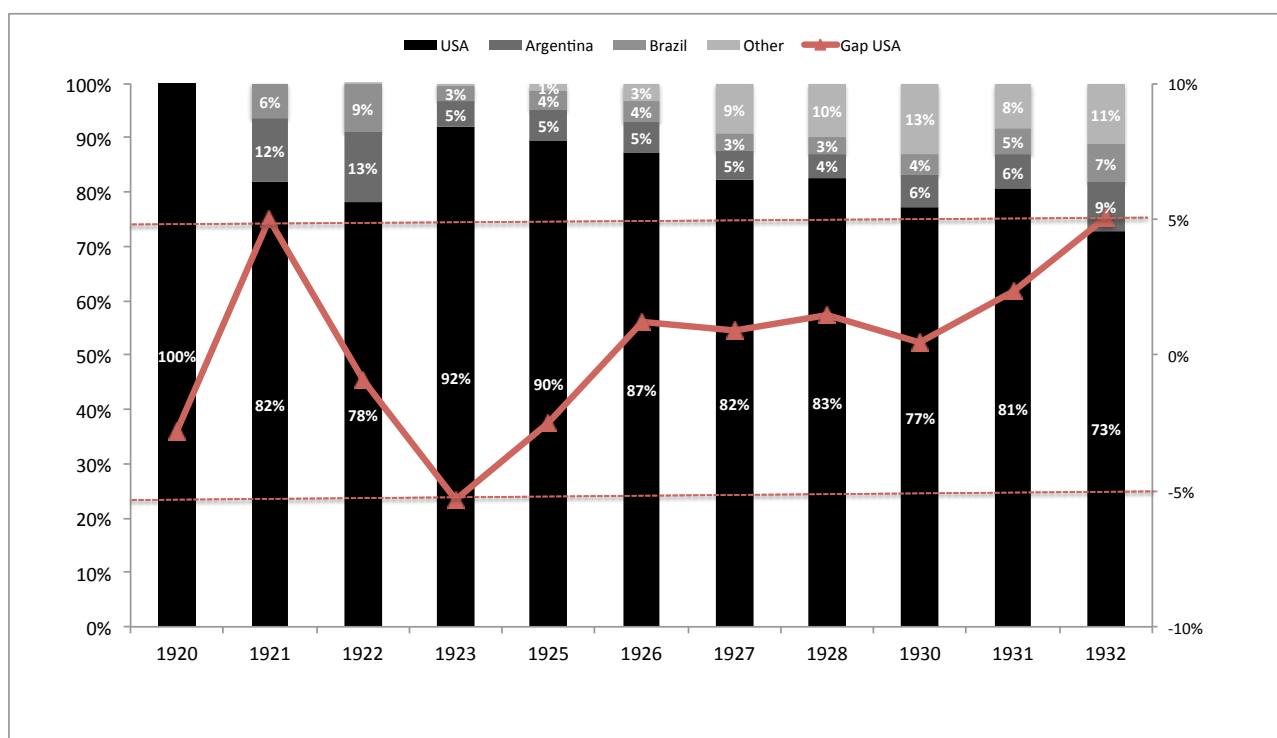
⁴⁵For the years after the Weimar Republic (1933–1939), the State Statistical Office of the Free Hanseatic City of Bremen did not publish any statistics. A comparison would only be possible with the information that is included in the Statistics of the German Reich, i.e., total number of emigrants per year and by states of origin within the German Reich.

⁴⁶For the significance of the port of Bremen please see section 2.

⁴⁷We have chosen a threshold of 5 % as it represents a relatively low share. Using, e.g., the Wilcoxon rank-sum test to compare two samples in order to test the hypothesis that two independent samples are from populations with the same distribution is not possible as official statistics include only aggregated data. Calculating a median for the two dichotomous variables gender and marital status shows that official statistics and the MAUS-dataset have the same median. However, official statistics show over all years a higher mean for male emigrants (53 % vs. 51 %, i.e., + 2 %) and a higher mean for single emigrants (71 % vs. 64 %, i.e., + 7 %)

⁴⁸For the reason of comparison we do not consider here and in the following the years 1924 and 1929 in official statistics, too. For example, the US share was exceptionally low (51 %) in 1924 which was due to the reduction of the immigration quota in this year (cf. Burgdoerfer, 1931). Reversely, the shares to the Southern American countries Argentina and Brazil were exceptionally high in this year (16 % and 30 %).

Figure 3: Destination countries of German emigrants



Notes: The years 1924 and 1929 are not considered. Sources: Statistical Yearbooks of the Free Hanseatic City of Bremen. Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for emigrants to the United States on the basis of the MAUS-dataset (DIE MAUS, 2017).

Canada gained importance during the years of the Weimar Republic. The share of emigrants to Canada grew considerably from 1 % in 1925 to 10 % in 1930, the year after the second reduction of the US immigration quota. Right afterwards, the share decreased to 3 % in 1931 and 4 % in 1932 because Canada restricted immigration as well (cf. Bickelmann, 1980). Taking the United States and Canada together, about 87 % of Germans emigrated during the Weimar Republic to North America. The second important destination for German emigrants was South America with on average about 12 % of total emigrants. All other destinations were negligible. Among the Southern American countries, Argentina and Brazil are the most preferred destination countries with on average about 6 % and 4 % of all German emigrants. Since 1931, absolute numbers of emigrants to Argentina and Brazil nearly came to a standstill, but, given the also sharply declining absolute number of emigrants to the United States in this year, the relative share of emigrants to both Southern American countries increased to 14 % in 1931 and 19 % in 1932. Burgdoerfer (1931) and Bickelmann (1980) confirm this general allocation during the Weimar Republic. Burgdoerfer (1931) compares it with former shares of emigrants per destination country. He describes the trend of a considerably higher share of German emigration to Argentina and Brazil after the First World War compared to the period between 1871 and the First World War. In contrast, emigration shares to the United States ranged at about 91 % between 1820 and 1910 and were relatively lower after the First World War (67 % for 1921–1926).⁴⁹

We finally compare the share of emigrants to each destination country over total emigrants

⁴⁹The sharp decline especially in the first three years after the First World War (1920–1922, cf. Bickelmann, 1980) are not observable in the official statistics for Bremen. The share of emigrants who departed from Bremen

in the MAUS-dataset with official statistics. The results show that the countries of destination are all very well represented in the MAUS-dataset. Only in 1921, the dataset contains a six percentage points higher share of emigrants to North America (thereof five percentage points to the United States) and reversely, a six percentage points lower share of emigrants to South American countries (thereof four percentage points to Argentina and two percentage points to Brazil).

The MAUS-dataset further allows for a more detailed analysis of the destination states within the United States which are not reported in the official statistics. Table 2 shows that 72 % of German emigrants preferred to migrate to only four states: New York (44 %), Illinois (10 %), New Jersey, and Pennsylvania (both 9 %). This preference existed in all years during the Weimar Republic and thus gives a strong indication of networks even if the state of New York has probably been a transit station.⁵⁰ The argument of existing networks can also be supported by the high number of prepaid tickets and the high share of emigrants who indicated that they were traveling to relatives or friends (cf. Bickelmann, 1980).

Table 2: US states as destination of German emigrants

Year	New York	Illinois	New Jersey	Pennsylvania	Other	Total
1920	58 (41 %)	15 (11 %)	14 (10 %)	7 (5 %)	46 (33 %)	140 (100 %)
1921	1,328 (40 %)	330 (10 %)	267 (8 %)	260 (8 %)	1,100 (33 %)	3,285 (100 %)
1922	4,696 (46 %)	888 (9 %)	675 (7 %)	702 (7 %)	3,261 (32 %)	10,222 (100 %)
1923	7,494 (35 %)	2,167 (10 %)	1,304 (6 %)	1,697 (8 %)	8,570 (40 %)	21,232 (100 %)
1925	6,220 (34 %)	2,113 (11 %)	1,619 (9 %)	1,499 (8 %)	7,083 (38 %)	18,534 (100 %)
1926	10,893 (40 %)	2,850 (10 %)	2,572 (9 %)	2,604 (10 %)	8,331 (31 %)	27,250 (100 %)
1927	11,060 (44 %)	2,564 (10 %)	2,449 (10 %)	2,392 (9 %)	6,820 (27 %)	25,281 (100 %)
1928	9,000 (46 %)	2,009 (10 %)	1,854 (10 %)	1,601 (8 %)	5,037 (26 %)	19,501 (100 %)
1930	7,726 (52 %)	1,352 (9 %)	1,260 (8 %)	1,149 (8 %)	3,486 (23 %)	14,973 (100 %)
1931	3,339 (54 %)	501 (8 %)	602 (10 %)	453 (7 %)	1,295 (23 %)	6,190 (100 %)
1932	1,935 (59 %)	222 (7 %)	313 (10 %)	208 (6 %)	590 (18 %)	3,261 (100 %)
1920-1932	63,749 (43 %)	15,011 (10 %)	12,929 (9 %)	12,572 (8 %)	45,619 (30 %)	149,880 (100 %)

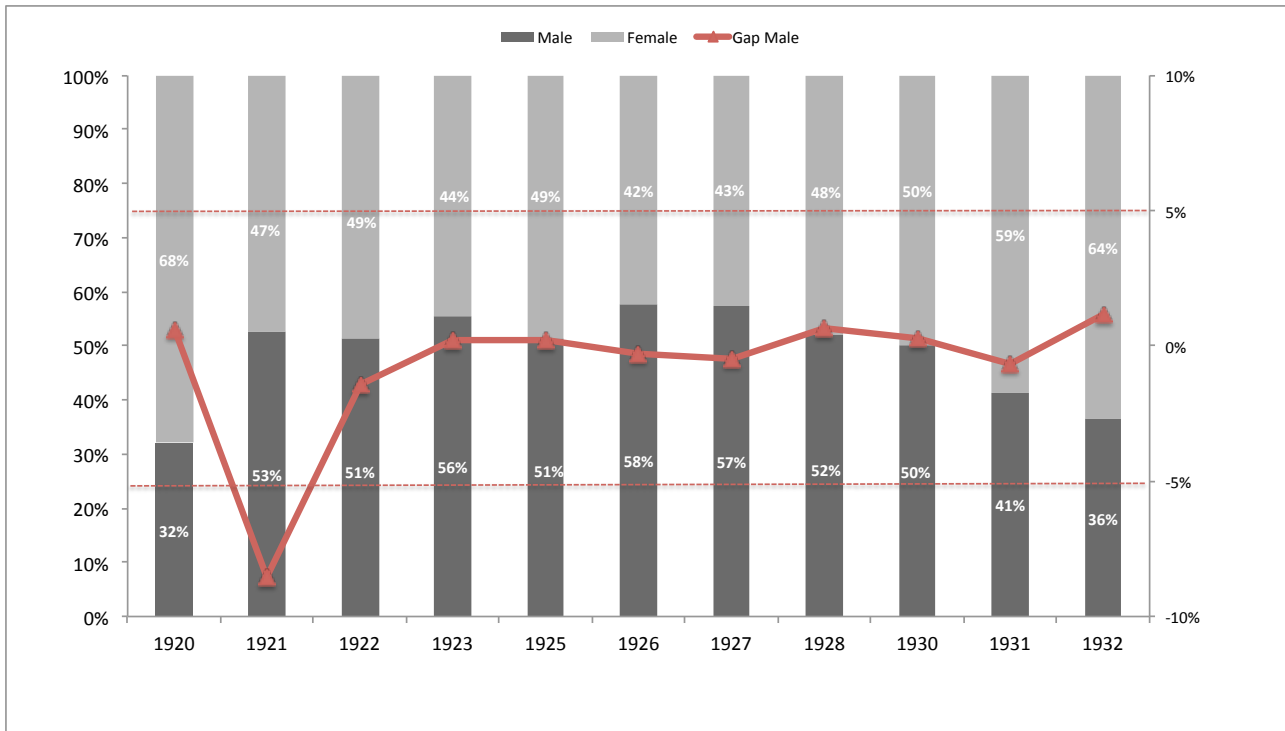
Notes: The years 1924 and 1929 are not considered. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Among the individual factors we match sex, marital status, and age of German emigrants. Concerning the *sex* of emigrants, official statistics show that between 1921 and 1928, more men than women emigrated (cf. Figure 4 and Table A4 in the appendix). In 1930 the number of male and female emigrants is equal and in 1931 we observe for the first time a higher share of female emigrants (59 %) which increases to 64 % in 1932 (cf. State Statistical Office of the Free Hanseatic City of Bremen, 1931, and Emigration Authority of the Free Hanseatic City of Bremen, 1931). The initially higher share of males was due to the common practice that the male head of the family emigrated first in order to search for a new employment and to establish a new home. The entire family joined him later. This pattern changed due to the US immigration legislation from 1929 which reduced the immigration quota but still allowed for family reunification.

to the United States is significantly higher in these years than the total share of emigrants to the United States via all ports (which results especially from the high share of German emigrants via foreign ports in 1920 and 1921 who have chosen other destinations than the United States) and stays on a higher level in all following years until 1932.

⁵⁰Only in 1920, Iowa ranked fourth with 9 % instead of Pennsylvania (5 %).

Figure 4: Sex of German emigrants



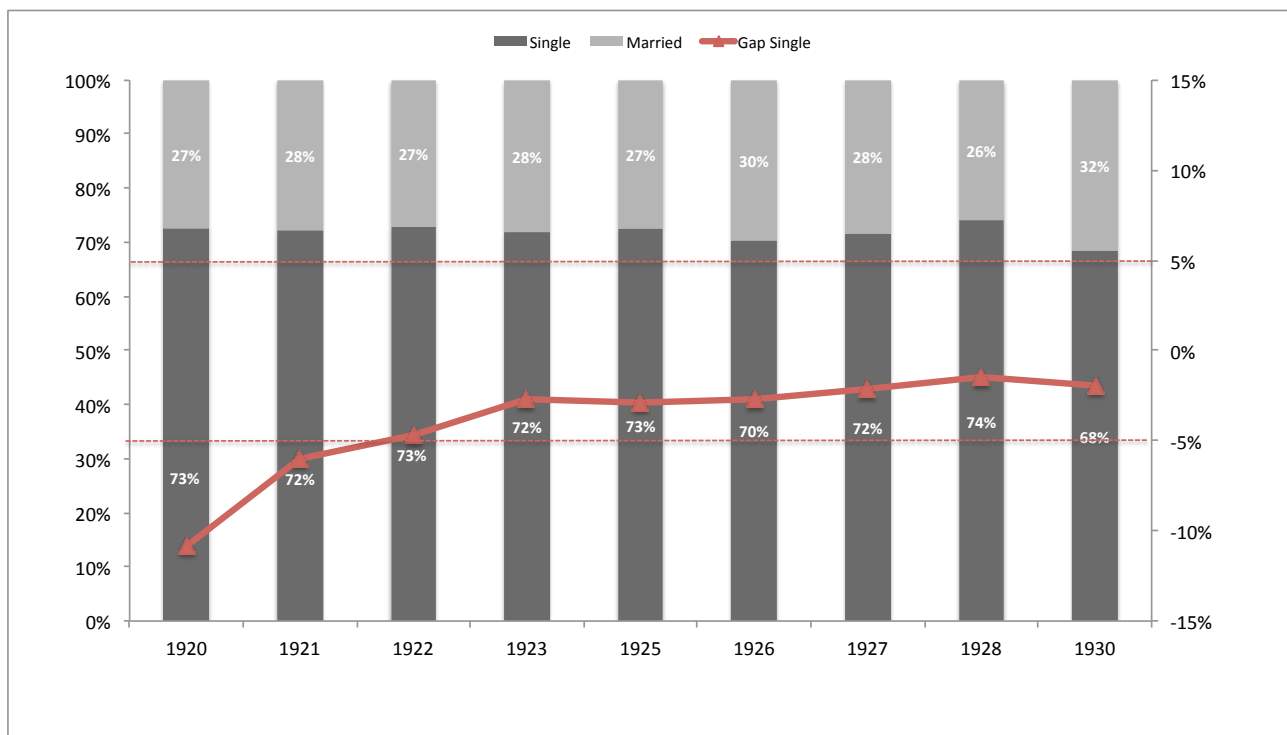
Notes: The years 1924 and 1929 are not considered. Sources: Statistical Yearbooks of the Free Hanseatic City of Bremen. Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for male emigrants on the basis of the MAUS-dataset (DIE MAUS, 2017).

On the other hand, there existed an increasing need for single women who worked as domestic servants (cf. Burgdoerfer, 1931, and Bickelmann, 1980). The shares of female and male emigrants are very well represented in the MAUS-dataset except for the year 1921 when the MAUS-dataset contains a nine percentage point lower share of male than of female migrants compared to official statistics.

This development of male versus female emigration also finds expression in the *marital status* of emigrants which distinguishes single from married emigrants. Between 1920 and 1928, the share of single emigrants is always higher than 70 % in the official data with a higher share of single males than single females (cf. Figure 5 and table A5 in the appendix). In 1931 and 1932 the share of single emigrants drops significantly to 54 % and 57 % with now higher shares of single female emigrants (53 % and 60 %). In the group of married emigrants the share of female married emigrants is higher than the share of male married emigrants in 1920, 1925, and since 1928—with an increasing trend up to 69 % in 1932. Burgdoerfer (1931) describes in this respect that more single persons and less families emigrated between 1921 and 1928 compared to the peak years of mass migration (1881–1890) and that the average number of persons in an emigrant’s family declined. The latter is caused by the emigration of younger families and is most probably also connected to the declining population growth rate (+ 5 % between 1920 and 1932 versus + 65 % between 1871 and 1914, see section 2, cf. Besser, 2008). Since 1930, the share of single and especially of single male emigrants decreases significantly while in turn the share of married female migrants increases (cf. Bickelmann, 1980) which again confirms the described effects of the reduced US immigration quota in 1929. The MAUS-data represents the marital status in the official data very well for the years 1922–1932. Thereby, the share of

single emigrants is in all years lower than in the official statistics but the gap is always lower or equal to 5 %. Reversely, the share of married emigrants is higher but also representative.⁵¹ Only in the years 1920 and 1921, the share of single emigrants is by eleven and six percentage points lower than in the official statistics (in favor of married emigrants). In addition, the share of male single emigrants is in 1921 also not representative as it is by eight percentage points below the share in the official statistics. The analysis of the group of married emigrants shows that male married emigrants are underrepresented in the year 1921 by about ten percentage points.

