How Do Immigrants Respond to Discrimination? The Case of Germans in the US during World War I

Online Appendix

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December 2018

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Contents

A Data construction

A.1 Foreign Name Index

The Foreign Name Index (FNI) measures the frequency of a name within an ethnic group relative to its frequency in the population at large. It is computed as follows:

$$FNI_{name,n,c} = \frac{Pr(name|I_{n,c})}{Pr(name|I_{n,c}) + Pr(name|I_{N\setminus n,c})} * 100$$

where n indexes nationalities, c indexes birth cohorts, and I is an indicator for individuals of a given nationality and birth cohort. Thus $I_{N\setminus n,c}$ indicates individuals of nationalities other than n. For example, in the case of Germans, the FNI becomes:

$$FNI_{name,German,c} = \frac{Pr(name|German_c)}{Pr(name|German_c) + Pr(name|non-German_c)} * 100$$

A value of zero implies that a name is never found among individuals of German origin, while a value of 100 implies instead that a name is never encountered among non-Germans. The non-German group includes both other immigrants (first and second generation) and natives. I use individual-level data from the newly digitized complete-count 1930 census to compute the FNI of men with a German-born father who were born in the US between 1880 and 1930. For each year of birth c, the information used for the computation of the index comes only from people born before that year. The aim is to capture what parents perceived as a German name when they made their naming decisions, without contamination from changes in naming patterns in later generations.

A.2 Name Americanization

For each immigrant i in the naturalization documents of the Illinois and Pennsylvania courts, the Americanization Index (AMI) is computed as:

$$AMI_{ic} = \frac{S_{ic}}{\max(S_{1c}, ..., S_{Kc})}$$

where

$$S_{ic} = \sum_k \mathbb{1}(Name_i = Name_k)$$

The numerator denotes the number of native-born Americans who have the same name as immigrant i in the 1920 and 1930 1% census samples from IPUMS, and the denominator denotes the maximum frequency of a first name among the US-born in 1920 and 1930.[1] The index is bounded between zero and one, with higher values denoting more American

[1] Unlike the case of the FNI, the denominator here does not include the foreign-born.

names. The subscript c denotes a birth cohort. As with the FNI, I compute the AMI using information on names of individuals born before the year a declaration was filed, to capture what immigrants perceived to be an American name at the time they filed their first papers.

I use the AMI instead of the FNI to assess name Americanization, because this index better captures conformity with American naming norms. An additional reason to use this frequency-based index instead of the FNI is because many immigrant names in the naturalization data never appear in the census. Although I assign the AMI a zero value for those names, their respective FNI is missing. Intuitively, a name cannot be distinctive of any nationality if neither immigrants nor natives in the census have that name. Any results reported using the AMI are similar when the FNI is used instead but are often insignificant because the number of observations is substantially lower in the latter case.

I construct the AMI both on the basis of the immigrant's actual name and the name's Soundex phonetic equivalent. The declaration and petition documents were often filled out by a clerk and not by the immigrant herself.[2] At the same time, the certificates of arrival were filled out based on the passenger lists of the ship the immigrant arrived on, so – unless the ship departed from a country other than the immigrant's origin country, as was often the case – they should contain fewer misspelled names. These features may make for a mechanical increase in the AMI between certificate and declaration. The use of the Soundex is meant to deal with that problem. In practice, its use makes little difference in the regressions, because there is no reason why the tendency of clerks to Americanize immigrants' names should have increased differentially for Germans after 1917.

A.3 Support for Woodrow Wilson in the 1916 presidential election

Instead of vote shares, which, apart from German-specific negative attitudes, also capture broader partisan divisions across states, I use a measure that captures the increase in the vote share for Woodrow Wilson between 1912 and 1916. This is constructed as follows:

$$Wilson_s = \frac{1 - W_s^{12}}{1 - W_s^{16}}$$

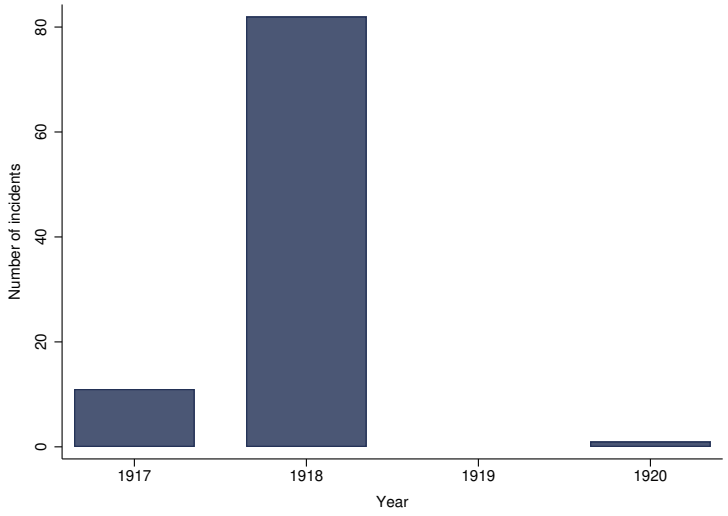
where W_s^{12} is a state-level vote share for Wilson in the presidential election of 1912 and W_s^{16} is the respective vote share in the election of 1916. Data is from the United States Historical Election Returns series distributed by ICPSR (ICPSR 1994). While this measure is similar to the simple difference in vote shares between 1912 and 1916, it disproportionately weighs increases in states that registered a higher initial support for Wilson. This accounts for the fact that any given increase in the vote share in percentage point terms is harder to

[2] In a 1921 congressional hearing, MR J.C.F. Gordon, chief naturalization examiner in the third district of Philadelphia, states: *"...in my office...We give the alien all the assistance possible, filling out his papers for him and properly advising him... ."*

achieve when a state starts from an already high initial vote share. I assign this measure to individuals based on their state of birth.

A.4 Anti-German violence

Figure A.1. Harassment incidents against Germans, by year



Notes: The figure depicts the number of incidents resulting from a search in Newspapers.com for the terms "German" and "kiss the flag" or "tar and feather" in 1914 or later.

To compile a list of incidents of harassment against Germans, I use ProQuest's Historical Newspapers archive and search for articles appearing after 1914 that contain the keywords "German" and "kiss the flag" or "tar and feather." Tarring and feathering or forcing someone to kiss the American flag in public were two of the most common forms of violence exercised by mobs against foreign nationals who refused to buy liberty bonds or were otherwise suspected of disloyalty. I find mentions of 96 distinct such incidents between 1917 and 1918, in both high-circulation newspapers such as the New York Times and in local press. Figure A.1 shows the frequency of these incidents over time. There are no cases of anti-German violence reported before 1917 – this validates the breaks observed in 1917 for naming patterns and petitions and lends support to the decision to use 1917 as the treatment year in all regressions. The pattern further accords with observations of historians that the most pronounced increase in anti-Germanism – the so-called "hysteria" of 1917 and 1918 – did not happen until the US officially entered WWI (Wittke 1936).