Figure 5: Marital status of German emigrants



Notes: The years 1924 and 1929 are not considered. Sources: Statistical Yearbooks of the Free Hanseatic City of Bremen. Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for single emigrants on the basis of the MAUS-dataset (DIE MAUS, 2017).

The *age* of emigrants was reported in 15 different age groups in the official statistics which we aggregated for the reason of simplification to the following eight age groups: 0–5, 6–13, 14–17, 18–29, 30–39, 40–49, 50–59, 60 and older.⁵² In the official statistics, most emigrants were—on average over all years of the Weimar Republic—between 18 and 29 years old (50 %), followed by emigrants between 30 and 39 (19 %) as well as by children and adolescents until the age of 17 (18 %) (cf. Figure 6 and Table A6 in the appendix). Emigrants at the age or older than 40 represented only a minor part of about 13 % of all emigrants. Thereby, the age

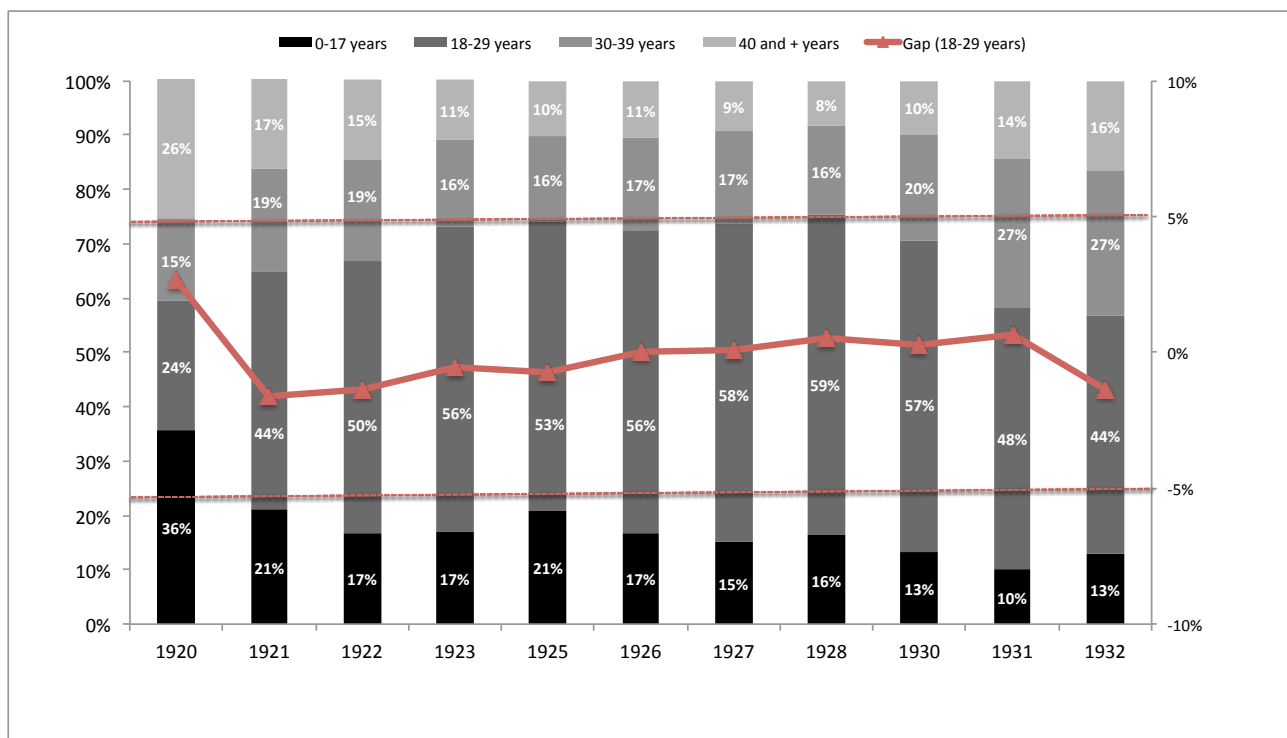
⁵¹We subsume widowed, divorced, and separated emigrants in the group of married emigrants in the MAUS-dataset. Their share is relatively small with less than 10 % of all married emigrants—except in the first three emigration years after the First World War (36 % in 1920, 18 % in 1921, and 11 % in 1922) which is predominantly driven by widowed emigrants.

⁵²This classification scheme in the official statistics that consists of 15 age groups has been applied since 1924. For the reason of comparability we adapted the official data for 1920–1923 to the existing scheme since 1924 and matched the MAUS-data to this later scheme.

group of 18–29 showed in general an increasing trend until 1928 with a decrease afterwards, the age group of 30–39 remained relatively stable until 1928 with an increase afterwards, the numbers of children and adolescents were relatively decreasing, and the group of 40 years and older stayed relatively stable.

Burgdoerfer (1931) and Bickelmann (1980) describe in this respect that the emigration of children decreased compared to the end of the nineteenth century and that reversely, the share of emigrants of working age increased. In the official data for Bremen, the proportion of emigrants between 18 and 59 are at 84 % in 1932. With regard to the distribution of sex in the different age groups we observe an equal distribution of male and female emigrants in the groups 0–17, 30–39, and 40–49. In the main group of 18–29 year old emigrants males are of higher numbers (56 %) whereas females are of higher numbers in the groups 50–59 and 60 and older (58 %).

Figure 6: Age of German emigrants



Notes: The years 1924 and 1929 are not considered. For the reason of simplification the eight age groups are aggregated to four age groups. Sources: Statistical Yearbooks of the Free Hanseatic City of Bremen. Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for the group of the 18–29 year old emigrants on the basis of the MAUS-dataset (DIE MAUS, 2017).

In general, the MAUS-dataset represents the age of emigrants very well. Only in the year 1920, the age group 60 and older is by ten percentage points overrepresented in 1920 (cf. Table A6 in the appendix). Reversely, especially the group of 50–59 is underrepresented by four percentage points and the group of 6–13 by three percentage points in the same year. The average age per year that can be calculated on the basis of the MAUS-dataset decreased steadily from 31 years in 1920 to 24 years in 1928. Since 1930 emigrants became on average again older, the average age increased up to 30 years in 1932. This development is consistent with, e.g., the still allowed family reunification after the reduction of the US immigration quota

in 1929, a lower number of children per family, and a higher number of female domestic servants of working age.

The *travel class* of German emigrants from Bremen is only reported between 1929 and 1932 in official statistics. In the years 1930–1932, 69 % of emigrants travelled in the Third Class which replaced the former steerage (“Zwischendeck”), followed by 17 % in the Tourist Class (cf. Table A7 in the appendix). Around 14 % of all emigrants could afford to travel in the most expensive First Class and Second Class as well as in the Middle Class. The MAUS-dataset is representative for the years 1930–1932 and offers additional information about the remaining years. The share of missing information is very high in 1920 and 1921 (56 % and 65 %), and therefore we should be cautious in interpreting the results. The share of missing information is also relatively high in the years 1922 and 1923 (6 % and 7 %) and very low in all following years. The MAUS-dataset distinguishes between First Class, Second Class (including Cabin Class passengers), Tourist Class, Third Class, and a very minor part of emigrants that were traveling on cargo ships (“Frachtschiffe”) or on ships with a one design class (“Einheitsklasse”).⁵³ During the Weimar Republic, more than half of total emigrants (here and in the following for which a travel class was included in the lists) were traveling in the Third Class (52 %). The share jumped up to 58 % in 1922, increased up to 75 % in 1930 and decreased afterwards to 64 % in 1932. A share of about 32 % of all emigrants traveled in the Second Class. The share fluctuated between 30 % and 87 % in the years 1920–1926, followed by a sharp decline to 23 % in 1927 and 8 % in 1932. The Tourist Class showed relatively low numbers of emigrants until 1930. Since 1930 the Tourist Class gained importance: 12 % of total emigrants in 1930 left Bremen in the Tourist Class, 29 % in 1931, and 21 % in 1932 (on average about 8 % of all emigrants between 1920 and 1932). Only 8 % of all emigrants travelled during the Weimar Republic in the First Class, thereof an exceptionally high share of 59 % in the first year 1920. An interpretation of the travel class as an indicator for the wealth of emigrants is difficult. Considerably more emigrants travelled in the Third and Tourist Class than in the First and Second Class. However, ships were always built with higher capacities in these most booked travel classes and the general travel conditions especially for the poor emigrants have been improved substantially compared to the passage in the steerage in the age of mass migration.

The MAUS-dataset further includes information about the occupation of emigrants from which we determine the *economic sector* in which an emigrant worked in the German Reich prior to his or her emigration. We assign each occupation according to the classification scheme of economic sectors which is applied in the official statistics from the State Statistical Office in Bremen and in the Statistics of the German Reich. We distinguish three economic sectors with the usual denomination: primary for agriculture, secondary for industry, and tertiary for services (see the supplement to Table A8 in the appendix for a comprehensive definition). In general, a comparison between the MAUS-dataset and official statistics from Bremen is only possible since 1924 when official statistics resumed the report on economic sectors after the First World War. Thereby, the official statistics distinguish between employed emigrants and relatives, i.e., relatives are also assigned to each category. However, as we are especially

⁵³In contrast to official statistics, the MAUS-dataset does not include passengers in the Middle Class.

interested in the emigrating working population and their skill level we do not assign relatives to one of the three economic sectors but compare their total number per year.⁵⁴

In a first step we analyze the share of employed emigrants in the three economic sectors compared to the respective share of relatives. In official statistics, the number of employed emigrants exceeded the number of relatives in every year (cf. Table A8 in the appendix). They represent on average about 75 % for the years 1924–1932. The share increases between 1925 and 1932 from 64 % to 81 %. The MAUS-dataset represents the share of employed persons relatively well in the years 1927 and 1928. In the years 1925 and 1926, the MAUS-dataset contains a higher share of employed persons compared to relatives (+ 8 % in 1925 and + 6 % in 1926). The MAUS-dataset shows on the other hand in the years 1930–1932, a higher share of relatives compared to employed emigrants (+ 6 % in 1930 and + 21 % in 1931 and 1932).⁵⁵ Thereby, we do not consider emigrants with missing information about their occupation in the MAUS-dataset who account for about 9 % of total emigrants during the Weimar Republic.⁵⁶ In the first years after the First World War when official statistics for Bremen concerning the occupation of emigrants were absent (1920–1923), the share of employed emigrants in the MAUS-dataset is especially high at about 73 % on average.

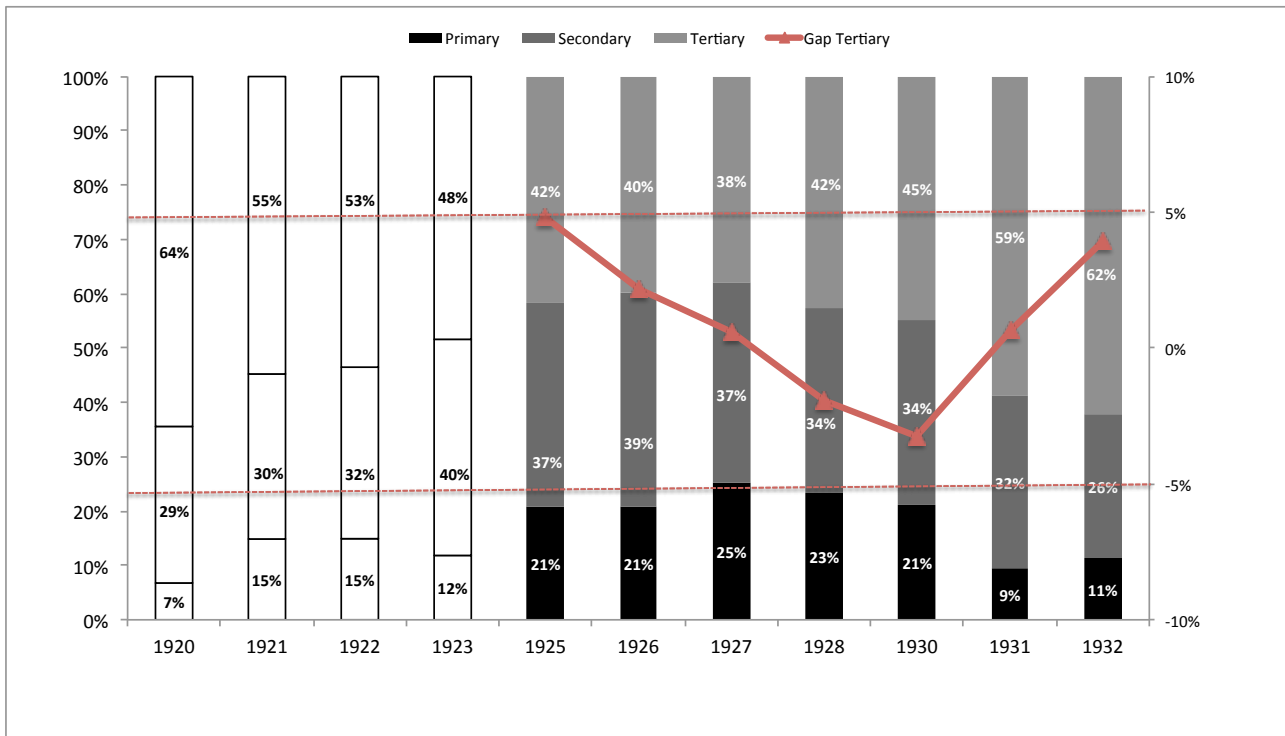
In a second step, we compare the share of employed emigrants in the primary, secondary, and tertiary sector. In the years 1924 to 1932, most emigrants worked according to official statistics in the tertiary sector (47 %) followed from the secondary sector (34 %) and in third place the primary sector (19 %) (cf. Figure 7 and Table A8 in the appendix). Emigrants without occupation or without specification of their occupation accounted for 5 % of total emigrants. The share of emigrants in the tertiary sector declined from 42 % in 1925 to 38 % in 1927 and increased again significantly up to 62 % in 1932. In the secondary sector, the share of emigrants was highest at 39 % in 1926 and declined afterwards continuously to 26 % in 1932. The least represented primary sector showed the highest share of emigrants (25 %) in the year 1927 which decreased slightly to 21 % in 1930 and then sharply to 9 % in 1931 and 11 % in 1932—mainly due to the immigration policy of the United States which preferred other professions since 1931 (cf. Bickelmann, 1980).

⁵⁴Relatives are mostly denoted with the addition “Angehörige”, “Ang”, “Ehefrau” or “Hausfrau” in the MAUS-dataset. We further defined children and young adolescents younger than 16 as relatives if information about the occupation is missing throughout the whole period between 1920 and 1932 (0.01 % of total emigrants) as we expect them to be still in school (due to article 145 of the Weimar constitution from 1919 which includes the obligation of enrollment in compulsory education for eight years, i.e., at least until the age of 15).

⁵⁵This results from the fact that our comparison does not include emigrants without an occupation or without a specified occupation (see “N.a.*” in Table A8 in the appendix) which were reported separately in official statistics. Their numbers were relatively low until 1928 but increased considerably since 1930 and accounted for 5 % of all employed emigrants and even 70 % of all relatives in the official statistics in 1932. However, they can not be separated from relatives who belong to one of the economic sectors in the MAUS-dataset and therefore increase the share of relatives compared to the share of employed emigrants.

⁵⁶The comparable share in official statistics is at about 5 %

Figure 7: Economic sectors of German emigrants



Notes: The years 1924 and 1929 are not considered. Sources: MAUS-dataset for the years 1920–1923 when official statistics are not available, since 1925 Statistical Yearbooks of the Free Hanseatic City of Bremen). Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for emigrants working in the tertiary sector on the basis of the MAUS-dataset (DIE MAUS, 2017).

Bickelmann (1980) describes furthermore that the trend of an increasing diversification in the occupational structure especially at the expense of emigrants in agricultural occupations already started before the First World War and steadily continued during the Weimar Republic. Moreover, the share of emigrants that were employed in the primary sector was not only decreasing within the German emigrant population, but also compared to the share of 31 % employed Germans in the primary sector which was reported in the occupational census of the German Reich in 1925. The share of emigrants from the secondary sector was also underrepresented relative to the occupational census (34 % on average in official statistics from Bremen vs. 41 % in the census) whereas employees from the tertiary sector emigrated over-proportionally (47 % vs. 28 %). The latter is mainly due to the increasing share of female emigrants who worked in the domestic service (cf. Bickelmann, 1980). This category accounted to 26 % of all emigrants in the year 1932 and consequently represented together with 26 % of emigrants in the secondary sector the two largest emigrant groups departing from Bremen and also from the German Reich as a whole (cf. State Statistical Office of Bremen, 1933, and Bickelmann, 1980).⁵⁷ Burgdoerfer (1930) explains in this context that emigration from the primary sector was traditionally a permanent family emigration, i.e., the number of emigrating relatives was higher compared to emigration in the secondary and tertiary sector. In contrast, emigration from the industrial and the trade sector was mainly an emigration of singles—with a stronger character of temporary emigration that was fluctuating according to economic conditions.

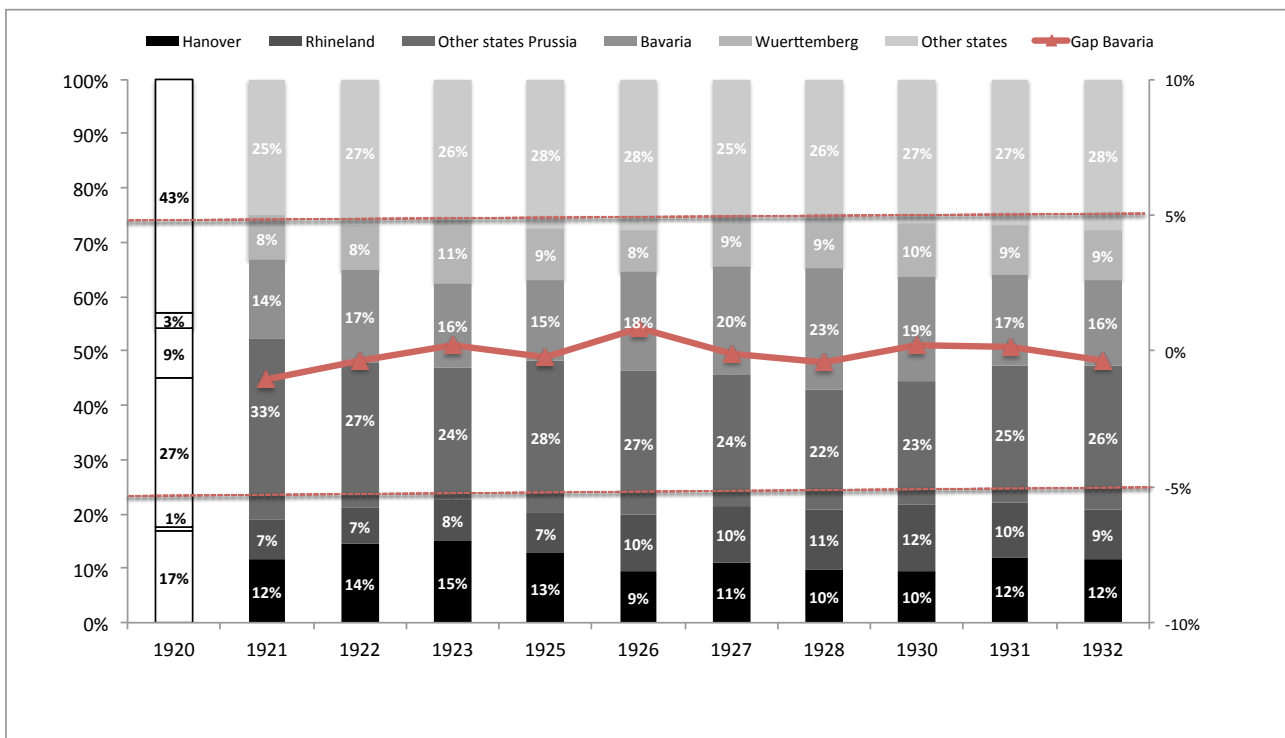
The MAUS-dataset is very representative in terms of economic sectors in which emigrants

⁵⁷See also Thalheim (1926) for the development of emigration rates per economic sector until 1924.

worked prior to their emigration if we do not consider emigrants with missing information about their occupation. The dataset also delivers additional information for the years without official statistics (1920–1923). In these years, the share of emigrants in the tertiary sector was especially high with 55 % on average. The secondary sector accounted for 33 % of total emigrants and the primary sector showed again the lowest shares of emigrants with 12 % on average (cf. Table A8 in the appendix).

Finally, we compare the emigrant’s *state or province of origin* in the German Reich. Official statistics distinguish between Prussia, all remaining states (e.g., Bavaria or Saxony), and the three Free Hanseatic Cities of Bremen, Hamburg, and Luebeck.⁵⁸ States and provinces of origin are reported since 1921, i.e., in the period between 1921 and 1932 about 46 % of total migrants stem from Prussia and 54 % from the remaining states and Hanseatic cities (cf. Figure 8 and Table A9–A11 in the appendix). The share of emigrants from Prussia declined from 52 % in 1921 to 43 % in 1928 and raised again to 47 % in 1931 and 1932. Among the Prussian provinces, most emigrants came from Hannover (12 %), the Rhineland (9 %), Brandenburg (including the city of Berlin), and Westfalia (both 6 %), i.e., especially from Northern and Northwestern provinces. This pattern was observable in all years during the Weimar Republic. The shares were relatively stable over time, especially the share for Westfalia.

Figure 8: Origin states and provinces of German emigrants



Notes: The years 1924 and 1929 are not considered. Only the largest Prussian provinces Hanover and the Rhineland as well as the two largest remaining states Bavaria and Wuerttemberg are displayed in detail. Sources: MAUS-dataset for the year 1920 when official statistics are not available, since 1921 Statistical Yearbooks of the Free Hanseatic City of Bremen (years 1924 and 1929 not displayed). Own calculation of the gap between Statistical Yearbooks and the MAUS-dataset for emigrants from Bavaria on the basis of the MAUS-dataset (DIE MAUS, 2017).

The shares of emigrants from Hanover and Brandenburg were higher in the first years (14

⁵⁸Please see the supplement to Table A11 in the appendix for a detailed overview on the states and provinces of the German Reich during the Weimar Republic.

% in 1922 and 15 % in 1923 for Hannover, and 12 % in 1921 for Brandenburg). The share of emigrants from the Rhineland increased from 7 % in 1921 to 12 % in 1930 but decreased afterwards to 9 % in 1932. Among the remaining German states, the southern states Bavaria (18 %), Wuerttemberg (9 %), Baden (8 %), and Saxony (6 %) had a dominating impact. The share of emigrants from Bavaria increased from 14 % in 1921 to 23 % in 1928, and declined to 16 % in 1932. The other shares were relatively stable over time. However, Baden gained importance compared to Saxony. Overall and in absolute terms, most people emigrated from Bavaria. Hannover ranked second and Wuerttemberg third.⁵⁹ The MAUS-dataset represents the states and provinces of origin very well over the whole period.⁶⁰

Burgdoerfer (1931) and Bickelmann (1980) describe that after the First World War the regions with highest emigration density shifted again to Southwestern states. Northeastern states lost their importance, while the Northwestern states remained regions with high emigration rates. Bickelmann (1980) relates absolute numbers of emigrants per state to the average emigration from the German Reich for each year during the Weimar Republic in order to show if emigration rates range below or above average. Among the Prussian states and provinces he observes above average emigration rates from Hanover and Berlin. For Hanover and Brandenburg (including Berlin) we also observe the highest absolute numbers of emigrants who departed from Bremen. Berlin can thereby be seen as a transit station as it was a main destination for Germans who left the ceded territories in the East and then moved further. In contrast, emigration rates from Westfalia and the Rhineland are—despite highest absolute emigration numbers—below the national average. The Prussian states Schleswig-Holstein, in the first years of the Weimar Republic the state Grenzmark Posen-Westpreussen, and in the later years also Hohenzollern—for which we observe relatively low absolute emigration numbers—range above average. The newly formed state Grenzmark Posen-Westpreussen also received numerous migrants and refugees from the East which caused oversea emigration of Germans from this state. The Prussian province Saxony, Silesia, and partially Brandenburg showed below average emigration rates because the existing industrial sector absorbed the surplus from the agrarian sector (cf. Burgdoerfer, 1931). Marschalck (1973) claims in this respect that the absorption capacity of the industry is a determining factor for the emigration intensity. Furthermore, Moenckmeier (1912) has already described for the period before the First World War a relation between internal migration and emigration in the way that regions with higher internal emigration rates

⁵⁹Considering the sum of emigration numbers from 1920 to 1932 as of 100,000 inhabitants per state or province as recorded in 1925 we observe the highest shares for Bremen (2,128) followed by Oldenburg (715), Wuerttemberg (652), Hanover (607), and Baden (560). The provinces Rhineland (222), Brandenburg (165), and Westfalia (213) as well as the states Bavaria (423) and Saxony (265) showed relatively lower shares.

⁶⁰We haven taken all entries of the variable as given if it directly corresponds to one of the states and provinces in the official data. We checked all other entries that did not correspond to the official data on the basis of the former place of residency and imputed the correct state if the former place of residency only existed once in the German Reich and could therefore be assigned unambiguously. We coded the remaining entries and wrong entries as missing information. For reasons of simplicity we display aggregated data for Upper and Lower Silesia as well as for Mecklenburg-Schwerin and Mecklenburg-Strelitz. Entries that were coded as Prussia and which were not assigned to a Prussian province have also been taken as given and is part of the number and share of emigrants stemming from the Free State of Prussia.

show low oversea emigration rates. Among the remaining states of the German Reich emigration rates from Bavaria, Wuerttemberg, and Baden range above average (in line with highest absolute emigration numbers) whereas the emigration rate of Saxony ranges below average. The latter can also be explained by an industrial sector which absorbed potential emigrants. This pattern partially holds for the Southwestern states Baden and Wuerttemberg. However, a strong incentive to emigrate stems in these regions from the tradition that the land was divided among all sons after the landowner's death which led to constantly smaller properties that could less and less ensure the economic existence of the owner. The two Hanseatic cities Bremen and Hamburg showed the highest relative emigration rates. This results from their close distance to the ports but also from preceding internal migration of people who stopped temporarily in these cities. Emigration rates from the Free State of Oldenburg are also above average. In Northwestern states Oldenburg, Hanover, and Schleswig-Holstein we observe a much stronger incentive to emigrate than to migrate internally. Here, small landowners existed besides medium and large scale properties due to tradition that the oldest son who inherited the land had to compensate later born siblings. They had in turn financial means to acquire their own smaller properties. If these properties did not sufficiently ensure their economic existence, they preferred to emigrate and to improve their economic situation in the agricultural sector abroad. Moreover, by the sale of their property they had the necessary financial means to afford their passage (which became difficult during the period of hyperinflation and the agrarian crisis after 1927). In comparison, emigrants from the agricultural sector in the East-Elbian regions had much lower financial resources due to the existing large landed estates which caused a large agricultural proletariat. Furthermore, the Northwestern states as well as the Southwestern states showed already during the age of mass migration a high share of emigrants who choose the United States as destination. Established networks led during the Weimar Republic to a high share of prepaid tickets from relatives and friends in the United States which pushed emigration to the United States from these regions (cf. Bickelmann, 1980).

Overall, we can conclude from our analysis that the MAUS-dataset is a representative dataset for the emigration of Germans via the port of Bremen during the Weimar Republic. The comparison of the MAUS-dataset with official statistics shows that the gap between the percentage share of each characteristic of the described variables is in all cases smaller or equal than 5 % except for the variable sex in the year 1921 and for the variable marital status in 1920 and 1921. In addition, the years 1924 and 1929 are not representative due to the large data loss and are therefore not suitable for an empirical analysis. Notwithstanding this generally positive estimation of the MAUS-dataset, there exist two major shortcomings: first, the lack of a distinction between emigrants and travelers, and, second, the existing errors that result especially from the duplication of the hand written lists as well as the writing errors which both lead to uncertainties in the course of the data preparation.

5 Skill composition of the emigrating working population

In this section we will analyze the skill composition of German emigrants via Bremen during the Weimar Republic. The objective is to describe how the skill composition changes over time and how it is related to the individual characteristics of the emigrant population in the MAUS-dataset. We will also assess whether the skill composition differs according to destination countries, and according to states and provinces of origin within the German Reich. This analysis is crucial for further research that addresses the impact of migration of differently skilled labor on the destination and source country's economy because a loss or gain of human capital can affect the economic growth of these economies.

Years of schooling or level of educational attainment are usually used as a proxy for an individual's human capital or skills (see, e.g., Barro and Lee (1996), Hanushek (1996), OECD (1998), and Woessmann (2003)).⁶¹ However, the MAUS-dataset does not contain any information about education or training of emigrants. Consequently, we will use information about the occupation and/or the position as a proxy for an emigrant's individual skills⁶² Thereby, we will restrict our scope to the working population and thus neglect relatives due to the assumption that relatives are usually not available to the labor market.⁶³

5.1 The MAUS-dataset: data preparation and coding of occupations

We coded wrong entries that do not represent an occupation as missing information (0.01 % of total migrants). We coded occupations of children and adolescents under the age of 16 as relatives, and thus did not assign them a distinctive skill level (0.01 % of total emigrants). This is due to the existing compulsory school enrollment for eight years since 1919, i.e., at least until the age of 15, according to Article 145 of the Weimar constitution. Furthermore, we transferred information about the occupation if that was included in the variable "state or province" and if the variable "occupation" included missing information (0.01 % of total emigrants). Thus, we coded the state or province of these emigrants as missing information. Furthermore, we synchronized all occupations in order to reduce the absolute number of occupations. This means that we corrected for writing errors, different spellings for the same occupation, and different abbreviations (especially for the position of emigrants). We translated occupations written in English into German (0.01 % of total emigrants), and excluded retired persons from the working population (0.01 % of total emigrants).⁶⁴ Finally, we dropped passengers that emigrated in the years 1924 and 1929 due to the large data loss and thus the low representativeness in these years (2,600 emigrants or 1.4 % of total emigrants) (see section 4). Consequently, the MAUS-dataset

⁶¹Other studies also examine cognitive skills or occupational skills and their impact on emigrant selection, see e.g., Patt et al. (2017).

⁶²For some occupations the dataset includes additionally a position. For craftsmen this could be, e.g., master craftsmen ("Meister"), journeyman ("Geselle"), apprentice ("Lehrling"), or helper ("Gehilfe").

⁶³This approach of grouping occupations is in general similar to the study of Wegge (2002).

⁶⁴We defined emigrants as being retired if they are marked as retired in the field "occupation/position" or if they were at the age of 65 or older as this age represents the retirement age in the German Reich during the Weimar Republic and also in the United States since the Social Security Act in 1935.

contains 178,100 emigrants in the period 1920–1932 (without 1924 and 1929) of which a share of 68 % represents the working population (122,000 emigrants).

In a second step, we assigned to each emigrant of the working population one of the three skill levels: low, medium, or high.⁶⁵ Thereby, we applied the following classification scheme: we coded occupations as low-skilled which only require eight years of primary schooling (“Volksschule”), but no further formal apprenticeship or vocational training. Occupations that require secondary schooling (more than eight years) and/or a formal apprenticeship or vocational training are coded as medium-skilled. Emigrants in high-skilled occupations have invested in tertiary education (e.g., high school leaving certificate and a college/university diploma). However, before coding each occupation individually according to this scheme, we applied the following general rules. We coded occupations always as low-skilled if the position was a helper (“Gehilfe”), a day laborer (“Tagelöhner”), or an intern (“Praktikant”), because these positions do not require a formal apprenticeship. We coded positions that require a formal apprenticeship, i.e., a journeyman (“Geselle”), an apprentice (“Lehrling”), or an assistant (“Assistent”) as medium-skilled. Master craftsmen (“Meister”) that must have invested into further education after their apprenticeship were coded as high-skilled. Accordingly, craftsmen marked as self-employed in the MAUS-dataset also correspond to the group of high-skilled as they needed a master craftsman’s diploma to open their own business. Employees (“Angestellte”) were coded as medium-skilled. All other occupations have been coded individually.⁶⁶

5.2 Results

During the Weimar Republic (1920–1932 without considering the years 1924 and 1929) more than half of the working population were low-skilled (54 % or 65,700 emigrants), followed by 39 % medium-skilled emigrants (47,400), and only 7 % high-skilled emigrants (9,100) (cf. Table 3). This means, that on average over all eleven years, the frequency rate is higher the lower the skill level. This relation holds in all single years—except in the years 1921 and 1922 as well as in the years 1931 and 1932 when the group of medium-skilled emigrants was the most numerous group with shares between 47 % and 52 % of total migrants.⁶⁷

⁶⁵This classification scheme is based on, e.g., Bruecker et al. (2013) who distinguish three skill levels according to the individual’s educational attainment: i) low-skilled emigrants (lower secondary, primary, or no schooling), ii) medium-skilled emigrants (high-school leaving certificate or equivalent), and iii) high-skilled emigrants (above high-school leaving certificate or equivalent). For the purpose of simplification we do not apply more than three skill levels.

⁶⁶If further research requires the international comparability of occupations, a classification scheme such as HISCO (Historical International Standard Classification of Occupations) or HISCLASS (Historical International Social Class Scheme) can be applied.

⁶⁷Wulfers (2017) observes a similar time trend of the skill level for only Germans in the MAUS-dataset using monthly averages of HISCLASS scores.