B Descriptive statistics

Table B.1 presents summary statistics for the dataset of second-generation German men.

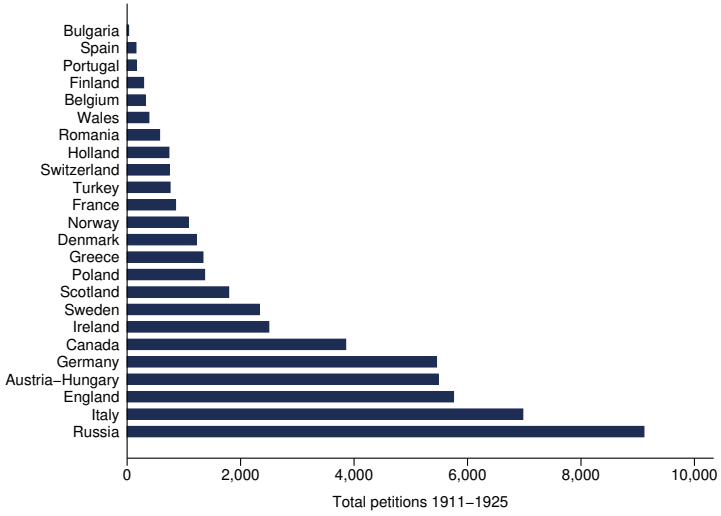
Table B.1. Summary statistics: 1930 census

	Mean	S.D.	N
FNI	57.277	20.607	1,577,790
One parent German	0.407	0.491	1,577,790
Father US citizen	0.234	0.423	1,566,047
Years of father in US	18.425	12.829	434,374
Mother US citizen	0.215	0.411	1,021,327
Years of mother in US	12.790	12.066	276,998

Notes: The table reports summary statistics for men with a German-born father who were born in the US between 1880 and 1930. Data are from the complete-count 1930 census.

Figure B.1 shows the total numbers of petitions in the Ancestry.com collections by nationality for the entire 1911-1925 period.

Figure B.1. Petitions for naturalization by nationality, 1911-1925



Notes: Records digitized by Ancestry.com for the states of California, Maryland, Pennsylvania, and Virginia.

Figure B.2 plots counts of naturalization documents from the Illinois and Pennsylvania district court collections over time, and Table B.2 presents summary statistics for those immigrants for whom both a declaration of intention and a petition for naturalization are found in the court records.

Figure B.2. Naturalization documents from the Pennsylvania and Illinois district courts

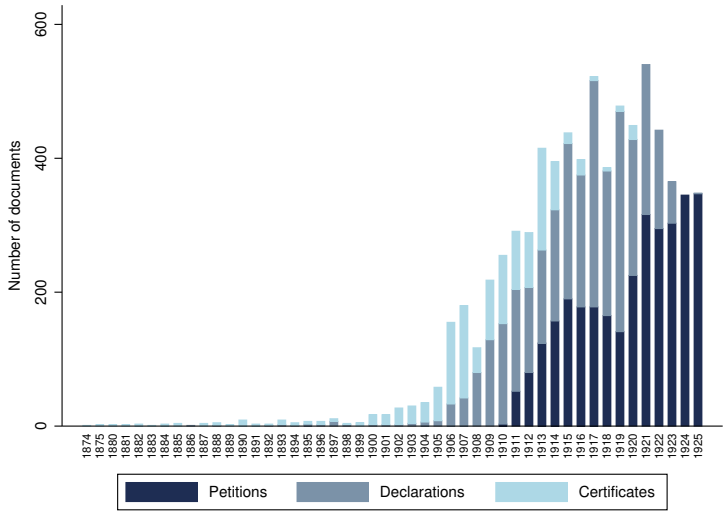


Table B.2. Summary statistics: Illinois and Pennsylvania naturalization documents

	Mean	S.D.	N
Years in the US at declaration	10.138	7.301	2528
Age at declaration	32.207	9.103	2287
Years between declaration and petition	3.879	1.701	2527
Log AMI at arrival	-7.170	3.595	1464
Log AMI at declaration	-4.689	3.553	2532

Notes: The table reports summary statistics for immigrants who filed a declaration of intention between 1911 and 1923 in the Northern Illinois and Eastern Pennsylvania district courts.

Table B.3 compares the characteristics of Germans in the states used in the analysis of naturalization petitions (California, Maryland, Pennsylvania and Virginia, searchable in Ancestry.com), and name Americanization (Illinois and Pennsylvania). The differences between the first subset of states and the rest are in all cases smaller than 0.09 standard deviations of the national mean. In the case of Pennsylvania and Illinois, differences are even smaller – in no case larger than 0.07 of a standard deviation of the US mean.

Table B.3. Characteristics of Germans in subset of states with naturalization records

	US	Ancestry	IL/PA	Diff. Ancestry-others	Diff. IL/PA-others
Age	47.06	46.566	46.277	-0.564	-0.984
	(16.783)	(16.902)	(16.869)	(0.0321)	(0.0263)
Years in the US	27.487	26.674	26.752	-0.928	-0.923
	(15.067)	(15.589)	(14.999)	(0.0288)	(0.0236)
Naturalized	0.796	0.767	0.814	-0.0328	0.0234
	(0.403)	(0.423)	(0.389)	(0.00108)	(0.000893)
Speaks English	0.871	0.897	0.86	0.0296	-0.0129
	(0.335)	(0.304)	(0.346)	(0.000645)	(0.000528)
Literate	0.947	0.951	0.941	0.00499	-0.00695
	(0.224)	(0.216)	(0.235)	(0.000432)	(0.000354)
Occ. income score	10.944	11.503	10.787	0.638	-0.197
	(13.841)	(14.260)	(13.945)	(0.0265)	(0.0217)
Observations	2,505,649	312,799	513,433	2,505,649	2,505,649

Notes: The table reports means, differences in means and standard deviations (in parentheses) for a number of characteristics of German-born individuals by state of residence. Data is from the complete-count 1910 US Census.

C Analysis with naturalization rates

Naturalization petitions are a better proxy of assimilation effort than actual naturalization rates. The decision to file a petition was made by the immigrant, while the outcome of the citizenship application depended partly on the court. One may be worried that in a period of widespread suspicion against Germans, there may have been differential treatment of petitions filed by German nationals compared to those filed by other groups. If this was the case, naturalization rates may have not increased, or may have even decreased during and after the war. Here, I examine to what extent this was indeed the case by comparing results using naturalization rates to those obtained using petitions.