Table 3: Skill level of the emigrating working population: overview

Year	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
1920	144 (100 %)	59 (41 %)	28 (47 %)	16 (27 %)	15 (25 %)	51 (35 %)	34 (24 %)
1921	3,759 (100 %)	2,232 (59 %)	934 (42 %)	1,041 (47 %)	257 (12 %)	680 (18 %)	847 (23 %)
1922	13,236 (100 %)	8,793 (66 %)	4,019 (46 %)	4,182 (48 %)	592 (7 %)	2,466 (19 %)	1,977 (5 %)
1923	24,502 (100 %)	18,393 (75 %)	8,607 (47 %)	8,462 (46 %)	1,324 (7 %)	3,806 (16 %)	2,303 (9 %)
1925	21,261 (100 %)	14,181 (67 %)	7,871 (56 %)	5,088 (36 %)	1,222 (9 %)	5,555 (26 %)	1,525 (7 %)
1926	30,725 (100 %)	21,936 (71 %)	11,968 (55 %)	7,704 (35 %)	2,264 (10 %)	6,354 (21 %)	2,435 (8 %)
1927	30,396 (100 %)	21,883 (72 %)	13,370 (61 %)	7,021 (32 %)	1,492 (7 %)	6,478 (21 %)	2,035 (7 %)
1928	23,163 (100 %)	15,849 (68 %)	10,190 (64 %)	5,074 (32 %)	585 (4 %)	5,623 (24 %)	1,691 (7 %)
1930	19,312 (100 %)	12,540 (65 %)	6,283 (50 %)	5,609 (45 %)	648 (5 %)	4,680 (24 %)	2,092 (11 %)
1931	7,460 (100 %)	4,195 (56 %)	1,621 (39 %)	2,173 (52 %)	401 (10 %)	2,623 (35 %)	642 (9 %)
1932	4,189 (100 %)	2,180 (52 %)	828 (38 %)	1,072 (49 %)	280 (13 %)	1,440 (34 %)	569 (14 %)
1920–1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. The number of total German emigrants is divided into the working population, relatives/retired, and emigrants with missing information about their occupation. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

In these years, we observe an inverse u-shaped relation between the skill level and its frequency rate. Over time, the share of low-skilled emigrants increased from 47 % in 1920 to 64 % in 1928—followed by a sharp decline to 50 % in 1930 and to 38 % in 1932. In turn, the share of medium-skilled emigrants declined from 47 % in 1921 to 32 % in 1928 and then increased up to 45 % in 1930 and 49 % in 1932. The share of high-skilled emigrants showed a much more volatile development with highest shares of 25 % and 12 % in the first two years of the Weimar Republic (1920 and 1921), with high shares of 10 % and 13 % in the last two years of the Weimar Republic (1931 and 1932), and with high shares of 9 % and 10 % in-between (1925 and 1926). In all other years, the share ranged between 4 % and 7 %. From this data we can conclude that the skill level of German emigrants increased after the restriction in US immigration quota in 1929, and thus the new quota seemed to accomplished its aim of deterring low-skilled immigrants from the US labor market.

The analysis of the skill level for each *economic sector* shows that nearly all emigrants formerly working in the primary sector (94 %) were low-skilled (cf. Table 4). In the tertiary sector most emigrants were also low-skilled but their share is lower at 62 %. This is mainly driven by the domestic service in which 98 % of all emigrants have low skills. In contrast, emigrants working in the remaining occupations of the tertiary sector are mainly medium-skilled (54 %), only 34 % are low-skilled, and 13 % have high skills. Emigrants with medium skills are also most numerous in the secondary sector (69 %), followed by 20 % low-skilled and 12 % high-skilled emigrants.

Table 4: Skill level of the emigrating working population: economic sectors

Economic sectors	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
Primary	23,782 (100 %)	23,782 (100 %)	22,949 (96 %)	739 (3 %)	94 (0 %)	0 (0 %)	0 (0 %)
Secondary	43,746 (100 %)	43,746 (100 %)	8,611 (20 %)	29,972 (69 %)	5,163 (12 %)	0 (0 %)	0 (0 %)
Tertiary	54,699 (100 %)	54,699 (100 %)	34,145 (62 %)	16,731 (31 %)	3,823 (7 %)	0 (0 %)	0 (0 %)
- domestic service	23,850 (100 %)	23,850 (100 %)	23,703 (99 %)	147 (1 %)	0 (0 %)	0 (0 %)	0 (0 %)
- other occupations	30,849 (100 %)	30,849 (100 %)	10,442 (34 %)	16,584 (54 %)	3,823 (12 %)	0 (0 %)	0 (0 %)
No occupation	16,164 (100 %)	14 (0 %)	14 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	16,150 (100 %)
Relatives/Retired	39,756 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	39,756 (100 %)	0 (0 %)
1920-1932	178,147 (100 %)	122,241 (69 %)	65,719 (37 %)	47,442 (27 %)	9,080 (5 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. The category “no occupation” also includes not specified occupations (missing data). Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Considering the individual characteristics, we observe in terms of *gender* that 67 % of the working population are male emigrants (81,700) and 33 % are female emigrants (40,500) (cf. Table 5). As expected, female emigrants have a considerably lower skill level than male emigrants which is especially due to their lower educational attainment. Whereas the number of females and males is relatively equal in the obligatory eight years of primary schooling (“Volksschule”), the number of female university students is considerably lower. Females only accounted for 11 % of all university students in the German Reich in 1925, and for 16 % in 1932 (cf. Imperial Statistical Office, 1926 and 1933).⁶⁸ On the other hand, the labor force participation rate of the female working age population was 48.9 % according to the occupational census in 1925 for the German Reich as a whole, and thus considerably lower than the rate of 95.3 % for males (cf. Mueller et al., 1983).

Table 5: Skill level of the emigrating working population: gender

Gender	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
Male	94,498 (100 %)	81,727 (86 %)	34,562 (42 %)	38,952 (48 %)	8,213 (10 %)	11,312 (12 %)	1,459 (2 %)
Female	83,644 (100 %)	40,514 (48 %)	31,157 (77 %)	8,490 (21 %)	867 (2 %)	28,443 (34 %)	14,687 (18 %)
Missing data	5 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	1 (20 %)	4 (80 %)
1920–1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

On the other hand, gender-specific qualification models persisted (cf. Frevert, 1997). This means that—although the female working profile became increasingly adapted to the male working profile, i.e., the share of female domestic and agricultural workers decreased while their share in the industry, crafts, and service sector increased—women carried out subordinated, dependent, and less well paid jobs in these “modern” occupational fields. This gender-specific focus on different sectors is observable in the MAUS-dataset: whereas the vast majority of female emigrants worked in the tertiary sector (84 %) and thereby, especially in the domestic service (58 %), only a smaller part of them worked in the primary and in the secondary sector (6 % and 10 %). In contrast, male emigrants worked predominantly in the secondary sector (49 %), followed by the primary and the tertiary sector (26 % and 25 %). If we analyze the development of the female skill level over time, we can show that women were in all years mostly low-skilled (cf. Table 6). Their share increased from 57 % in 1920 to 82 % in 1926–1928, and decreased afterwards to 67 % in 1932. The share of medium-skilled women is considerably lower and ranges between 16 % and 38 %. The lowest shares are observable for high-skilled women (between 1% and 6 %, 27 % only in 1920). This means that the overall correlation of a higher frequency rate with a lower skill level is mainly driven by females in the dataset. For male emigrants we usually observe an inverse u-shaped pattern with highest shares of medium-skilled emigrants (except for the years 1927 and 1928) (cf. Table 7).

⁶⁸This results among others from the fact that women were permitted to study only since the beginning of the nineteenth century, e.g., since 1908 in Prussia (cf. Jarausch, 1991).

Table 6: Skill level of the emigrating working population: females

Year	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
1920	97 (100 %)	37 (38 %)	21 (57 %)	6 (16 %)	10 (27 %)	28 (29 %)	32 (33 %)
1921	2,103 (100 %)	886 (42 %)	496 (56 %)	337 (38 %)	53 (6 %)	419 (20 %)	798 (38 %)
1922	6,623 (100 %)	3,168 (48 %)	2,115 (67 %)	976 (31 %)	77 (2 %)	1,651 (25 %)	1,804 (27 %)
1923	10,820 (100 %)	6,402 (59 %)	4,734 (74 %)	1,527 (24 %)	141 (2 %)	2,490 (23 %)	1,928 (18 %)
1925	10,268 (100 %)	5,088 (50 %)	4,153 (82 %)	833 (16 %)	102 (2 %)	3,824 (37 %)	1,356 (13 %)
1926	13,066 (100 %)	6,526 (50 %)	5,362 (82 %)	1,027 (16 %)	137 (2 %)	4,299 (33 %)	2,241 (17 %)
1927	13,081 (100 %)	6,578 (50 %)	5,389 (82 %)	1,099 (17 %)	90 (1 %)	4,611 (35 %)	1,892 (14 %)
1928	10,952 (100 %)	5,316 (49 %)	4,317 (81 %)	918 (17 %)	81 (2 %)	4,114 (38 %)	1,522 (14 %)
1930	9,600 (100 %)	4,035 (42 %)	2,930 (73 %)	1,038 (26 %)	67 (2 %)	3,584 (37 %)	1,981 (21 %)
1931	4,420 (100 %)	1,571 (36 %)	1,036 (66 %)	470 (30 %)	65 (4 %)	2,246 (51 %)	603 (14 %)
1932	2,614 (100 %)	907 (35 %)	604 (67 %)	259 (29 %)	44 (5 %)	1,177 (45 %)	530 (20 %)
1920–1932	83,644 (100 %)	40,514 (48 %)	31,157 (77 %)	8,490 (21 %)	867 (2 %)	28,443 (34 %)	14,687 (18 %)

Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Table 7: Skill level of the emigrating working population: males

Year	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
1920	47 (100 %)	22 (47 %)	7 (32 %)	10 (45 %)	5 (23 %)	23 (49 %)	2 (4 %)
1921	1,656 (100 %)	1,346 (81 %)	438 (33 %)	704 (52 %)	204 (15 %)	261 (16 %)	49 (3 %)
1922	6,612 (100 %)	5,625 (85 %)	1,904 (34 %)	3,206 (57 %)	515 (9 %)	814 (12 %)	173 (3 %)
1923	13,682 (100 %)	11,991 (88 %)	3,873 (32 %)	6,935 (58 %)	1,183 (10 %)	1,316 (10 %)	375 (3 %)
1925	10,993 (100 %)	9,093 (83 %)	3,718 (41 %)	4,255 (47 %)	1,120 (12 %)	1,731 (16 %)	169 (2 %)
1926	17,656 (100 %)	15,410 (87 %)	6,606 (43 %)	6,677 (43 %)	2,127 (14 %)	2,055 (12 %)	191 (1 %)
1927	17,315 (100 %)	15,305 (88 %)	7,981 (52 %)	5,922 (39 %)	1,402 (9 %)	1,867 (11 %)	143 (1 %)
1928	12,210 (100 %)	10,533 (86 %)	5,873 (56 %)	4,156 (39 %)	504 (5 %)	1,509 (12 %)	168 (1 %)
1930	9,712 (100 %)	8,505 (88 %)	3,353 (39 %)	4,571 (54 %)	581 (7 %)	1,096 (11 %)	111 (1 %)
1931	3,040 (100 %)	2,624 (86 %)	585 (22 %)	1,703 (65 %)	336 (13 %)	377 (12 %)	39 (1 %)
1932	1,575 (100 %)	1,273 (81 %)	224 (18 %)	813 (64 %)	236 (19 %)	263 (17 %)	39 (2 %)
1920–1932	94,498 (100 %)	81,727 (86 %)	34,562 (42 %)	38,952 (48 %)	8,213 (10 %)	11,312 (12 %)	1,459 (2 %)

Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

In terms of *marital status*, single emigrants are mostly low-skilled (59 %) whereas married emigrants are predominantly medium-skilled (47 %) (cf. Table 8). Thereby, female and male emigrants are represented almost equally in the group of single low-skilled emigrants (52 % and 48 %). The low skill level in this group can, first, be explained by single women working in the domestic service (39 %) and, second, by single men working in the primary sector (30 %). The group of married medium-skilled emigrants consists to 95 % of male emigrants who work predominantly in the secondary sector (66 %) and in the tertiary sector (32 %).

Table 8: Skill level of the emigrating working population: marital status

Marital status	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
Single	121,006 (100 %)	93,637 (77 %)	55,409 (59 %)	33,997 (36 %)	4,231 (5 %)	21,926 (18 %)	5,443 (4 %)
Married	56,489 (100 %)	28,187 (50 %)	10,032 (36 %)	13,325 (47 %)	4,830 (17 %)	17,782 (31 %)	10,520 (19 %)
Missing data	652 (100 %)	417 (64 %)	278 (67 %)	120 (29 %)	19 (5 %)	48 (7 %)	187 (29 %)
1920–1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Concerning the age structure of emigrants, most of the young emigrants are low-skilled (72 % of the 14-17 years old and 58 % of the 18-29 years old) and—to a lesser extent—most of the oldest emigrants in the age group 60-64 years are low-skilled (40 %) (cf. Table 9). However, the group of the oldest emigrants is very small in absolute numbers (0.01 % of total emigrants).

The former relationship for the young emigrants can be explained by the fact that it needs time to acquire educational or professional attainment. Furthermore, the most numerous group of 18-29 year old low-skilled emigrants consists again mainly of low-skilled women working in the domestic service (36 %) and low-skilled men working in the primary sector (32 %). Emigrants in the age groups 30-39, 40-49, and 50-59 are mostly medium-skilled (44 %, 44 %, and 38 %) and work with 98 % almost exclusively in the secondary and in the tertiary sector. Thereby, the importance of the tertiary sector increases with age: 54 % of the 50-59 year old emigrants worked in the tertiary sector compared to 42 % of the 30-39 year old emigrants. About 83 % of medium-skilled emigrants in these three age groups are male.

Table 9: Skill level of the emigrating working population: age

Age group	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
0-5	9,538 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	9,538 (100 %)	0 (0 %)
6-13	9,293 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	9,293 (100 %)	0 (0 %)
14-17	9,701 (100 %)	6,168 (64 %)	4,423 (72 %)	1,610 (26 %)	135 (2 %)	2,276 (23 %)	1,257 (13 %)
18-29	98,103 (100 %)	83,066 (85 %)	48,025 (58 %)	31,505 (38 %)	3,536 (4 %)	7,480 (8 %)	7,557 (8 %)
30 and +	31,717 (100 %)	21,537 (68 %)	9,029 (42 %)	9,582 (44 %)	2,926 (14 %)	6,320 (20 %)	3,860 (12 %)
40 and +	11,739 (100 %)	7,654 (65 %)	2,723 (36 %)	3,345 (44 %)	1,586 (21 %)	2,408 (21 %)	1,677 (14 %)
50 and +	4,897 (100 %)	2,856 (58 %)	1,081 (38 %)	1,087 (38 %)	688 (24 %)	1,061 (22 %)	980 (20 %)
60 and +	2,740 (100 %)	708 (26 %)	281 (40 %)	241 (34 %)	186 (26 %)	1,328 (48 %)	704 (26 %)
Missing data	419 (100 %)	252 (60 %)	157 (0 %)	72 (0 %)	23 (0 %)	52 (12 %)	115 (27 %)
1920-1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

With regard to the *travel class*, we observe that most emigrants— independent of their skill level—travelled in the Third Class (cf. Table 10). In comparison, the Second and the Third Class were most frequented by low-skilled emigrants (56 % each) whereas the First Class and the Tourist Class were most frequented by medium-skilled emigrants (48 % and 50 %).

Table 10: Skill level of the emigrating working population: travel class

Travel class	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
First	3,166 (100 %)	1,856 (59 %)	324 (17 %)	896 (48 %)	636 (34 %)	662 (21 %)	648 (20 %)
Second	49,678 (100 %)	35,575 (72 %)	20,055 (56 %)	12,761 (36 %)	2,759 (8 %)	11,090 (22 %)	3,013 (6 %)
Tourist	11,349 (100 %)	6,912 (61 %)	2,278 (33 %)	3,423 (50 %)	1,211 (18 %)	2,595 (23 %)	1,842 (16 %)
Third	107,604 (100 %)	73,780 (69 %)	41,200 (56 %)	28,419 (39 %)	4,161 (6 %)	24,097 (22 %)	9,727 (9 %)
Other	28 (100 %)	14 (50 %)	1 (7 %)	7 (50 %)	6 (43 %)	4 (14 %)	10 (36 %)
Missing data	6,322 (100 %)	4,104 (65 %)	1,861 (45 %)	1,936 (47 %)	307 (7 %)	1,308 (21 %)	910 (14 %)
1920-1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Finally, we asked if and how the skill level of emigrants varies over different destinations and over different origin states and provinces. Concerning the *destinations* we will concentrate on North and South America as 121,600 working emigrants (99.5 % of the total working population) have chosen to emigrate there. In absolute terms, North America—and more specifically: the United States—have attracted the vast majority of emigrants of each of the three skill levels (cf. Table 11). However, the emigrant population to North America differs significantly from the respective emigrant population to South America. The majority of emigrants to North America is low-skilled (56 % in the United States and even 81 % in Canada). Medium-skilled emigrants

range second with 38 % of total emigrants in the United States and 17 % of total emigrants in Canada. High-skilled emigrants constitute only a minor part of the emigrant population (6 % in the United States and 3 % in Canada). This means that the frequency rate is higher the lower the skill level. In contrast, we observe an inverse u-shaped pattern in South America. Here, 53 % of total emigrants are medium-skilled. Only 31 % of total emigrants are low-skilled and a considerably high share of 16 % of total emigrants are high-skilled. This pattern holds for all Southern American countries, and is especially driven by Argentina and Brazil. Both countries attracted 95.2 % of the working population that emigrated to South America. We can conclude from this observation that emigrants choosing South America as destination were—in relative terms—higher skilled. This results from the fact that the emigrating working population to South America is on average older (an average age of 28 years in Argentina and Brazil compared an average age of 26 years in the United States), consists of a significantly higher share of males (82 % in Argentina and 85 % in Brazil compared to 64 % in the United States) and of married emigrants (31 % in Argentina and 37 % in Brazil compared to 22 % in the United States). Additionally, the distribution of emigrants over the three economic sectors is relatively similar, but the share of emigrants who worked in the domestic service is considerably lower in Argentina (8 %) and Brazil (5 %) than in the United States (22 %).

Table 11: Skill level of the emigrating working population: destinations

Destinations	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
North America	156,503 (100 %)	108,559 (69 %)	61,490 (57 %)	40,202 (37 %)	6,867 (6 %)	35,418 (33 %)	12,526 (12 %)
- USA	149,880 (100 %)	103,825 (69 %)	57,679 (56 %)	39,409 (38 %)	6,737 (6 %)	33,976 (23 %)	12,079 (8 %)
- Canada	6,623 (100 %)	4,734 (71 %)	3,811 (81 %)	793 (17 %)	130 (3 %)	1,442 (22 %)	447 (7 %)
South America	20,650 (100 %)	13,054 (63 %)	4,025 (31 %)	6,953 (53 %)	2,076 (16 %)	4,094 (31 %)	3,502 (27 %)
- Argentina	11,858 (100 %)	7,994 (67 %)	2,573 (32 %)	4,311 (54 %)	1,110 (14 %)	2,057 (17 %)	1,807 (15 %)
- Brazil	7,722 (100 %)	4,427 (57 %)	1,319 (30 %)	2,271 (51 %)	837 (19 %)	1,815 (24 %)	1,480 (19 %)
- Other	1,070 (100 %)	633 (59 %)	133 (21 %)	371 (59 %)	129 (20 %)	222 (21 %)	215 (20 %)
Central America	446 (100 %)	279 (63 %)	65 (23 %)	160 (57 %)	54 (19 %)	112 (40 %)	55 (20 %)
Australia	489 (100 %)	312 (64 %)	137 (44 %)	109 (35 %)	66 (21 %)	123 (39 %)	54 (17 %)
Asia	58 (100 %)	36 (62 %)	1 (3 %)	18 (50 %)	17 (47 %)	9 (25 %)	13 (36 %)
Africa	1 (100 %)	1 (100 %)	1 (100 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)
1920–1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (33 %)	16,150 (13 %)

Notes: The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Looking at the *origin states and provinces* within the German Reich shows that the frequency rate is higher the lower the skill level for most of the states and provinces within the German Reich (cf. Table 12). Thereby, we observe the highest shares of low-skilled emigrants from East Prussia (74 %), Hohenzollern (73 %), and Oldenburg (72 %), i.e., mostly agrarian regions. There exist seven states and provinces for which we observe an inverse u-shaped pattern with highest shares of medium-skilled emigrants: the Prussian province Saxony (60 %), the Free Hanseatic Citities of Hamburg (55 %) and Luebeck (51 %) (for which absolute emigration numbers are however relatively low), as well as the Prussian provinces Brandenburg (including Berlin), Rhineland, and Westfalia, and the Free State of Saxony (each with a share of 46 %). Apart from Hamburg and Luebeck, these regions show a comparably high level of industrialization as measured, e.g., by the number of employees in large industrial companies in 1922 (cf. Imperial Statistical Office, 1926) or the number of employees in the iron and steel industry as well as in the engineering industry in 1928 (cf. Imperial Statistical Office, 1932 and 1933).

Furthermore, the regions with the highest relative shares of high-skilled emigrants are the Free Hanseatic City of Hamburg (15 %), Brandenburg (including Berlin) (15 %), and the Free State of Anhalt (13 %). Looking additionally on the emigrating working population in absolute terms we can observe that most emigrants stem from Bavaria (20 %) and that Bavaria represents the state with most emigrants in each of the three skill groups (22 % in the low-skilled group, 18 % in the medium-skilled group, and 15 % in the high-skilled group). After Bavaria, most of the emigrants in the group of the low-skilled stem from Hannover (14 %) and Wuerttemberg (11 %), in the group of medium-skilled from Wuerttemberg (11 %) and the Rhineland (10 %), and in the group of high-skilled from the Rhineland (12 %) and Brandenburg (including Berlin) (12 %).

Table 12: Skill level of the emigrating working population: origins

Origin states/ provinces	German emigrants	Working population	Skill level of the working population			Relatives/ Retired	Missing data
			Low	Medium	High		
East Prussia	3,141 (100 %)	2,044 (65 %)	1,503 (74 %)	457 (22 %)	84 (4 %)	776 (25 %)	321 (10 %)
Brandenburg and Berlin	10,941 (100 %)	7,027 (64 %)	2,693 (38 %)	3,262 (46 %)	1,072 (15 %)	2,557 (23 %)	1,357 (12 %)
Pomerania	2,214 (100 %)	1,280 (58 %)	788 (62 %)	398 (31 %)	94 (7 %)	621 (28 %)	313 (14 %)
Grenzmark	239 (100 %)	158 (66 %)	110 (70 %)	43 (27 %)	5 (3 %)	62 (26 %)	19 (8 %)
Lower and Upper Silesia	4,278 (100 %)	2,965 (69 %)	1,588 (54 %)	1,147 (39 %)	230 (8 %)	964 (23 %)	349 (8 %)
Saxony	33 (100 %)	25 (76 %)	8 (32 %)	15 (60 %)	2 (8 %)	4 (12 %)	4 (12 %)
Schleswig-Holstein	1,384 (100 %)	917 (66 %)	551 (60 %)	299 (33 %)	67 (7 %)	337 (24 %)	130 (9 %)
Hanover	19,364 (100 %)	13,594 (70 %)	9,005 (66 %)	3,893 (29 %)	696 (5 %)	4,136 (21 %)	1,634 (8 %)
Westfalia	10,200 (100 %)	6,829 (67 %)	3,179 (47 %)	3,111 (46 %)	539 (8 %)	2,422 (24 %)	949 (9 %)
Hesse-Nassau	5,637 (100 %)	3,954 (70 %)	1,918 (49 %)	1,712 (43 %)	324 (8 %)	1,185 (21 %)	498 (9 %)
Rhineland	16,182 (100 %)	10,259 (63 %)	4,507 (44 %)	4,680 (46 %)	1,072 (10 %)	4,275 (26 %)	1,648 (10 %)
Hohenzollern	236 (100 %)	204 (86 %)	148 (73 %)	51 (25 %)	5 (2 %)	16 (7 %)	16 (7 %)
Prussia	1,364 (100 %)	880 (65 %)	410 (47 %)	403 (46 %)	67 (8 %)	292 (21 %)	192 (14 %)
Sum Prussian states	75,213 (100 %)	50,136 (67 %)	26,408 (53 %)	19,471 (39 %)	4,257 (8 %)	17,647 (23 %)	7,430 (10 %)
Bavaria	31,194 (100 %)	23,470 (75 %)	13,973 (60 %)	8,137 (35 %)	1,360 (6 %)	5,653 (18 %)	2,071 (7 %)
Saxony	13,221 (100 %)	8,332 (63 %)	3,669 (44 %)	3,823 (46 %)	840 (10 %)	3,670 (28 %)	1,219 (9 %)
Wuerttemberg	16,832 (100 %)	12,672 (75 %)	7,050 (56 %)	5,012 (40 %)	610 (5 %)	2,829 (17 %)	1,331 (8 %)
Baden	12,940 (100 %)	9,368 (72 %)	5,274 (56 %)	3,556 (38 %)	538 (6 %)	2,625 (20 %)	947 (7 %)
Thuringia	3,618 (100 %)	2,319 (64 %)	1,080 (47 %)	1,047 (45 %)	192 (8 %)	1,018 (28 %)	281 (8 %)
Hesse	2,334 (100 %)	1,550 (66 %)	820 (53 %)	603 (39 %)	127 (8 %)	556 (24 %)	228 (10 %)
Oldenburg	3,899 (100 %)	2,705 (69 %)	1,953 (72 %)	649 (24 %)	103 (4 %)	855 (22 %)	339 (9 %)
Bremen	7,212 (100 %)	4,686 (65 %)	2,240 (48 %)	2,091 (45 %)	355 (8 %)	1,833 (25 %)	693 (10 %)
Hamburg	2,458 (100 %)	1,509 (61 %)	450 (30 %)	831 (55 %)	228 (15 %)	551 (22 %)	398 (16 %)
Luebeck	102 (100 %)	49 (48 %)	19 (39 %)	25 (51 %)	5 (10 %)	36 (35 %)	17 (17 %)
Brunswick	778 (100 %)	433 (56 %)	204 (47 %)	184 (42 %)	45 (10 %)	255 (33 %)	90 (12 %)
Anhalt	1,052 (100 %)	634 (60 %)	281 (44 %)	273 (43 %)	80 (13 %)	295 (28 %)	123 (12 %)
Lippe	232 (100 %)	152 (66 %)	83 (55 %)	54 (36 %)	15 (10 %)	54 (23 %)	26 (11 %)
Mecklenburg	464 (100 %)	269 (58 %)	160 (59 %)	83 (31 %)	26 (10 %)	137 (30 %)	58 (13 %)
Waldeck	57 (100 %)	47 (82 %)	32 (68 %)	14 (30 %)	1 (2 %)	7 (12 %)	3 (5 %)
Schaumburg-Lippe	95 (100 %)	63 (66 %)	37 (59 %)	21 (33 %)	5 (8 %)	26 (27 %)	6 (6 %)
Sum other states	96,488 (100 %)	68,258 (71 %)	37,325 (55 %)	26,403 (39 %)	4,530 (7 %)	20,400 (21 %)	7,830 (8 %)
Missing data	6,446 (100 %)	3,847 (60 %)	1,986 (52 %)	1,568 (41 %)	293 (8 %)	1,709 (27 %)	890 (14 %)
1920–1932	178,147 (100 %)	122,241 (69 %)	65,719 (54 %)	47,442 (39 %)	9,080 (7 %)	39,756 (22 %)	16,150 (9 %)

Notes: Grenzmark corresponds to the Grenzmark Posen-West Prussia. Prussia includes all emigrants that indicated Prussia as their state of origin in the MAUS-dataset but no specific Prussian state. Mecklenburg includes Mecklenburg-Schwerin and Mecklenburg-Strelitz. The years 1924 and 1929 are not included. Sources: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Overall, we can conclude that the working emigrant population from Bremen is mainly low-skilled. This finding goes in line with the earlier study of Wegge (2002). However, the descriptive analysis of the MAUS-dataset for the period of the Weimar Republic allows for a much more detailed insight in the composition of the emigrant population in terms of skills. The skill level of males is higher than the skill level of females. This relationships also holds for married compared to single emigrants. The largest group of young emigrants at the age of 18–29 is mainly low-skilled whereas the older age groups of 30–59 show a significantly higher

skill level. Although most emigrants of any skill group have chosen the United States as destination, emigrants to South America are relatively higher skilled. Emigrants from rural regions in the German Reich are on average lower-skilled than emigrants from industrialized regions. We clearly observe a predominating relationship between a higher frequency rate and a lower skill level. An inverse u-shaped relationship can only be confirmed for subgroups of the emigrating working population, e.g., for emigrants leaving the German Reich in the years prior to the hyperinflation (1921–22) and in the last two years of the Weimar Republic (1931–32), or for those who stem especially from the Rhineland, Westfalia, the Free State of Saxony, and Brandenburg (including Berlin). In order to shed light on the skill selectivity of the emigrating working population further research has to compare the described skill composition to the skill composition of the non-emigrating population in the German Reich.

6 Conclusion

In this paper we study German emigration via the port of Bremen during the period of the Weimar Republic (1920–1932). In this period, German emigration increased again sharply and reached an extent that has last been observed at the end of the third wave of mass migration in the late 19th century. We use a novel micro dataset of passenger lists from the port of Bremen which besides Hamburg represented one of the two main German emigration ports.

In a first step, we examined the representativeness of the so called MAUS-dataset which includes about 181,000 German emigrants by comparing it with official port statistics from the Free Hanseatic City of Bremen. Thereby we closely followed the study of Bandiera et al. (2015) who found significant differences in the magnitude of immigration while comparing passengers lists of immigrants entering the United States between 1892 and 1924 via Ellis Island with US census data on immigration. Our analysis shows that the MAUS-dataset can be considered as a representative dataset for German emigration via Bremen between 1920 and 1932. The gap between the MAUS-dataset and official port statistics is typically very small ($< 5\%$) with regard to each characteristic of the variables gender, marital status, age, economic sector prior to emigration, chosen destination country, and state or province of origin within the German Reich. We only observe a higher gap for the variable gender in the year 1921 and for the variable marital status in the years 1920 and 1921.

A major drawback of the dataset, however, is missing data: one third of the original lists have been lost. The loss is extremely high ($> 90\%$) in 1924 and in 1929 so that both years have to be excluded from any further empirical research. Furthermore, the MAUS-dataset lacks a clear distinction between emigrants and travelers, and there exist quality restrictions due to the legibility of the hand written passenger lists and due to errors that result from the duplication of the lists.

In a second step, we analyzed the skill level of the emigrating working population between 1920 and 1932 (except 1924 and 1929) which represents about two thirds (or 122,000 individuals) of the whole sample of German emigrants. Our results show that more than half of the working population (54 %) is low-skilled, a smaller but still significant share of 39 % is medium-skilled

whereas only 7 % is high-skilled, i.e., overall, the frequency rate is higher the lower the skill level. Thereby, the skill level of female emigrants is considerably lower than the skill level of male emigrants. This finding goes in line with a lower educational attainment of females at this time as well with gender-specific occupations, e.g., that females work predominantly in domestic services in the tertiary sector. Accordingly, low-skilled emigrants are most numerous in the tertiary sector but also in the rural primary sector, whereas medium-skilled emigrants work most numerous as craftsmen and industrial workers in the secondary sector. Furthermore, the skill level increases with age and is higher for married than for single emigrants. Most emigrants of any skill group have chosen to migrate to the United States which attracted about 80 % of German emigrants and thus represented the main destination country. However, emigrants to South America are relatively higher-skilled. This means that we observe—in contrast to the United States—an inverse u-shaped pattern in South America: 53 % of German emigrants are medium-skilled, only 31 % of German emigrants are low-skilled and a considerably high share of 16 % of German emigrants is high-skilled. This result is especially driven by Argentina and Brazil which attracted about 95 % of the working population that emigrated to South America. Concerning the states or provinces of origin within the German Reich we found that emigrants from rural regions in the German Reich are on average lower-skilled than emigrants from industrialized regions. In conclusion we can state that our results provide a valid foundation for any further empirical research in the field of German emigration during the Weimar Republic as we are first in analyzing the respective representativeness of the passenger lists from the port of Bremen as well as in describing into detail the skill level of the emigrating German working population according to the individual characteristics in the MAUS-dataset.

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Appendix

Table A1: Oversea emigration of German citizens according to official statistics (1871–1939)

Year	All ports	German ports	Bremen	Share German ports/ All ports	Share Bremen/ German ports
1871	76,224	75,912	45,658	100 %	60 %
1872	128,152	124,534	66,919	97 %	54 %
1873	110,438	100,040	48,608	91 %	49 %
1874	47,671	43,536	17,907	91 %	41 %
1875	32,329	28,707	12,613	89 %	44 %
1876	29,644	23,880	10,972	81 %	46 %
1877	22,898	20,128	9,328	88 %	46 %
1878	25,627	23,241	11,329	91 %	49 %
1879	35,888	29,238	15,828	81 %	54 %
1880	117,097	94,966	51,627	81 %	54 %
1881	220,902	184,369	98,510	83 %	53 %
1882	203,585	169,216	96,116	83 %	57 %
1883	173,616	143,951	87,739	83 %	61 %
1884	149,065	126,511	75,776	85 %	60 %
1885	110,119	88,900	52,328	81 %	59 %
1886	83,225	66,647	40,224	80 %	60 %
1887	104,787	79,473	55,290	76 %	70 %
1888	103,951	80,671	52,974	78 %	66 %
1889	96,070	74,101	48,972	77 %	66 %
1890	97,103	74,820	48,080	77 %	64 %
1891	120,089	93,145	59,673	78 %	64 %
1892	116,339	90,183	59,897	78 %	66 %
1893	87,677	71,008	39,852	81 %	56 %
1894	40,964	33,566	17,269	82 %	51 %
1895	37,498	29,226	15,160	78 %	52 %
1896	33,824	25,771	12,548	76 %	49 %
1897	24,631	18,801	9,559	76 %	51 %
1898	22,221	17,173	8,826	77 %	51 %
1899	24,323	19,786	9,126	81 %	46 %
1900	22,309	16,690	9,073	75 %	54 %
1901	22,073	16,467	9,143	75 %	56 %
1902	32,098	23,530	13,960	73 %	59 %
1903	36,310	27,614	16,639	76 %	60 %
1904	27,984	22,018	14,329	79 %	65 %
1905	28,075	21,966	14,843	78 %	68 %
1906	31,074	25,474	16,653	82 %	65 %
1907	31,696	26,380	17,130	83 %	65 %
1908	19,883	16,722	10,122	84 %	61 %
1909	24,921	18,315	11,962	73 %	65 %
1910	25,531	21,409	13,931	84 %	65 %
1911	22,690	18,706	12,199	82 %	65 %
1912	18,545	13,734	7,974	74 %	58 %
1913	25,843	18,440	9,710	71 %	53 %
1914	11,803	9,224	4,281	78 %	46 %
1915	528	0	0	0 %	0 %
1916	326	0	0	0 %	0 %
1917	9	0	0	0 %	0 %
1918	0	0	0	0 %	0 %
1919	3,144	0	0	0 %	0 %
1920	8,458	869	106	10 %	0 %
1921	23,451	18,184	2,239	78 %	12 %
1922	36,527	35,887	11,964	98 %	33 %
1923	115,416	113,812	49,660	99 %	44 %
1924	58,328	56,058	21,475	96 %	38 %
1925	62,705	58,395	27,635	93 %	47 %
1926	65,280	62,033	32,134	95 %	52 %
1927	61,379	58,791	32,576	96 %	55 %
1928	57,241	55,631	31,371	97 %	56 %
1929	48,734	47,434	26,607	97 %	56 %
1930	37,399	36,382	21,526	97 %	59 %
1931	13,644	13,130	9,659	96 %	74 %
1932	10,325	10,028	4,701	97 %	47 %
1933	12,866	12,439	6,454	88 %	44 %
1934	14,232	13,576	6,244	94 %	48 %
1935	12,226	11,736	6,751	96 %	50 %
1936	15,190	14,483	5,257	96 %	52 %
1937	14,203	13,672	2,964	95 %	52 %
1938	22,986	22,076	4,237	95 %	53 %
1939	25,818	21,383	4,041	95 %	54 %
1871–1918	2,857,655	2,348,189	1,360,657	82 %	58 %
1919–1932	602,031	566,634	271,653	94 %	48 %
1933–1939	117,521	109,365	35,948	93 %	33 %
1871–1939	3,577,207	3,024,188	1,668,258	85 %	55 %

Source: Statistical Yearbooks of the Imperial Statistical Office. An exception represents the year 1920 for which emigration numbers via Bremen are only reported in the Statistical Yearbooks of the Free Hanseatic City of Bremen. The Emigration Authority of the Free Hanseatic City of Bremen reports a deviating number of 130 German emigrants for 1920 (also according to gender but without further distinction of age, destination, etc.).