Figure C.1. Share of Germans among naturalized immigrants, by year of naturalization

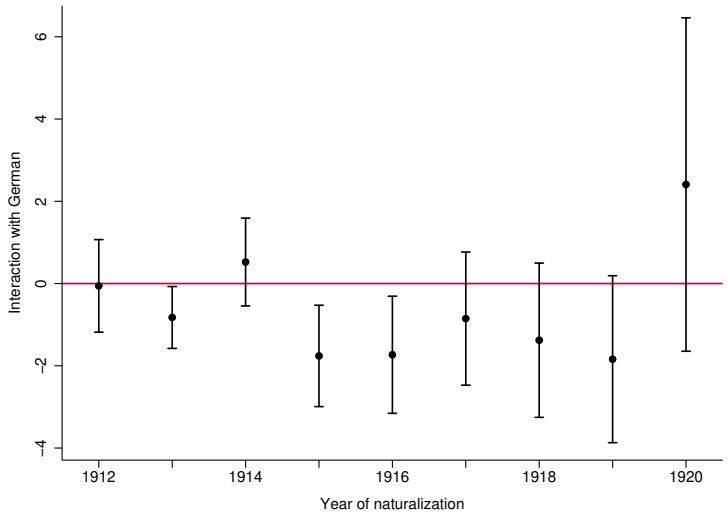
Notes: Data is from the 1920 1% IPUMS sample.

The 1920 1% IPUMS sample records the year of naturalization for immigrants who had acquired the US citizenship.[3] I use this information to examine whether Germans were over-represented among the naturalized during the war years. Figure C.1 plots the raw data for the period 1900–1920. It depicts the share of Germans among all immigrants who naturalized in a given year. There is a steady downward trend, with Germans representing a decreasing portion of the total number of naturalized immigrants during the period. The trend is reversed

[3]This variable is not recorded in 1930, and is not yet available for the 1920 complete-count census.

in 1919, with the share of German naturalizations returning to its 1910 level in 1920.

Figure C.2. Evolution of German naturalization rates



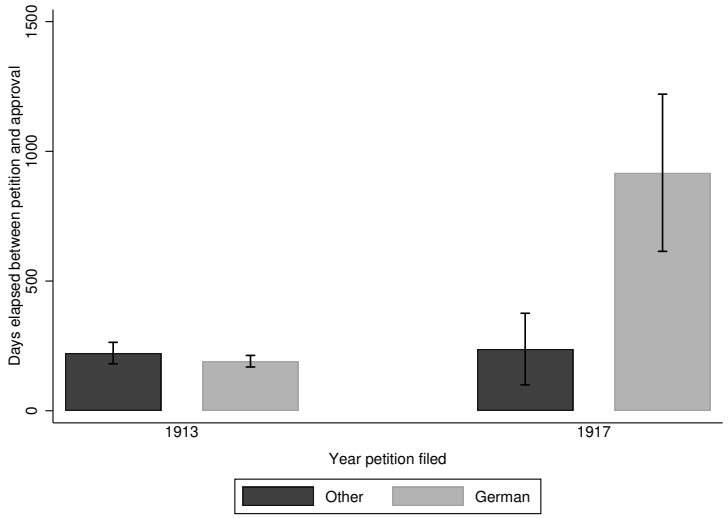
Notes: The figure reports coefficient estimates and 90% confidence intervals from a regression of the total number of naturalized citizens by nationality-year-state cell on nationality, year, and state fixed effects and interactions of year indicators with a dummy for German nationality. Data is from the 1920 1% IPUMS sample.

Next, I investigate this pattern more formally. Figure C.2 is a replication of Figure 4 using the number of actual naturalizations, instead of the number of petitions, as a dependent variable. Each point estimate is the year-specific difference in naturalizations between German and non-German immigrants. Naturalizations seem to follow a different pattern compared to petitions. There is a relative drop in the number of naturalized Germans in 1915 that lasts until 1919. 1920 registers a large, albeit insignificant increase in the number of German naturalizations, consistent with the pattern observed in the raw data. A possible interpretation of the results relies exactly on the difference between an equilibrium measure of assimilation (naturalization rates) and a measure of assimilation effort (naturalization petitions). The former seems to respond negatively to wartime anti-Germanism, while the latter in fact increases. The uptick in 1920 may reflect the alignment of the two measures once wartime discrimination against Germans had subsided.

To investigate whether this is indeed the case, and better understand what causes the lag between naturalization petitions and actual naturalizations observed in the data, I turn to the dataset of naturalization records from Pennsylvania and Illinois. I pick a random sample of 30 records filed in 1913, one year prior to the start of WWI, and 30 records filed in 1917,

when the US entered the war. For this random sample, I transcribe the date of petition and the date of its approval, as well as the nationality of the immigrant. 2 records have no approval stamp, so I discard those. For the remaining 58 records, I compute the number of days elapsed between petition and approval, and plot these patterns by nationality and year of petition in Figure C.3.

Figure C.3. Delay in the processing of naturalization petitions, Germans vs others



Notes: The figure plots the average number of days elapsed between the filing of a naturalization petition and the date of official naturalization, in a sample of 58 randomly chosen records from the dataset of naturalization documents of the Northern Illinois and Eastern Pennsylvania district courts.

The pattern revealed by the figure is stark. In 1913, immigrants who filed a petition had to wait 3 months on average before the latter was approved. While this does not change for other immigrant nationalities in 1917, the time elapsed between petition and approval jumps to 2 years for Germans. Of the 5 Germans observed filing a petition in 1917, one had the petition approved in 1918, three in 1919 and one in 1920. All other immigrants who filed a petition in that year had it approved in the same year, with the exception of two nationals of Austria-Hungary who also had to wait until 1920. The lag between petition and approval observed in this dataset corresponds exactly to the difference in the timing of increase between aggregate numbers of petitions and naturalizations. The most likely explanation for the pattern is differential treatment of Germans by the courts, which could have been part of

official policy.[4]

[4]As enemy aliens Germans could not generally become naturalized in 1918, while the US was still in war with Germany. This evidently did not stop them from filing naturalization petitions.

D Additional robustness checks

D.1 Robustness to the calculation of the FNI

Table D.1. FNI robustness

Dependent variable is FNI		
Method used to compute the FNI	Coefficient on German × born 1917 or later	Observations
Baseline	-5.955***	6495803
	(1.751)	
Foreign-born	-3.984	6495803
	(3.089)	
Foreign-born and foreign-born fathers	-6.304***	6495803
	(1.867)	
Using 20 previous birth cohorts	-4.467**	6476661
	(1.541)	
Using 10 previous birth cohorts	-3.796***	6452526
	(1.279)	
Using name Soundex phonetic code	–5.030***	6620030
	(1.513)	

Notes: The sample consists of men born in the US 1880–1930 to a foreign-born father. The first row replicates the result in column (4) of Table 2 and each subsequent row replicates the same specification for different computations of the FNI. Standard errors are clustered at the ethnic group level. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

The results of Table 2 do not hinge on the method used to compute the FNI. Table D.1 shows that the effect of the war on naming patterns is robust to calculating the ethnic distinctiveness of a name using only the names of the foreign-born or the names of the foreign-born and of those with foreign-born fathers. The estimated coefficient loses significance in the first case, but the magnitude remains comparable to the baseline. Similarly, results are not affected if I assume that immigrants decide their naming choices based on the names of children born in the 20 or 10 previous years. I also perform the analysis using the Soundex phonetic equivalent of first names. The fact that there is also a drop in the FNI of Germans after 1917 when the FNI is computed based on the Soundex implies that name assimilation manifests not just as changes in spelling (e.g., from Karl to Carl), but mainly as choices of different, more American-sounding names.