Statistics of the German Reich The statistics of the German Reich were published by the Imperial Statistical Office (“Kaiserliches Statistisches Amt”, since 1918 “Statistisches Reichsamt”) which was established in 1872 right after the foundation of the German Reich in 1871. The objective of the Imperial Statistical Office was to provide statistical data that has been—for the first time—collected according to uniform criteria for the German Reich as a whole (cf. Lee, 2002). Since 1871, the Statistical Yearbooks of the German Reich included data concerning oversea emigration on the basis of port statistics (mainly from Bremen and Hamburg). Since that year, shipping companies were obliged to record emigrants in more detail—especially their full name, sex, age, previous residence, previous status and occupation, and destination. Summary statistics were sent annually to the Imperial Statistical Office. In 1871, German emigration via foreign ports has also been added after German consuls abroad were directed to provide the corresponding data (cf. Burgdoerfer, 1931).

Statistics of the Free Hanseatic City of Bremen The Free Hanseatic City of Bremen started to record emigrants via the port of Bremen in 1832. Since 1867, data of German emigrants was captured separately from data of foreign emigrants (cf. Burgdoerfer, 1931). In the same year, the State Statistical Office of Bremen (“Bureau für bremische Statistik”, since 1901 “Bremisches Statistisches Amt”, since 1921 “Statistisches Landesamt Bremen”) started to publish Statistical Yearbooks. The last yearbook before the First World War was published in 1912, the first yearbook after the First World War, however, years later in 1929 (cf. State Statistical Office of the Free Hanseatic City of Bremen, 1929). Another four yearbooks followed until 1933. The three yearbooks from 1930 to 1932 are abridged versions due to the tensed financial conditions and cost saving measures in the course of the Great Depression. The five yearbooks altogether cover the years 1920 to 1932. The only and last yearbook which was published before the Second World War (in 1937) does not contain numbers of German oversea emigrants. The first yearbook after the Second World War (from 1961) for the years 1950–1960 includes only after war numbers on emigration.

In addition to the Statistical Yearbooks, Bremen’s Emigration Authority (“Behoerde fuer das Auswanderungswesen Bremen”), which was founded in 1854, published annual reports. In the period of the Weimar Republic five subsequent reports have been published from 1927 to 1931. They cover the years 1920 to 1931 (cf. Emigration Authority of the Free Hanseatic City of Bremen, 1928 until 1931).

Table A2: Share of German emigrants over total passengers in the MAUS-dataset (1920–1939)

Year of departure	Total passengers	German passengers	German emigrants	Share German emigrants/ Total passengers
1920	2,343	161	144	6 %
1921	15,077	4,131	3,759	25 %
1922	41,365	14,283	13,236	32 %
1923	43,324	25,579	24,502	57 %
1924	1,463	633	586	40 %
1925	43,408	24,038	21,261	49 %
1926	64,412	37,639	30,725	48 %
1927	67,944	37,692	30,396	45 %
1928	57,470	31,588	23,163	40 %
1929	7,943	2,859	1,981	25 %
1930	61,566	28,717	19,312	31 %
1931	31,297	10,375	7,460	24 %
1932	30,690	9,304	4,189	14 %
1933	29,887	10,179	6,476	22 %
1934	27,829	10,997	6,031	22 %
1935	21,740	9,019	3,282	15 %
1936	17,239	6,257	1,896	11 %
1937	22,198	8,101	4,346	20 %
1938	34,058	16,351	7,283	21 %
1939	16,317	10,212	4,787	29 %
1920–1932	468,302 (73 %)	226,999 (76 %)	180,714 (84 %)	39 %
1933–1939	169,268 (27 %)	71,116 (24 %)	34,101 (16 %)	20 %
1920–1939	637,570 (100 %)	298,115 (100 %)	214,815 (100 %)	34 %

Source: Own calculations on the basis of the MAUS-dataset (DIE MAUS, 2017).

Detailed overview of the history of Bremen’s passenger lists The captain of each ship carried one copy of the passengers list to the authorities of the port of arrival. Another copy had to be submitted to the Senate of Bremen, since 1851 to the “Nachweisungsbureau für Auswanderer” (Emigration Office of the Free Hanseatic City of Bremen), which was founded by Bremen’s Chamber of Commerce (cf. DIE MAUS, 2017). All passenger lists since 1832 were stored in the archive of the Chamber of Commerce. On February 25, 1875, Bremen’s Emigration Office agreed to destroy all lists except the lists of the last three years due to the lack of space and to the lack of interest from a research perspective. It was not until the beginning of the 20th century that family research and research in social and economic history as well as in historical demography stressed the importance of the passengers lists. As a consequence, the decision to destroy the list has been revised in 1907 and the still existing lists since October 1905 and newly compiled lists were permanently stored at the Emigration Office. A duplicate was kept by the State Archives of Bremen since 1907. In addition, the police department of Bremen created own alphabetical lists of German passengers of the Third Class and the Cabin Class between 1898 and 1914. These alphabetical lists as well as the lists of the Emigration Office felt victim to a bombing raid on October 6, 1944. The passengers lists of the State Archives of Bremen for the period 1920 to 1939 were stored for their protection in a salt mine in Bernburg (Anhalt) since 1942. After the Second World War they were transported to the Soviet Union and stored in archives in Moscow. About two thirds returned to the archive of Bremen’s Chamber of Commerce in 1987 and 1990.

Immigration records for arrivals to the United States from foreign ports between 1820 and 1955 are stored on microfilm in the National Archives of the United States (cf. National Archives, 2017b). These lists are the basis of the German Emigrants Database at the Historisches Museum Bremerhaven which currently covers the years 1820-1897, 1904, and 1907 (cf. Historisches Museum Bremerhaven, 2017a). Copies of the microfilms for the years 1820 to 1906 are also available at the University of Oldenburg (cf. DAUSA, 2017).

Table A3: Destination continents and countries of German emigrants (1920–1932)

Destination	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
North America*	106 (100 %)	1,835 (82 %)	9,349 (78 %)	45,760 (92 %)	25,117 (90 %)	28,626 (88 %)	29,011 (88 %)	28,285 (89 %)	19,168 (88 %)	8,164 (83 %)	3,681 (77 %)	199,102 (87 %)
North America**	140 (97 %)	3,288 (87 %)	10,232 (77 %)	21,278 (87 %)	18,643 (88 %)	27,466 (89 %)	27,224 (90 %)	21,297 (92 %)	17,115 (89 %)	6,409 (86 %)	3,411 (81 %)	156,503 (88 %)
Gap***	-3 %	+6 %	-1 %	-5 %	-3 %	+1 %	+1 %	+3 %	+1 %	+3 %	+5 %	+1 %
- USA*	106 (100 %)	1,835 (82 %)	9,346 (78 %)	45,673 (92 %)	24,974 (90 %)	28,418 (87 %)	27,048 (82 %)	26,226 (83 %)	16,880 (77 %)	7,897 (81 %)	3,493 (73 %)	191,896 (84 %)
- USA**	140 (97 %)	3,285 (87 %)	10,222 (77 %)	21,232 (87 %)	18,534 (87 %)	27,250 (89 %)	25,285 (83 %)	19,501 (84 %)	14,973 (78 %)	6,190 (83 %)	3,268 (78 %)	149,880 (85 %)
- Gap***	-3 %	+5 %	-1 %	-5 %	-2 %	+1 %	+1 %	+1 %	0 %	+2 %	+5 %	0 %
- Canada*	0 (0 %)	0 (0 %)	3 (0 %)	87 (0 %)	143 (1 %)	208 (1 %)	1,963 (6 %)	2,059 (6 %)	2,288 (10 %)	267 (3 %)	188 (4 %)	7,206 (3 %)
- Canada**	0 (0 %)	3 (0 %)	10 (0 %)	46 (0 %)	109 (1 %)	216 (1 %)	1,939 (6 %)	1,796 (8 %)	2,142 (11 %)	219 (3 %)	143 (3 %)	6,623 (3 %)
- Gap***	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	+1 %	0 %	-1 %	0 %
Central America*	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	17 (0 %)	0 (0 %)	0 (0 %)	80 (0 %)	101 (0 %)	155 (2 %)	71 (1 %)	424 (0.3 %)
Central America**	0 (0 %)	5 (0 %)	16 (0 %)	21 (0 %)	20 (0 %)	36 (0 %)	16 (0 %)	49 (0 %)	76 (0 %)	127 (2 %)	80 (2 %)	446 (0.4 %)
Gap***	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
South America*	0 (0 %)	404 (18 %)	2,615 (22 %)	3,896 (8 %)	2,624 (9 %)	3,238 (10 %)	3,000 (9 %)	2,513 (8 %)	2,386 (11 %)	1,327 (14 %)	923 (19 %)	22,926 (12 %)
South America**	0 (0 %)	465 (12 %)	2,974 (22 %)	3,188 (13 %)	2,589 (12 %)	3,170 (10 %)	2,836 (9 %)	1,776 (8 %)	2,077 (11 %)	903 (12 %)	672 (16 %)	20,650 (11 %)
Gap***	0 %	-6 %	+1 %	+5 %	+3 %	0 %	0 %	0 %	0 %	-1 %	-3 %	0 %
- Argentina*	0 (0 %)	259 (12 %)	1,544 (13 %)	2,457 (5 %)	1,499 (5 %)	1,766 (5 %)	1,709 (5 %)	1,382 (4 %)	1,350 (6 %)	624 (6 %)	424 (9 %)	13,014 (6 %)
- Argentina**	0 (0 %)	303 (8 %)	1,799 (14 %)	2,035 (8 %)	1,426 (7 %)	1,721 (6 %)	1,666 (5 %)	979 (4 %)	1,201 (6 %)	412 (6 %)	316 (8 %)	11,858 (6 %)
- Gap***	0 %	-4 %	+1 %	+3 %	+1 %	0 %	0 %	0 %	0 %	-1 %	-1 %	0 %
- Brazil*	0 (0 %)	145 (6 %)	1,065 (9 %)	1,357 (3 %)	1,021 (4 %)	1,272 (4 %)	1,052 (3 %)	936 (3 %)	846 (4 %)	464 (5 %)	339 (7 %)	8,497 (4 %)
- Brazil**	0 (0 %)	158 (4 %)	1,152 (9 %)	1,065 (4 %)	1,014 (5 %)	1,256 (4 %)	1,012 (3 %)	701 (3 %)	766 (4 %)	345 (5 %)	253 (6 %)	7,722 (4 %)
- Gap***	0 %	-2 %	0 %	+2 %	+1 %	0 %	0 %	0 %	0 %	0 %	-1 %	0 %
- Other*	0 (0 %)	0 (0 %)	6 (0 %)	82 (0 %)	104 (0 %)	200 (1 %)	239 (1 %)	195 (1 %)	190 (1 %)	239 (2 %)	160 (3 %)	1,415 (1 %)
- Other**	0 (0 %)	4 (0 %)	23 (0 %)	88 (0 %)	149 (1 %)	193 (1 %)	158 (1 %)	96 (0 %)	110 (1 %)	146 (2 %)	103 (2 %)	1,070 (1 %)
- Gap***	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	-1 %	0 %
Africa*	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	10 (0 %)	27 (0 %)	49 (0 %)	102 (0 %)	24 (0 %)	23 (0 %)	21 (0 %)	256 (0.1 %)
Africa**	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	1 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	1 (0.0 %)
Gap***	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Asia*	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	4 (0 %)	0 (0 %)	7 (0 %)	4 (0 %)	6 (0 %)	4 (0 %)	25 (0.0 %)
Asia**	4 (3 %)	1 (0 %)	13 (0 %)	14 (0 %)	9 (0 %)	5 (0 %)	1 (0 %)	3 (0 %)	1 (0 %)	4 (0 %)	3 (0 %)	58 (0.3 %)
Gap***	+3 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Australia*	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	49 (0 %)	350 (1 %)	78 (0 %)	47 (0 %)	18 (0 %)	28 (1 %)	570 (0.2 %)
Australia**	0 (0 %)	0 (0 %)	1 (0 %)	1 (0 %)	0 (0 %)	48 (0 %)	319 (1 %)	37 (0 %)	43 (0 %)	17 (0 %)	23 (1 %)	489 (0.2 %)
Gap***	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Total (100 %)*	106	2,239	11,964	49,660	27,850	32,494	32,866	31,698	21,898	9,799	4,788	225,362
Total (100 %)**	144	3,759	13,236	24,502	21,261	30,725	30,396	23,163	19,312	7,460	4,189	178,147

Notes: The years 1924 and 1929 are not considered. Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A4: Sex of German emigrants (1920–1932)

Sex	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
Male*	34 (32 %)	1,178 (53 %)	6,143 (51 %)	27,617 (56 %)	14,339 (51 %)	18,759 (58 %)	18,887 (57 %)	16,507 (52 %)	10,954 (50 %)	4,056 (41 %)	1,745 (36 %)	120,219 (49 %)
Male**	47 (33 %)	1,656 (44 %)	6,612 (50 %)	13,682 (56 %)	10,993 (52 %)	17,656 (57 %)	17,315 (57 %)	12,210 (53 %)	9,712 (50 %)	3,040 (41 %)	1,575 (38 %)	94,498 (48 %)
Gap***	+1 %	-9 %	-1 %	0 %	0 %	0 %	-1 %	+1 %	0 %	-1 %	+1 %	-1 %
Female*	72 (68 %)	1,061 (47 %)	5,821 (49 %)	22,043 (44 %)	13,511 (49 %)	13,735 (42 %)	13,979 (43 %)	15,191 (48 %)	10,944 (50 %)	5,743 (59 %)	3,043 (64 %)	105,143 (51 %)
Female**	97 (67 %)	2,103 (56 %)	6,623 (50 %)	10,820 (44 %)	10,268 (48 %)	13,066 (43 %)	13,081 (43 %)	10,952 (47 %)	9,600 (50 %)	4,420 (59 %)	2,614 (62 %)	83,644 (52 %)
Gap***	-1 %	+9 %	+1 %	0 %	0 %	0 %	+1 %	-1 %	0 %	+1 %	-1 %	
N.a.**	0 (0 %)	0 (0 %)	1 (0 %)	0 (0 %)	0 (0 %)	3 (0 %)	0 (0 %)	1 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	5 (0 %)
Total (100 %)*	106	2,239	11,964	49,660	27,850	32,494	32,866	31,698	21,898	9,799	4,788	225,362
Total (100 %)**	144	3,759	13,236	24,502	21,261	30,725	30,396	23,163	19,312	7,460	4,189	178,147

Notes: The years 1924 and 1929 are not considered. Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A5: Marital status of German emigrants (1920–1932)

Status	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
Single*	77 (73 %)	1,618 (72 %)	8,723 (73 %)	35,683 (72 %)	20,198 (73 %)	22,881 (70 %)	23,569 (72 %)	23,441 (74 %)	14,962 (68 %)	5,321 (54 %)	2,731 (57 %)	159,204 (69 %)
Single**	89 (62 %)	2,492 (66 %)	9,034 (68 %)	16,947 (69 %)	14,800 (70 %)	20,803 (68 %)	21,153 (70 %)	16,798 (73 %)	12,823 (66 %)	3,879 (52 %)	2,188 (52 %)	121,006 (65 %)
Gap***	-11 %	-6 %	-5 %	-3 %	-3 %	-3 %	-2 %	-1 %	-2 %	-2 %	-5 %	-4 %
Married*	29 (27 %)	621 (28 %)	3,241 (27 %)	13,977 (28 %)	7,652 (27 %)	9,613 (30 %)	9,297 (28 %)	8,257 (26 %)	6,936 (32 %)	4,478 (46 %)	2,057 (43 %)	66,158 (31 %)
Married**	55 (38 %)	1,257 (33 %)	4,131 (31 %)	7,456 (30 %)	6,380 (30 %)	9,682 (32 %)	9,194 (30 %)	6,323 (27 %)	6,446 (33 %)	3,575 (48 %)	1,990 (48 %)	56,489 (35 %)
Gap***	+11 %	+6 %	+4 %	+2 %	+3 %	+2 %	+2 %	+1 %	+2 %	+2 %	+5 %	+4 %
N.a.**	0 (0 %)	10 (0 %)	71 (1 %)	99 (0 %)	81 (0 %)	240 (1 %)	49 (0 %)	42 (0 %)	43 (0 %)	6 (0 %)	11 (0 %)	652 (0 %)
Total (100 %)*	106	2,239	11,964	49,660	27,850	32,494	32,866	31,698	21,898	9,799	4,788	225,362
Total (100 %)**	144	3,759	13,236	24,502	21,261	30,725	30,396	23,163	19,312	7,460	4,189	178,147

Notes: The years 1924 and 1929 are not considered. Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A6: Age of German emigrants (1920–1932)

Age	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
0–5*	4 (4 %)	88 (4 %)	539 (5 %)	2,295 (5 %)	2,095 (8 %)	1,882 (6 %)	1,784 (5 %)	1,741 (5 %)	1,026 (5 %)	328 (3 %)	166 (3 %)	11,948 (5 %)
0–5**	6 (4 %)	119 (3 %)	560 (4 %)	1,121 (5 %)	1,619 (8 %)	1,790 (6 %)	1,709 (6 %)	1,344 (6 %)	910 (5 %)	229 (3 %)	131 (3 %)	9,538 (5 %)
Gap***	0 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
6–13*	22 (21 %)	196 (9 %)	645 (5 %)	2,371 (5 %)	1,723 (6 %)	1,675 (5 %)	1,616 (5 %)	1,757 (6 %)	1,091 (5 %)	501 (5 %)	342 (7 %)	11,939 (7 %)
6–13**	25 (17 %)	275 (7 %)	696 (5 %)	1,067 (4 %)	1,289 (6 %)	1,566 (5 %)	1,467 (5 %)	1,262 (5 %)	959 (5 %)	395 (5 %)	292 (7 %)	9,293 (5 %)
Gap***	-3 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	-1 %
14–17*	12 (11 %)	188 (8 %)	825 (7 %)	3,787 (8 %)	2,001 (7 %)	1,907 (6 %)	1,605 (5 %)	1,668 (5 %)	811 (4 %)	156 (2 %)	108 (2 %)	13,067 (6 %)
14–17**	14 (10 %)	266 (7 %)	859 (6 %)	1,653 (7 %)	1,509 (7 %)	1,828 (6 %)	1,469 (5 %)	1,172 (5 %)	738 (4 %)	114 (2 %)	79 (2 %)	9,701 (5 %)
Gap***	-1 %	-1 %	0 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
18–29*	25 (24 %)	981 (44 %)	5,978 (50 %)	27,835 (56 %)	14,808 (53 %)	18,139 (56 %)	19,214 (58 %)	18,686 (59 %)	12,546 (57 %)	4,728 (48 %)	2,104 (44 %)	125,045 (50 %)
18–29**	38 (26 %)	1,586 (42 %)	6,435 (49 %)	13,595 (55 %)	11,149 (52 %)	17,157 (56 %)	17,807 (59 %)	13,782 (60 %)	11,120 (58 %)	3,650 (49 %)	1,784 (43 %)	98,103 (50 %)
Gap***	+3 %	-2 %	-1 %	-1 %	-1 %	0 %	0 %	+1 %	0 %	+1 %	-1 %	0 %
30–39*	16 (15 %)	425 (19 %)	2,251 (19 %)	7,998 (16 %)	4,385 (16 %)	5,443 (17 %)	5,584 (17 %)	5,185 (16 %)	4,291 (20 %)	2,690 (27 %)	1,278 (27 %)	39,546 (19 %)
30–39**	19 (13 %)	726 (19 %)	2,525 (19 %)	4,261 (17 %)	3,365 (16 %)	5,099 (17 %)	5,124 (17 %)	3,713 (16 %)	3,732 (19 %)	2,039 (27 %)	1,114 (27 %)	31,717 (19 %)
Gap***	-2 %	0 %	0 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
40–49*	7 (7 %)	182 (8 %)	965 (8 %)	3,428 (7 %)	1,726 (6 %)	2,156 (7 %)	1,958 (6 %)	1,681 (5 %)	1,240 (6 %)	859 (9 %)	437 (9 %)	14,638 (7 %)
40–49**	6 (4 %)	366 (10 %)	1,223 (9 %)	1,712 (7 %)	1,384 (7 %)	2,009 (7 %)	1,817 (6 %)	1,131 (5 %)	1,069 (6 %)	627 (8 %)	395 (9 %)	11,739 (7 %)
Gap***	-2 %	+2 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
50–59*	14 (14 %)	125 (6 %)	533 (5 %)	1,362 (3 %)	696 (2 %)	870 (3 %)	737 (2 %)	702 (2 %)	594 (3 %)	341 (3 %)	209 (4 %)	6,184 (4 %)
50–59**	14 (10 %)	208 (6 %)	539 (4 %)	654 (3 %)	568 (3 %)	814 (3 %)	647 (2 %)	457 (2 %)	514 (3 %)	254 (3 %)	228 (5 %)	4,897 (4 %)
Gap***	-4 %	-1 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	0 %
60 and +*	6 (6 %)	54 (2 %)	229 (2 %)	584 (1 %)	416 (1 %)	395 (1 %)	346 (1 %)	263 (1 %)	289 (1 %)	193 (2 %)	140 (3 %)	2,914 (2 %)
60 and +**	22 (15 %)	207 (6 %)	354 (3 %)	367 (1 %)	323 (2 %)	396 (1 %)	326 (1 %)	183 (1 %)	261 (1 %)	147 (2 %)	154 (4 %)	2,740 (3 %)
Gap***	+10 %	+3 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	+1 %
N.a.*	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	27 (0 %)	22 (0 %)	15 (0 %)	10 (0 %)	3 (0 %)	4 (0 %)	81 (0 %)
N.a.**	0 (0 %)	6 (0 %)	45 (0 %)	72 (0 %)	55 (0 %)	66 (0 %)	30 (0 %)	119 (1 %)	9 (0 %)	5 (0 %)	12 (0 %)	419 (0 %)
Total (100 %)*	106	2,239	11,964	49,660	27,850	32,494	32,866	31,698	21,898	9,799	4,788	225,362
Total (100 %)**	144	3,759	13,236	24,502	21,261	30,725	30,396	23,163	19,312	7,460	4,189	178,147
Average**	31	29	27	26	25	25	25	24	26	29	30	27

Notes: The years 1924 and 1929 are not considered. Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen (aggregation of 15 different age groups to eight displayed age groups for the reason of simplification, thereby adaptation of data for 1920–1923 to the classification scheme that existed since 1924). ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A7: Travel class of German emigrants (1920–1932)

Class	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
First*									223 (1 %)	175 (2 %)	174 (4 %)	572 (2 %)
First**	37 (59 %)	175 (13 %)	386 (3 %)	602 (3 %)	361 (2 %)	411 (1 %)	307 (1 %)	204 (1 %)	253 (1 %)	134 (2 %)	296 (7 %)	3,166 (8 %)
Gap***									0 %	0 %	+3 %	
Second*									2,659 (12 %)	474 (5 %)	233 (5 %)	3,366 (7 %)
Second**	24 (38 %)	1,135 (87 %)	4,417 (36 %)	6,755 (30 %)	9,064 (44 %)	13,218 (44 %)	6,992 (23 %)	5,103 (22 %)	2,281 (12 %)	359 (5 %)	330 (8 %)	49,678 (32 %)
Gap***									0 %	0 %	+3 %	
Middle*									664 (3 %)	531 (5 %)	247 (5 %)	1,442 (5 %)
Tourist*									2,192 (10 %)	2,432 (25 %)	807 (17 %)	5,431 (17 %)
Tourist**	0 (0 %)	0 (0 %)	378 (3 %)	400 (2 %)	608 (3 %)	1,132 (4 %)	1,531 (5 %)	1,935 (8 %)	2,304 (12 %)	2,188 (29 %)	873 (21 %)	11,349 (8 %)
Gap***									+2 %	+5 %	+4 %	
Third*									16,160 (74 %)	6,187 (63 %)	3,327 (69 %)	25,674 (69 %)
Third**	2 (3 %)	0 (0 %)	7,242 (58 %)	15,084 (66 %)	10,732 (52 %)	15,396 (51 %)	21,559 (71 %)	15,907 (69 %)	14,213 (75 %)	4,779 (64 %)	2,690 (64 %)	107,604 (52 %)
Gap***									+1 %	+1 %	-5 %	
Other**	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	7 (0 %)	7 (0 %)	14 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	28 (0 %)
Total (100 %)*									21,898	9,799	4,788	225,362
Total (100 %)**	63	1,310	12,423	22,841	20,765	30,164	30,396	23,163	19,051	7,460	4,189	171,825
N.a.**	81 (56 %)	2,449 (65 %)	813 (6 %)	1,661 (7 %)	496 (2 %)	561 (2 %)	0 (0 %)	0 (0 %)	261 (1 %)	0 (0 %)	0 (0 %)	6,322 (4 %)

Notes: The years 1924 and 1929 are not considered. Calculation of percentage shares without consideration of missing data in the MAUS-dataset due to increased share of missing data, i.e. the sum of "Total (100 %)" and "N.a." (not available) represents the total number of German emigrants in the MAUS-dataset. Calculation of percentage shares for "n.a.**" as share of total emigrants in the respective year/ period (incl. missing data). Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017). The gap for the whole period 1920–1932 is not displayed as data in Statistical Yearbooks is only available since 1930 and a direct comparability is therefore not given.

Table A8: Economic sectors of German emigrants (1920–1932)

Sector	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
Employed*					17,815 (64 %)	23,037 (71 %)	24,155 (74 %)	22,940 (74 %)	15,078 (79 %)	5,753 (82 %)	2,618 (81 %)	111,396 (75 %)
Employed**	59 (54 %)	2,232 (77 %)	8,793 (78 %)	18,392 (83 %)	14,180 (72 %)	21,935 (78 %)	21,882 (77 %)	15,839 (74 %)	12,540 (73 %)	4,195 (62 %)	2,180 (60 %)	122,227 (72 %)
Gap***					+8 %	+6 %	+3 %	0 %	-6 %	-21 %	-21 %	
- Primary*					3,731 (21 %)	4,788 (21 %)	6,133 (25 %)	5,334 (23 %)	3,202 (21 %)	544 (9 %)	300 (11 %)	24,032 (19 %)
- Primary**	4 (7 %)	332 (15 %)	1,313 (15 %)	2,179 (12 %)	2,776 (20 %)	4,402 (20 %)	5,602 (26 %)	3,953 (25 %)	2,754 (22 %)	318 (8 %)	149 (7 %)	23,782 (16 %)
- Gap***					-1 %	-1 %	0 %	+2 %	+1 %	-2 %	-5 %	
- Secondary*					6,635 (37 %)	9,079 (39 %)	8,852 (37 %)	7,864 (34 %)	5,100 (34 %)	1,828 (32 %)	690 (26 %)	40,048 (34 %)
- Secondary**	17 (29 %)	678 (30 %)	2,776 (32 %)	7,317 (40 %)	4,794 (34 %)	8,322 (38 %)	7,845 (36 %)	5,466 (35 %)	4,557 (36 %)	1,385 (33 %)	589 (27 %)	43,746 (34 %)
- Gap***					-3 %	-1 %	-1 %	0 %	+3 %	+1 %	+1 %	
- Tertiary*					7,449 (42 %)	9,170 (40 %)	9,170 (38 %)	9,742 (42 %)	6,776 (45 %)	3,381 (59 %)	1,628 (62 %)	47,316 (47 %)
- Tertiary**	38 (64 %)	1,222 (55 %)	4,704 (53 %)	8,896 (48 %)	6,610 (47 %)	9,211 (42 %)	8,435 (39 %)	6,420 (41 %)	5,229 (42 %)	2,492 (59 %)	1,442 (66 %)	54,699 (51 %)
- Gap***					+5 %	+2 %	+1 %	-2 %	-3 %	+1 %	+4 %	
Relatives*					9,869 (36 %)	9,291 (29 %)	8,586 (26 %)	7,998 (26 %)	3,942 (21 %)	1,244 (18 %)	610 (19 %)	41,540 (25 %)
Relatives**	51 (46 %)	678 (23 %)	2,462 (22 %)	3,787 (17 %)	5,513 (28 %)	6,336 (22 %)	6,458 (23 %)	5,577 (26 %)	4,672 (27 %)	2,618 (38 %)	1,429 (40 %)	39,581 (28 %)
Gap***					-8 %	-6 %	-3 %	0 %	+6 %	+21 %	+21 %	
Total (100 %)*					27,684	32,328	32,741	30,938	19,020	6,997	3,228	152,936
Total (100 %)**	110	2,910	11,255	22,179	19,693	28,271	28,340	21,416	17,212	6,813	2,871	161,808
N.a.*					166 (1 %)	166 (1 %)	125 (0 %)	760 (2 %)	2,878 (13 %)	2,802 (29 %)	1,560 (33 %)	8,457 (5 %)
N.a.**	34 (24 %)	849 (23 %)	1,981 (15 %)	2,323 (9 %)	1,568 (7 %)	2,454 (8 %)	2,056 (7 %)	1,747 (8 %)	2,100 (11 %)	647 (9 %)	580 (17 %)	16,339 (9 %)

Notes: The years 1924 and 1929 are not considered. Relatives includes retired emigrants. N.a. represents “no occupation or not specified” in the Statistical Yearbooks and no occupation or missing data in the MAUS-dataset. Calculation of percentage shares without consideration of missing data due to increased share of missing data in Statistical Yearbooks and MAUS-dataset, i.e. the sum of “Total (100 %)” and “N.a.” (not available) represents the total number of German emigrants. Calculation of percentage shares for “n.a.” as share of total emigrants in the respective year/ period (incl. missing data). Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017). The gap for the whole period 1920–1932 is not displayed as data in Statistical Yearbooks is only available since 1924 and a direct comparability is therefore not given.

Definition of sectors The primary sector corresponds to the category A in the Statistical Yearbooks of the Free Hanseatic City of Bremen which includes agriculture, gardening, animal breeding, forestry, and fishing. The secondary sector corresponds to category B which includes industry, mining, and construction. For the reason of simplification we aggregate four categories to the tertiary sector: i) trade, transport, hotels, and restaurants (category C), ii) public administration, military, church, and liberal professions (category D), iii) health and social work (category E), and iv) domestic service and employment without fixed position or without indication of an affiliation to a firm (category F). Furthermore, emigrants without an occupation or without a specified occupation are by definition not assigned to one of the three economic sectors but are reported separately (category G).