D.2 Results for women

Table D.2 replicates the results of Table 2 for women.

Table D.2. World War I and naming patterns among women

Dep. variable:	FNI					
	[1]	[2]	[3]	[4]	[5]	[6]
German	-1.653***	-1.702***	-1.623***			
	(0.0206)	(0.0211)	(0.0212)			
Born 1917 or later	0.521***	0.728***				
	(0.0222)	(0.0305)				
German ×	-9.985***	-9.939***	-10.08***	-8.257***	-5.578***	-5.428***
born 1917 or later	(0.0575)	(0.0576)	(0.0576)	(1.303)	(0.941)	(0.952)
Observations	6662472	6662472	6662472	6662472	6662472	6662472
R-squared	0.00687	0.00689	0.00746	0.0266	0.00371	0.0129
Linear time trend	N	Y	N	N	N	N
Year of birth FE	N	N	Y	Y	Y	Y
Ethnicity FE	N	N	N	Y	Y	Y
Linear ethnicity trends	N	N	N	N	Y	Y
State of birth FE	N	N	N	N	N	Y

Notes: The sample consists of women born in the US 1880–1930 to a foreign-born father. The dependent variable in columns (5)-(6) is the residual from a regression of the FNI on linear ethnicity-specific trends fitted to the pre-war period. Heteroscedasticity-robust standard errors are reported in columns (1)–(3), and robust standard errors clustered at the ethnic group level are reported in columns (4)–(6). Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

D.3 Controlling for parental years in the US

Parental years in the US is an important control that affects naming patterns, but including it implies reducing the number of observations by more than half, since it is only available for children who lived with their parents at census time. The resulting dataset is furthermore not representative of the full population of immigrants. Nonetheless, Table D.3 shows that, for this subset of children, including a full set of father's arrival cohort fixed effects increases the magnitude and precision of the baseline estimated coefficient.

Table D.3. World War I and naming patterns – Controlling for father's arrival cohort

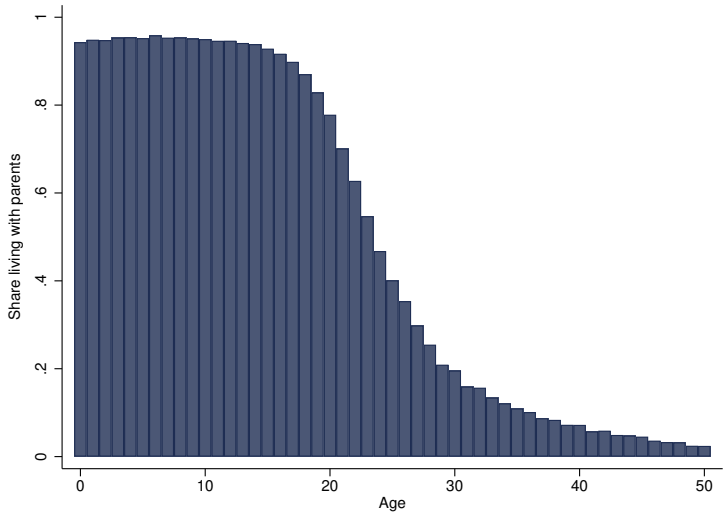
Dep. variable:	FNI		
	[1]	[2]	[3]
German × born 1917 or later	-5.993***	-2.785*	-3.184**
	(1.753)	(1.572)	(1.460)
Observations	6439319	3081777	3081777
R-squared	0.0308	0.0466	0.0608
Mean dep. var.	58.463	60.805	60.805
Year of birth FE	Y	Y	Y
Ethnicity FE	Y	Y	Y
Father's arrival cohort FE	N	N	Y

Notes: The dataset consists of all men born in the US 1880–1930 to a foreign-born father. Column (1) replicates the specification in column (4) of Table 2 and column (2) replicates the same specification for the subset of individuals who live with their parents, and for whom father's arrival cohort is not missing. Robust standard errors clustered at the ethnic group level in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

D.4 Robustness of within-family estimates

The subset of siblings who live with their parents is not representative of the full population of Germans. One concern that applies specifically to the 1930 census is that children born during or after the war years would be 13 or older in 1930. Cohabitation with older children may indicate a less assimilated family profile, and results in that subset may represent overestimates of the within-family effect in the whole population. Figure D.1 shows that in fact cohabitation was not that infrequent among Germans in 1930 – a little over 80% of 19-year old US-born Germans are observed to still live with their parents. To further assuage concerns that patterns among older children are unrepresentative, I re-estimate the within-family specification for children aged 15 or younger, for whom it would have been more natural to still live with their parents (Panel A of Table D.4). Results do not change substantially from those of Table 5.

Figure D.1. Share of US-born German men who live with their parents in 1930



Notes: The figure depicts the share of US-born men with a German father who are observed to live together with the household head in 1930. Data is from the complete-count 1930 census.

Table D.4. Accounting for out-migration – Excluding older children still living with parents

Dep. variable:	FNI *(Mean: 59.525)*				
	[1]	[2]	[3]	[4]	[5]
German ×	-2.213**	-2.153***	-2.155***	-2.208***	-2.273***
born 1917 or later	(0.818)	(0.302)	(0.297)	(0.309)	(0.310)
Observations	1453761	1453761	1453761	1453761	1369668
R-squared	0.0651	0.588	0.588	0.589	0.584
Family FE	N	Y	Y	Y	Y
State of birth FE	N	N	Y	Y	Y
Birth order FE	N	N	N	Y	Y
Father's arrival cohort FE	N	N	N	N	Y

Notes: The dataset consists of all men born in the US to a foreign-born father, who live in the same household as their father and at least one male sibling and who were 15 years old or younger at census time (1930). All regressions include birth year and ethnicity indicators. Standard errors are clustered at the ethnicity level. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

D.5 Dealing with additional confounders

As shown when ruling out alternative explanations, out-migration of Germans unwilling to become US citizens cannot explain the post-1917 increase in the absolute numbers of petitions. There is, however, another alternative explanation for the observed surge. The year 1917 marks the beginning of a series of controls on immigration imposed in the US. These

initially included literacy requirements, introduced by the Immigration Act of 1917, and later culminated in the 1924 immigration quotas, which favored established immigrant groups at the expense of newer arrivals from Southern and Eastern Europe, as well as from Asia. Part of the increase in naturalization petitions filed by Germans could be because of their numbers increasing among incoming immigrants, as immigration restrictions favored them over other nationalities. To address this concern, I normalize petitions by the number of immigrant arrivals in each nationality-year cell. To account for the five-year residency requirement for filing a petition, I construct two measures for eligible recent arrivals using data from the reports of the Bureau of Immigration, compiled by Ferenczi and Willcox (Willcox 1929). I first use the total number of arrivals of a specific nationality in the five to ten years before the petition was filed. Secondly, I make use of the empirical distribution of years in the US at the time of filing a petition. I construct a weighted sum of nationality-specific arrivals in prior years, where the weight of year t corresponds to the share of immigrants that file a petition t years after their arrival to the US. Normalized petitions are then equal to the total number of petitions divided by the measure of eligible recent arrivals. Table D.5 presents results using these two alternative measures of normalized petitions as dependent variables in specifications identical to those in columns 4 and 5 of Table 3. The estimated effects are substantially unaffected by this normalization, but the estimated increase in number of petitions becomes larger. Compared to the initially estimated increase of 35 petitions by state and year, these estimates imply an increase of between 64 and 99 petitions.[5] This difference in estimates can be explained by the fact the German arrival cohorts were relatively small in the years immediately before the war compared to earlier years.

[5]These estimates are based on the average post-war denominators applied to the normalization, which for Germans are around $115,000$ in columns (1) and (2) and around $9,200$ in columns (3) and (4).

Table D.5. Petitions for naturalization normalized by immigrant arrivals

Dep. variable:	Petitions as share of arrivals		Petitions as share of weighted arrivals	
	[1]	[2]	[3]	[4]
German × after 1917	0.000859**	0.000787**	0.00768***	0.00698**
	(0.000342)	(0.000340)	(0.00268)	(0.00255)
Observations	887	887	887	887
R-squared	0.137	0.202	0.170	0.325
Mean dep. var.	.000964	.000964	.00984	.00984
Residence state FE	N	Y	N	Y

Notes: The unit of observation is a nationality-state-year cell (where state and year refer to the time and place when a petition was filed). The dependent variable in columns (1) and (2) is the total number of petitions in each cell divided by the total number of immigrant arrivals of the same nationality in the period 5 to 10 years before the petition was filed. In columns (3) and (4), the denominator is the weighted average of arrivals in the 5 to 10 years before, where the weights are determined by the empirical distribution of years in the US at the time of the petition. Standard errors are clustered at the nationality level. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

There is an additional channel through which the literacy test and other immigration restrictions may have affected the results. Beyond changing the composition of the immigrant pool, restrictive immigration policy altered the incentives to emigrate for immigrants who were already in the country (Greenwood and Ward 2015). The decision to stay in the US for longer could be associated with increased propensity to naturalize or otherwise invest in assimilation. It is unlikely that such indirect changes in incentives manifested immediately with the passage of the literacy test, so that the steep break in naturalization petitions in 1917 would be solely attributable to them. Furthermore, Figure 4 shows that there was no differential increase in German petitions in 1921 (the year of the Emergency Quota Act), or 1924 (the year of the Johnson-Reed Immigration Act). These two policies had an undoubtedly higher impact on the numbers of incoming immigrants, and on associated changes in incentives for migrants already present in the country, than the 1917 literacy test, and yet did not cause changes in German naturalization petitions. To show this more formally, Table D.6 repeats the regression estimated in Column 5 of Table 3 using treatment indicators for each year between 1919 and 1924. The sample is restricted to years after 1917.[6] Column 1 of Table D.6 replicates column

[6]Without this restriction the placebo test would not be valid, since 1917 is a known break in the 1911-

5 of Table 3 for comparability. No differential increase in petitions is observed for any year between 1919 and 1924.

Table D.6. Petitions for naturalization – Placebo treatment years

Dep. variable:	Number of petitions						
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
German × after 1917	37.00***						
	(5.389)						
German × after 1919		11.54					
		(8.046)					
German × after 1920			-14.05*				
			(7.103)				
German × after 1921				-8.051			
				(7.219)			
German × after 1922					-6.572		
					(7.346)		
German × after 1923						0.432	
						(7.414)	
German × after 1924							0.126
							(8.690)
Observations	950	614	614	614	614	614	614
R-squared	0.486	0.534	0.534	0.534	0.534	0.534	0.534
Mean dep. var.	56.051	67.690	67.690	67.690	67.690	67.690	67.690

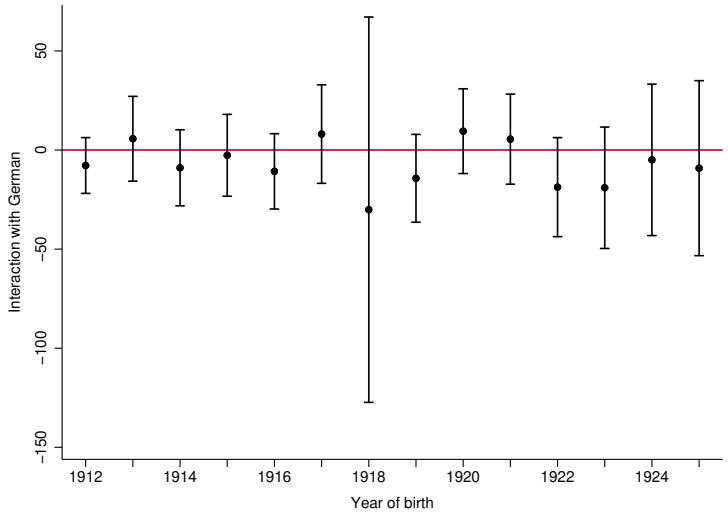
Notes: The unit of observation is a nationality-state-year cell (where state and year refer to the time and place when a petition was filed). Column (1) replicates column (5) of Table 3. All columns include nationality, year and state fixed effects, as well as a German × 1918 indicator. Standard errors are clustered at the nationality level. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

To further address the concern that observed changes are driven not by the war but by policies enacted between 1917 and 1924 I perform an additional check. If changes in petitions filed by Germans were caused by immigration restrictions, we would expect similar patterns among other nationalities favored by the quotas. I use information on official quotas and numbers of incoming migrants by nationality in 1921 and 1924 from the Annual Report of the Commissioner General of Immigration (United States Bureau of Immigration 1908), in order to determine for which countries the quotas were non-binding. Other than Germany, the following countries in the dataset did not face binding quotas in 1921: Austria-Hungary,

1924 series. Including years prior to 1917 would then produce positive estimates in naturalization petitions of Germans for any year after 1917.