Table A9: Origin states and provinces of German emigrants (1920–1932) – Part I

Origin	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
East Prussia*		43 (2 %)	176 (1 %)	579 (1 %)	641 (2 %)	519 (2 %)	572 (2 %)	629 (2 %)	454 (2 %)	178 (2 %)	127 (3 %)	3,918 (2 %)
East Prussia**	0 (0 %)	44 (1 %)	206 (2 %)	330 (1 %)	506 (2 %)	536 (2 %)	564 (2 %)	387 (2 %)	398 (2 %)	93 (1 %)	77 (2 %)	3,141 (2 %)
Gap***		-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Brandenburg*		271 (12 %)	963 (8 %)	3,171 (6 %)	1,945 (7 %)	2,210 (7 %)	1,724 (5 %)	1,702 (5 %)	1,200 (6 %)	688 (7 %)	353 (8 %)	14,227 (6 %)
Brandenburg**	20 (14 %)	397 (11 %)	1,147 (9 %)	1,644 (7 %)	1,517 (7 %)	1,980 (7 %)	1,466 (5 %)	1,011 (5 %)	1,030 (6 %)	453 (7 %)	276 (8 %)	10,941 (6 %)
Gap***		-1 %	+1 %	+1 %	0 %	0 %	0 %	-1 %	0 %	0 %	0 %	0 %
Pomerania*		60 (3 %)	278 (2 %)	884 (2 %)	621 (2 %)	450 (1 %)	300 (1 %)	294 (1 %)	182 (1 %)	77 (1 %)	33 (1 %)	3,179 (1 %)
Pomerania**	0 (0 %)	70 (2 %)	262 (2 %)	390 (2 %)	469 (2 %)	415 (1 %)	213 (1 %)	160 (1 %)	162 (1 %)	51 (1 %)	22 (1 %)	2,214 (1 %)
Gap***		-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Grenzmark*		33 (1 %)	81 (1 %)	228 (0 %)	147 (1 %)	119 (0 %)	135 (0 %)	93 (0 %)	44 (0 %)	20 (0 %)	6 (0 %)	906 (0 %)
Grenzmark**	0 (0 %)	8 (0 %)	37 (0 %)	29 (0 %)	39 (0 %)	42 (0 %)	55 (0 %)	12 (0 %)	14 (0 %)	1 (0 %)	2 (0 %)	239 (0 %)
Gap***		-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Silesia*		74 (3 %)	283 (2 %)	727 (1 %)	710 (3 %)	989 (3 %)	963 (3 %)	702 (2 %)	555 (3 %)	226 (2 %)	121 (3 %)	5,350 (2 %)
Silesia**	2 (1 %)	95 (3 %)	283 (2 %)	383 (2 %)	539 (3 %)	922 (3 %)	856 (3 %)	483 (2 %)	486 (3 %)	156 (2 %)	73 (2 %)	4,278 (2 %)
Gap***		-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Saxony*		39 (2 %)	212 (2 %)	988 (2 %)	522 (2 %)	852 (3 %)	679 (2 %)	552 (2 %)	438 (2 %)	242 (3 %)	111 (2 %)	4,635 (2 %)
Saxony**	0 (0 %)	2 (0 %)	0 (0 %)	5 (0 %)	1 (0 %)	7 (0 %)	1 (0 %)	0 (0 %)	8 (0 %)	6 (0 %)	3 (0 %)	33 (0 %)
Gap***		-2 %	-2 %	-2 %	-2 %	-3 %	-2 %	-2 %	-2 %	-2 %	-2 %	-2 %
Schl.-Holstein*		22 (1 %)	117 (1 %)	426 (1 %)	338 (1 %)	282 (1 %)	276 (1 %)	250 (1 %)	226 (1 %)	148 (2 %)	82 (2 %)	2,167 (1 %)
Schl.-Holstein**	0 (0 %)	32 (1 %)	109 (1 %)	172 (1 %)	247 (1 %)	219 (1 %)	201 (1 %)	134 (1 %)	159 (1 %)	71 (1 %)	40 (1 %)	1,384 (1 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	-1 %	0 %
Hanover*		261 (12 %)	1,727 (14 %)	7,494 (15 %)	3,561 (13 %)	3,024 (9 %)	3,636 (11 %)	3,106 (10 %)	2,066 (10 %)	1,165 (12 %)	544 (12 %)	26,584 (12 %)
Hanover**	24 (17 %)	427 (12 %)	1,743 (14 %)	3,253 (14 %)	2,691 (13 %)	2,815 (9 %)	3,264 (11 %)	2,289 (10 %)	1,639 (9 %)	833 (12 %)	386 (11 %)	19,364 (11 %)
Gap***		+1 %	-1 %	-1 %	0 %	0 %	0 %	+1 %	-1 %	0 %	0 %	-1 %
Westfalia*		135 (6 %)	824 (7 %)	3,356 (7 %)	1,757 (6 %)	1,946 (6 %)	2,022 (6 %)	1,653 (5 %)	1,108 (5 %)	486 (5 %)	247 (5 %)	13,534 (6 %)
Westfalia**	1 (1 %)	171 (5 %)	810 (6 %)	1,577 (7 %)	1,390 (7 %)	1,804 (6 %)	1,828 (6 %)	1,205 (5 %)	953 (5 %)	311 (5 %)	150 (4 %)	10,200 (6 %)
Gap***		-1 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	-1 %	0 %
Hesse-Nassau*		68 (3 %)	276 (2 %)	1,596 (3 %)	1,041 (4 %)	1,150 (4 %)	1,153 (4 %)	1,028 (3 %)	629 (3 %)	336 (3 %)	158 (3 %)	7,435 (3 %)
Hesse-Nassau**	2 (1 %)	109 (3 %)	309 (2 %)	726 (3 %)	761 (4 %)	1,132 (4 %)	1,055 (4 %)	697 (3 %)	519 (3 %)	211 (3 %)	116 (3 %)	5,637 (3 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Rhineland*		163 (7 %)	796 (7 %)	3,782 (8 %)	1,998 (7 %)	3,324 (10 %)	3,356 (10 %)	3,393 (11 %)	2,595 (12 %)	975 (10 %)	437 (9 %)	20,819 (9 %)
Rhineland**	1 (1 %)	217 (6 %)	825 (6 %)	1,789 (8 %)	1,526 (7 %)	3,119 (10 %)	3,047 (10 %)	2,318 (11 %)	2,293 (12 %)	701 (11 %)	346 (10 %)	16,182 (9 %)
Gap***		-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	0 %
Hohenzollern*		4 (0 %)	17 (0 %)	86 (0 %)	40 (0 %)	49 (0 %)	66 (0 %)	45 (0 %)	51 (0 %)	23 (0 %)	7 (0 %)	388 (0 %)
Hohenzollern**	0 (0 %)	4 (0 %)	16 (0 %)	38 (0 %)	16 (0 %)	33 (0 %)	51 (0 %)	25 (0 %)	38 (0 %)	10 (0 %)	5 (0 %)	236 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Prussia**	14 (10 %)	175 (5 %)	357 (3 %)	214 (1 %)	39 (0 %)	55 (0 %)	211 (1 %)	233 (1 %)	33 (0 %)	22 (0 %)	11 (0 %)	1,364 (1 %)
Sum Prussia*		1,173 (52 %)	5,750 (48 %)	23,317 (47 %)	13,321 (48 %)	14,914 (46 %)	14,882 (46 %)	13,447 (43 %)	9,548 (44 %)	4,564 (47 %)	2,226 (47 %)	103,142 (46 %)
Sum Prussia**	64 (45 %)	1,751 (50 %)	6,104 (48 %)	10,550 (45 %)	9,741 (46 %)	13,079 (43 %)	12,812 (43 %)	8,954 (41 %)	7,732 (42 %)	2,919 (44 %)	1,507 (43 %)	75,213 (44 %)
Gap***		-2 %	0 %	-2 %	-2 %	-3 %	-3 %	-2 %	-2 %	-3 %	-4 %	-2 %

Notes: The years 1924 and 1929 are not considered. Brandenburg includes Berlin. Grenzmark corresponds to the Grenzmark Posen-West Prussia. Silesia includes Lower and Upper Silesia. Schl.-Holstein is the abbreviation for Schleswig-Holstein. Prussia** includes all emigrants that indicated Prussia as their state of origin in the MAUS-dataset but no specific Prussian state. Source: * Statistical Yearbooks of the Free Hanseatic City of Bremen (data for 1920 not available). ** MAUS-dataset. *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A10: Origin states and provinces of German emigrants (1920–1932) – Part II

Origin	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
Bavaria*		320 (14 %)	2,007 (17 %)	7,744 (16 %)	4,135 (15 %)	5,825 (18 %)	6,487 (20 %)	7,072 (23 %)	4,187 (19 %)	1,604 (17 %)	743 (16 %)	40,124 (18 %)
Bavaria**	13 (9 %)	462 (13 %)	2,111 (16 %)	3,716 (16 %)	3,116 (15 %)	5,730 (19 %)	5,898 (20 %)	4,861 (22 %)	3,631 (20 %)	1,119 (17 %)	537 (15 %)	31,194 (18 %)
Gap***		-1 %	0 %	0 %	0 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %
Saxony*		202 (9 %)	861 (7 %)	3,007 (6 %)	1,653 (6 %)	2,433 (8 %)	1,640 (5 %)	1,471 (5 %)	1,192 (6 %)	503 (5 %)	316 (7 %)	13,278 (6 %)
Saxony**	31 (22 %)	373 (11 %)	1,107 (9 %)	1,845 (8 %)	1,593 (8 %)	2,951 (10 %)	1,990 (7 %)	1,306 (6 %)	1,287 (7 %)	461 (7 %)	277 (8 %)	13,221 (8 %)
Gap***		+2 %	+1 %	+2 %	+2 %	+2 %	+2 %	+1 %	+1 %	+2 %	+1 %	+2 %
Wuerttemberg*		187 (8 %)	995 (8 %)	5,659 (11 %)	2,573 (9 %)	2,466 (8 %)	3,081 (9 %)	2,802 (9 %)	2,059 (10 %)	892 (9 %)	430 (9 %)	21,144 (9 %)
Wuerttemberg**	4 (3 %)	261 (7 %)	1,000 (8 %)	2,761 (12 %)	1,969 (9 %)	2,435 (8 %)	3,172 (11 %)	2,236 (10 %)	1,967 (11 %)	665 (10 %)	362 (10 %)	16,832 (10 %)
Gap***		-1 %	-1 %	0 %	0 %	0 %	+1 %	+1 %	+1 %	+1 %	+1 %	0 %
Baden*		77 (3 %)	724 (6 %)	3,367 (7 %)	2,150 (8 %)	2,361 (7 %)	2,611 (8 %)	2,673 (9 %)	1,853 (9 %)	724 (7 %)	314 (7 %)	16,854 (8 %)
Baden**	1 (1 %)	126 (4 %)	769 (6 %)	1,538 (7 %)	1,654 (8 %)	2,186 (7 %)	2,364 (8 %)	1,923 (9 %)	1,602 (9 %)	534 (8 %)	243 (7 %)	12,940 (8 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	0 %	0 %
Thuringia*		37 (2 %)	219 (2 %)	979 (2 %)	592 (2 %)	822 (3 %)	606 (2 %)	650 (2 %)	568 (3 %)	201 (2 %)	95 (2 %)	4,769 (2 %)
Thuringia**	6 (4 %)	71 (2 %)	218 (2 %)	395 (2 %)	447 (2 %)	724 (2 %)	573 (2 %)	466 (2 %)	494 (3 %)	160 (2 %)	64 (2 %)	3,618 (2 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Hesse*		23 (1 %)	225 (2 %)	847 (2 %)	448 (2 %)	626 (2 %)	526 (2 %)	463 (1 %)	335 (2 %)	133 (1 %)	66 (1 %)	3,692 (2 %)
Hesse**	2 (1 %)	36 (1 %)	175 (1 %)	282 (1 %)	324 (2 %)	467 (2 %)	384 (1 %)	289 (1 %)	255 (1 %)	76 (1 %)	44 (1 %)	2,334 (1 %)
Gap***		0 %	-1 %	-1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Oldenburg*		61 (3 %)	272 (2 %)	1,130 (2 %)	781 (3 %)	668 (2 %)	624 (2 %)	854 (3 %)	469 (2 %)	176 (2 %)	91 (2 %)	5,126 (2 %)
Oldenburg**	2 (1 %)	85 (2 %)	284 (2 %)	524 (2 %)	593 (3 %)	613 (2 %)	560 (2 %)	612 (3 %)	417 (2 %)	139 (2 %)	70 (2 %)	3,899 (2 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Bremen*		75 (3 %)	531 (4 %)	2,410 (5 %)	1,255 (5 %)	1,201 (4 %)	1,245 (4 %)	1,107 (4 %)	759 (4 %)	507 (5 %)	218 (5 %)	9,308 (4 %)
Bremen**	12 (8 %)	179 (5 %)	636 (5 %)	1,174 (5 %)	969 (5 %)	1,104 (4 %)	1,177 (4 %)	787 (4 %)	623 (3 %)	340 (5 %)	211 (6 %)	7,212 (4 %)
Gap***		+2 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	+1 %	0 %
Hamburg*		13 (1 %)	159 (1 %)	551 (1 %)	276 (1 %)	400 (1 %)	433 (1 %)	422 (1 %)	279 (1 %)	209 (2 %)	142 (3 %)	2,884 (1 %)
Hamburg**	4 (3 %)	50 (1 %)	193 (2 %)	313 (1 %)	327 (2 %)	403 (1 %)	391 (1 %)	253 (1 %)	232 (1 %)	162 (2 %)	130 (4 %)	2,458 (1 %)
Gap***		+1 %	0 %	0 %	+1 %	0 %	0 %	0 %	0 %	0 %	+1 %	0 %
Luebeck*		0 (0 %)	18 (0 %)	35 (0 %)	47 (0 %)	17 (0 %)	16 (0 %)	18 (0 %)	16 (0 %)	3 (0 %)	8 (0 %)	178 (0 %)
Luebeck**	0 (0 %)	2 (0 %)	12 (0 %)	13 (0 %)	23 (0 %)	17 (0 %)	13 (0 %)	7 (0 %)	9 (0 %)	2 (0 %)	4 (0 %)	102 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Brunswick*		16 (1 %)	46 (0 %)	217 (0 %)	153 (1 %)	134 (0 %)	206 (1 %)	157 (1 %)	93 (0 %)	53 (1 %)	26 (1 %)	1,101 (0 %)
Brunswick**	0 (0 %)	22 (1 %)	41 (0 %)	121 (1 %)	102 (0 %)	108 (0 %)	163 (1 %)	110 (1 %)	66 (0 %)	34 (1 %)	11 (0 %)	778 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Anhalt*		13 (1 %)	37 (0 %)	105 (0 %)	85 (0 %)	80 (0 %)	89 (0 %)	78 (0 %)	49 (0 %)	38 (0 %)	7 (0 %)	581 (0 %)
Anhalt**	3 (2 %)	24 (1 %)	76 (1 %)	168 (1 %)	163 (1 %)	263 (1 %)	191 (1 %)	70 (0 %)	54 (0 %)	33 (0 %)	7 (0 %)	1,052 (1 %)
Gap***		0 %	0 %	+1 %	0 %	+1 %	0 %	0 %	0 %	0 %	0 %	0 %
Lippe*		5 (0 %)	17 (0 %)	99 (0 %)	47 (0 %)	39 (0 %)	30 (0 %)	53 (0 %)	26 (0 %)	9 (0 %)	6 (0 %)	331 (0 %)
Lippe**	0 (0 %)	6 (0 %)	14 (0 %)	39 (0 %)	42 (0 %)	34 (0 %)	25 (0 %)	37 (0 %)	24 (0 %)	8 (0 %)	3 (0 %)	232 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Mecklenburg*		34 (2 %)	87 (1 %)	149 (0 %)	82 (0 %)	63 (0 %)	55 (0 %)	65 (0 %)	59 (0 %)	26 (0 %)	9 (0 %)	629 (0 %)
Mecklenburg**	0 (0 %)	37 (1 %)	76 (1 %)	68 (0 %)	71 (0 %)	58 (0 %)	49 (0 %)	31 (0 %)	54 (0 %)	13 (0 %)	7 (0 %)	464 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

Notes: The years 1924 and 1929 are not considered. Mecklenburg includes Mecklenburg-Schwerin and Mecklenburg-Strelitz. Sources: * Statistical Yearbooks of the Free Hanseatic City of Bremen (data for 1920 not available). ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Table A11: Origin states and provinces of German emigrants (1920–1932) – Part III

Origin	1920	1921	1922	1923	1925	1926	1927	1928	1930	1931	1932	1920–1932
Waldeck*		2 (0 %)	5 (0 %)	15 (0 %)	19 (0 %)	10 (0 %)	28 (0 %)	10 (0 %)	10 (0 %)	8 (0 %)	0 (0 %)	107 (0 %)
Waldeck**	0 (0 %)	5 (0 %)	5 (0 %)	0 (0 %)	14 (0 %)	6 (0 %)	20 (0 %)	7 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	57 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Sch.-Lippe*		1 (0 %)	11 (0 %)	29 (0 %)	18 (0 %)	26 (0 %)	17 (0 %)	20 (0 %)	11 (0 %)	7 (0 %)	1 (0 %)	141 (0 %)
Sch.-Lippe**	0 (0 %)	1 (0 %)	10 (0 %)	7 (0 %)	7 (0 %)	25 (0 %)	17 (0 %)	18 (0 %)	7 (0 %)	2 (0 %)	1 (0 %)	95 (0 %)
Gap***		0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Sum other*		1,066 (48 %)	6,214 (52 %)	26,343 (53 %)	14,314 (52 %)	17,171 (54 %)	17,694 (54 %)	17,915 (57 %)	11,965 (56 %)	5,093 (53 %)	2,472 (53 %)	120,247 (54 %)
Sum other**	78 (55 %)	1,740 (50 %)	6,727 (52 %)	12,964 (55 %)	11,414 (54 %)	17,124 (57 %)	16,987 (57 %)	13,013 (59 %)	10,722 (58 %)	3,748 (56 %)	1,971 (57 %)	96,488 (56 %)
Gap***		+2 %	0 %	+2 %	+2 %	+3 %	+3 %	+2 %	+2 %	+3 %	+4 %	+2 %
Total (100 %)*		2,239	11,964	49,660	27,635	32,085	32,576	31,362	21,513	9,657	4,698	223,389
Total (100 %)**	142	3,491	12,831	23,514	21,155	30,203	29,799	21,967	18,454	6,66	3,478	171,701
N.a.*		0 (0 %)	0 (0 %)	0 (0 %)	0 (0 %)	49 (0 %)	0 (0 %)	9 (0 %)	13 (0 %)	2 (0 %)	3 (0 %)	76 (0 %)
N.a.**	2 (1 %)	268 (7 %)	405 (3 %)	988 (4 %)	106 (0 %)	522 (2 %)	597 (2 %)	1,196 (5 %)	858 (4 %)	793 (11 %)	711 (17 %)	6,446 (4 %)
Abroad*		0 (0 %)	0 (0 %)	0 (0 %)	215 (1 %)	360 (1 %)	290 (1 %)	327 (1 %)	372 (2 %)	140 (1 %)	87 (2 %)	1,791 (1 %)

Notes: The years 1924 and 1929 are not considered. Sch.-Lippe is the abbreviation for Schaumburg Lippe. Calculation of percentage shares without consideration of missing data due to increased share of missing data in the MAUS-dataset, i.e. the sum of “Total (100 %)”, “N.a.” (not available data) and “Abroad” (Germans living abroad) represents the total number of German emigrants in the Statistical Yearbooks. The sum of “Total (100 %)” and “N.a.” (not available) represents the total number of German emigrants in the MAUS-dataset. Calculation of percentage shares for “n.a.” as share of total emigrants in the respective year/ period (incl. missing data and abroad). Sources: * Statistical Yearbooks of the Free Hanseatic City of Bremen (data for 1920 not available. ** MAUS-dataset (N.a.: missing data). *** Gap between Statistical Yearbooks and MAUS-dataset (DIE MAUS, 2017).

Definition of states and provinces The Free State of Prussia includes the provinces East Prussia, Brandenburg (including the city of Berlin), Pomerania, Lower Silesia, Upper Silesia, Saxony, Schleswig-Holstein, Hanover, Westfalia, Hesse-Nassau, and Rhineland, additionally the Grenzmark Posen-West Prussia and Hohenzollern. To all remaining states belong Bavaria, Saxony, Wuerttemberg, Baden, Thuringia, Hesse, Oldenburg, Brunswick, Anhalt, Lippe, Mecklenburg-Schwerin, Mecklenburg-Strelitz, Waldeck, and Schaumburg-Lippe as well as the Free Hanseatic Cities Bremen, Hamburg, and Luebeck. Emigrants of German nationality who live abroad are also reported in official statistics but only account for about 1 % of all German emigrants in the period 1920–1932. They are included in all other variables (gender, age, destination, etc.) and can – in these variables – not be separated from Germans who lived in the territory of the German Reich. This represents a gap which – although being very minor – cannot be corrected for. The MAUS-dataset includes a much higher share of Germans living abroad which are most probably travelers and are therefore dropped from the dataset.