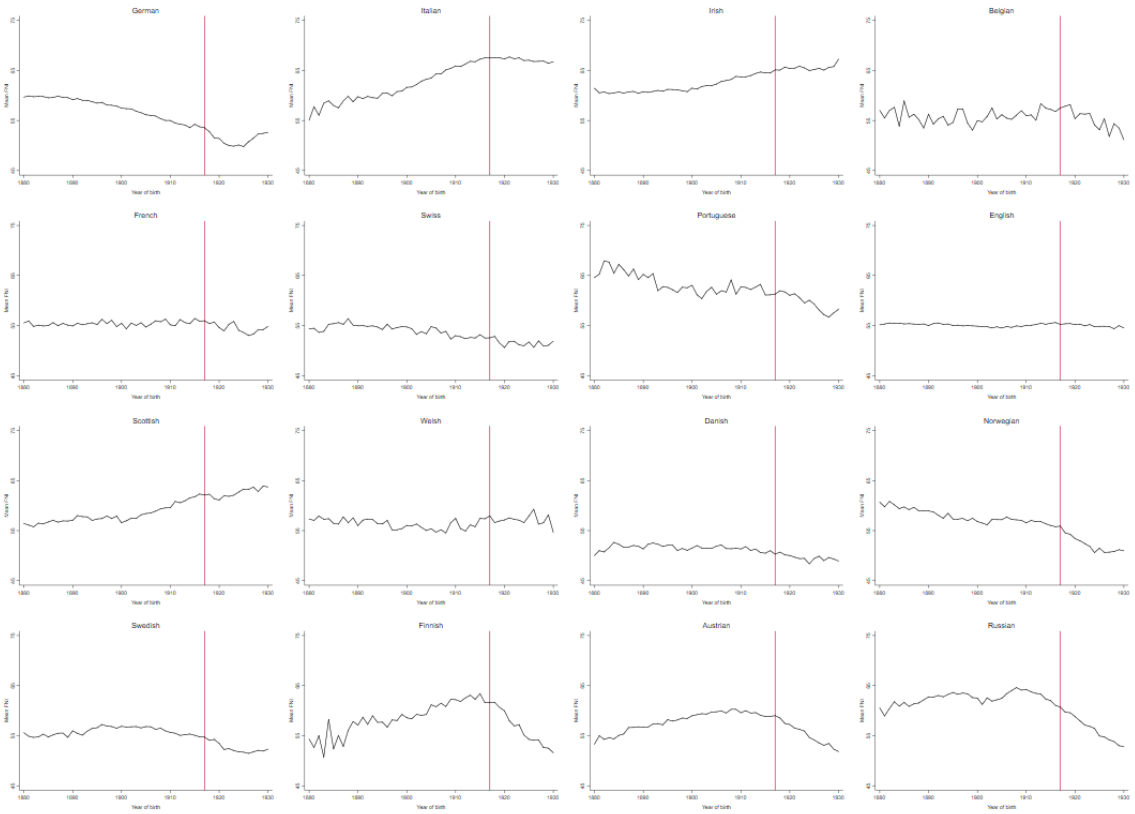
Canada, Denmark, England (including Scotland and Wales), Finland, France, the Netherlands, Ireland, Norway and Russia. Quotas were binding for all countries in the dataset in 1924. I therefore focus on the comparison of countries with and without binding quotas in 1921. Figure D.2 replicates Figure 4, replacing the German nationality indicator with a dummy for immigrants from countries with non-binding quotas, and dropping Germany from the dataset. There is no effect for this set of countries similar to the one observed for Germany. This results suggest that observed effects are unlikely to be a result of restrictive immigration measures that coincided temporally with WWI.

Figure D.2. Evolution of petitions for naturalization – Countries with non-binding quotas



Notes: The figure reports coefficient estimates and 90% confidence intervals from a regression of the total number of petitions by nationality-year-state cell on nationality, year, and state fixed effects and interactions of year indicators with a dummy for petitions filed by nationals of countries for which the 1921 quotas were non-binding.

Figure D.3. Mean FNI by nationality



Notes: The figure plots the mean FNI by year of birth for US-born men with a foreign-born parent. The red vertical line corresponds to 1917, the year when the US entered WWI. Data are from complete-count 1930 census.

Is increased assimilation after 1917 a response to discrimination or to the fact that Germany was finding itself on the losing side of the war and German Americans wanted to detach themselves from it? Evidence from nationals of other countries that became involved in WWI does not support the latter interpretation. Figure D.3 plots the mean FNI by ethnicity for all ethnic groups in the sample. The other ethnic groups that change their naming patterns exactly when the US enters the war are the Austro-Hungarians, the Norwegians, the Finns, and, to a lesser extent, the Swedes. Austria-Hungary was Germany's major ally in the war, and its citizens in the US faced similar incentives to assimilate as the Germans. Norway and Sweden on the other hand remained neutral during WWI. However, the experience of Scandinavians in the US largely mirrored that of Germans. Norwegian and Swedish communities in the Midwest and Minnesota came under attack and were accused of disloyalty for their attachment to their native language and for their support of American neutrality. By 1918, they found their languages banned from school curricula, and the majority of their newspa-

pers went out of circulation (Gillespie Lewis 2004; Chrislock 1981). Finland only became an independent state in 1917, but Finns in the US were "very anxious" to naturalize (Wargelin 1924), in response to general assimilation pressures and hostility against anyone perceived to be non-patriotic. These patterns illustrate the role played by native harassment and speak against alternative explanations, such as German Americans investing more in their American identity because the war increased the cost of return to their homeland. This cost was not altered for Scandinavians. Native attitudes towards those groups did, however, register a shift comparable to that experienced by the German community.

E Analysis of heterogeneous responses

A priori, it is unclear which groups of immigrants should be more likely to respond to hostility by assimilating. On the one hand, those closer to natives in terms of social and economic characteristics have a lower cost of assimilation effort, both psychic and material. Severing one's ties to Germany by Americanizing their children's names is easier for immigrants who are more invested in the US, have lived there for longer, or are married to a native spouse. Similarly, navigating the bureaucracy of the naturalization procedure is easier for immigrants with better knowledge of the country's institutions. At the same time, it is less assimilated immigrants who are more likely to experience discrimination and thus have a higher incentive to assimilate.

Figure E.1 shows that assimilation is a more likely response for already established immigrants. The figure plots the FNI of sons by parental characteristics: father's citizenship status, length of stay in the US and employment type, and parents' ethnic background. Naming choices respond steeply to the war for mixed couples, but not for all-German ones. Similarly, there is a larger drop in the FNI for sons of naturalized fathers and for those whose fathers have lived in the US for more than the median number of years. The larger effect in the self-employed group can be interpreted in two ways. Self-employed Germans, likely business owners, had higher returns to assimilation effort and to signaling patriotism to their clients. At the same time, more frequent interactions with the native population increased the likelihood of discrimination for this group. It is likely that this latter channel was the primary driver of assimilation decisions in this case. It has been documented that many German American entrepreneurs changed the names of their businesses to prove their loyalty and did so in direct response to pressures by their communities.[7]

[7] A prominent example was the German American bank of Milwaukee that changed its name to the American Exchange Bank. A letter to the editor of the Wisconsin State Journal on January 12, 1918 reads: *"Our love for America should not tolerate anything which is German ahead of anything which is American and we will not tolerate it. The German American bank [in Milwaukee] should be forced to discontinue business until its company chooses a name which is thoroughly American, purely Democratic, and PATRIOTIC."*

Figure E.1. Evolution of naming patterns for second-generation Germans, by characteristics of the parents

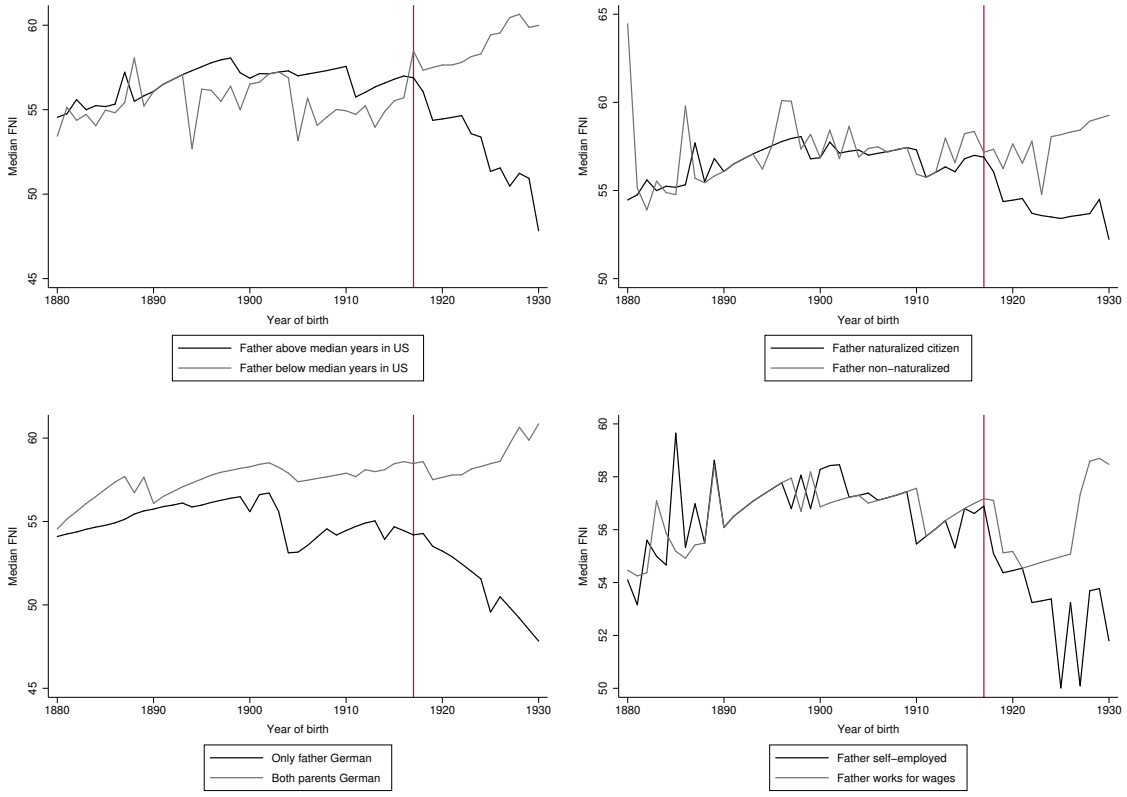


Table E.1 presents the same results in a regression framework, both by fathers' and by mothers' characteristics. All regressions include birth cohort fixed effects. Generally, parental characteristics are correlated with the FNI in the expected way: mixed couples have children with lower FNI than endogamous ones, and more years in the US or being self-employed imply less German-sounding names for children. The exception is naturalized status, which is correlated with more German names. In each case the change in the FNI after the war is larger for the more established groups of immigrants or those more likely to become targets of hostility. Furthermore, an effect is present for both fathers and mothers. Citizenship of fathers has a larger impact on post-war assimilation than that of mothers, but the pattern is reversed for length of stay in the US.

Table E.1. Heterogeneity by parents' characteristics

Dep. variable:	FNI					
	[1]	[2]	[3]	[4]	[5]	[6]
One parent German	-6.053***					
	(0.0365)					
One parent German ×	-2.185***					
born 1917 or later	(0.114)					
Father US citizen		0.504***				
		(0.0547)				
Father US citizen ×		-4.500***				
born 1917 or later		(0.132)				
Mother US citizen			0.878***			
			(0.0609)			
Mother US citizen ×			-4.859***			
born 1917 or later			(0.199)			
Father years in US				-0.117***		
				(0.00334)		
Father years in US ×				-0.183***		
born 1917 or later				(0.00554)		
Mother years in US					-0.0636***	
					(0.00398)	
Mother years in US ×					-0.209***	
born 1917 or later					(0.00924)	
Father self-employed						-0.0961
						(0.0854)
Father self-employed ×						-2.210***
born 1917 or later						(0.148)
Observations	1577790	1327214	935194	434374	234094	434374
R-squared	0.0383	0.00523	0.00679	0.0322	0.0160	0.0188
Mean dep. var.	57.277	57.277	60.219	57.277	60.219	57.277

Notes: The sample consists of men born in the US 1880–1930 with at least one German-born parent. All regressions include birth year indicators. Columns (2), (4), and (6) restrict the sample to men with a German-born father and columns (3) and (5) to men with a German-born mother. Heteroscedasticity-robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

Citizenship of parents itself may be endogenous to discrimination during the war, as shown in the analysis of naturalization petitions. However, the result also holds when looking at parents who became naturalized citizens prior to the start of WWI in 1914 (Table E.2). The sample in that case is substantially smaller, since information on the year of naturalization is

only available in the 1920 1% census sample.

Table E.2. Heterogeneity by parents' citizenship – Naturalized before WWI

Dep. variable:	FNI	
	[1]	[2]
Father US citizen	1.508	
	(1.257)	
Father US citizen × born 1917 or later	-6.053**	
	(2.641)	
Mother US citizen		-1.731*
		(0.961)
Mother US citizen × born 1917 or later		-3.171
		(2.821)
Observations	4638	3320
R-squared	0.0200	0.0256
Mean dep. var.	57.305	57.886

Notes: The sample consists of men born in the US 1880–1930 to a German-born father (Column 1) or a German-born mother (Column 2), whose respective parent was naturalized prior to 1914. All regressions include birth year indicators. Heteroscedasticity-robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

There is a similar pattern for Germans who applied for citizenship in the wake of the war. I use the Ancestry petition data and break down the nationality-year-state counts of petitions by year of immigration to the US, so that the unit of observation in the final dataset is now a nationality-year-state-immigration year cell. Figure E.2 plots the average difference between immigration and petition year, by year of petition. Starting around 1917, petitions are increasingly filed by Germans who have been in the US for longer, while this pattern is less pronounced for other nationalities. Table E.3 shows this more systematically. German petitioners for citizenship have lived longer in the US than other immigrant groups at the time of petition, but this difference increases after 1917. The data from the Illinois and Pennsylvania district courts looks qualitatively similar, both for petitions and for declarations of intention. As Figure E.3 shows, immigrants who filed a declaration of intention after 1917 are older and have been in the US for longer than earlier applicants at the time of declaration, with this increase being more pronounced among Germans than among applicants from other nationalities. Average years in the US reach a peak in 1917 for petitions as well. The bottom-right panel of the figure shows that Germans who file a petition at the start of WWI and in

1917 let on average more time elapse between their first and second papers. Immigrants who had started the naturalization process 8 or more years ago, rush to complete it at the wake of the war.

Figure E.2. Average years in the US at time of petition

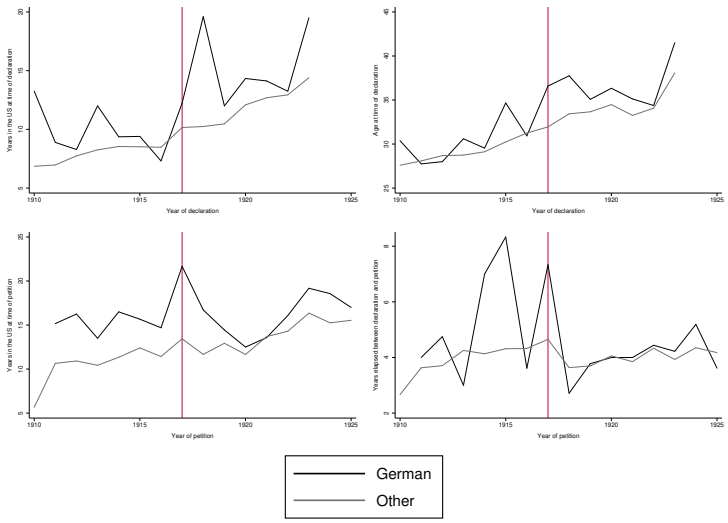
Notes: The figure plots the average difference between year of petition and year of arrival for Germans (black line) and other nationalities (gray line). The data consist of petition counts by nationality-year-arrival year-state cell.

Table E.3. Average years in the US at time of petition

Dep. variable:	Average years in the US *(Mean: 15.163)*			
	[1]	[2]	[3]	[4]
German	5.419***	5.195***	5.175***	
	(0.643)	(0.625)	(0.623)	
After 1917	1.979***	2.137***		
	(0.394)	(0.368)		
German × after 1917	2.457***	2.349***	2.379***	2.210***
	(0.386)	(0.375)	(0.365)	(0.334)
Observations	939	939	939	939
R-squared	0.126	0.173	0.188	0.377
Residence state FE	N	Y	Y	Y
Year FE	N	N	Y	Y
Country of origin FE	N	N	N	Y

Notes: The unit of observation is a nationality-state-year cell (where state and year refer to the time and place when a petition was filed). Columns (1) and (2) include an indicator for the year 1918. Standard errors are clustered at the nationality level. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

Figure E.3. Changes in applicant characteristics



Notes: The figure plots the evolution of characteristics of applicants by year of declaration (upper panel) and year of petition (lower panel) for a sample of immigrants who filed for naturalization between 1911 and 1923 in the Northern Illinois and Eastern Pennsylvania district courts.

The above effects cannot be interpreted causally, since war-time hostility likely manifested differently for more and less assimilated Germans. However, it does not appear to be the case that the above immigrant characteristics significantly predict anti-German harass-

ment in 1917-1918. Table E.4 reports state-level regressions of the frequency of anti-German harassment incidents on the characteristics of the German population. These are the share of second-generation Germans with one German parent, and the following three measures for the German-born: share naturalized, average number of years in the US and share self-employed. Regressions control for the share of Germans, which is an independent predictor of the frequency of violence.

Table E.4. Characteristics of Germans in 1910 and anti-German hostility in 1917-1918

Dep. variable: Anti-German harassment incidents per thousand *(Mean: 0.0019)*					
	[1]	[2]	[3]	[4]	[5]
Share with one parent German	0.00958				0.00427
	(0.00627)				(0.0105)
Share naturalized		-0.00336			0.000159
		(0.00832)			(0.00875)
Average years in US			-0.000227*		-0.000294**
			(0.000122)		(0.000111)
Share self-employed				0.00972**	0.0112**
				(0.00389)	(0.00524)
Observations	51	51	51	51	51
R-squared	0.00979	0.00445	0.0446	0.0467	0.113

Notes: Each observation is a US state. The dependent variable is the number of reported harassment incidents against Germans per thousand residents in the state during WWI. All independent variables are computed using the complete-count 1910 US census. All regressions control for the share of first (Columns 2-5) or second (Column 1) generation Germans in the state in 1910. Heteroscedasticity-robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.1.

German parentage and naturalization are not significantly correlated with harassment. Years in the US and the share of the self-employed among the first generation predict harassment negatively, and positively, respectively. However, the magnitudes are very small. Even for the two significant coefficients, the effect of each characteristic on the frequency of harassment is not larger than 0.2 percent of a standard deviation of the dependent variable. This suggests that the intensity of discrimination is not the driving force of responses (perhaps with the exception of the case of the self-employed).

Rather, results are consistent with heterogeneity in the costs of assimilation effort driving responses to discrimination. An alternative interpretations is that the returns to assimilation – or, equivalently, the costs from discrimination – are also heterogeneous. Established immigrants who have lived in a country for a long time and have acquired citizenship have a higher

incentive to defend these investments of time and effort and may find available alternatives to assimilation, such as abandoning the US to return to Germany, more costly. Additionally, any given effort to assimilate is more likely to succeed and result in an immigrant's acceptance by the native society if the immigrant already has a profile that is sufficiently close to that of the natives. Other things equal, this would make the likelihood of successful assimilation, or expected return of assimilation effort, higher for established immigrants.

F Data Sources

Ancestry.com data on petitions for naturalization come from the following sources:

California

*Naturalization Records of the U.S. District Court for the Southern District of California, Central Division (Los Angeles), 1887-1940.*NARA Microfilm Publication M1524, 244 rolls. Records of District Courts of the United States, Record Group 21. National Archives, Washington, D.C.

*Naturalization Records in the Superior Court of San Diego, California, 1883-1936.*NARA Microfilm Publication M1613, 19 rolls. National Archives Gift Collection, Record Group 200. National Archives, Washington, D.C.

*Naturalization Records in the Superior Court of Los Angeles, California, 1876-1915.*NARA Microfilm Publication M1614, 28 rolls. National Archives Gift Collection, Record Group 200. National Archives, Washington, D.C.

Maryland

Naturalization Petitions of the U.S. District Court for the District of Maryland, 1906-1930. NARA Microfilm Publication M1640, 43 rolls. Records of District Courts of the United States, Record Group 21. National Archives, Washington D.C.

Pennsylvania

Naturalization Petitions of the U.S. Circuit and District Courts for the Middle District of Pennsylvania, 1906-1930. NARA Microfilm Publication M1626, 123 rolls. Records of District Courts of the United States, Record Group 21. National Archives, Washington, D.C.

Virginia

Naturalization Petitions of the U.S. District Court for the Western District of Virginia (Abingdon), 1914-1929. NARA Microfilm Publication M1645, 2 rolls. Records of District Courts of the United States, Record Group 21. National Archives, Washington, D.C.

Naturalization Petitions of the U.S. District and Circuit Courts for the Eastern District of Virginia (Richmond), 1906-1929. NARA Microfilm Publication M1647, 10 rolls. Records of District Courts of the United States, Record Group 21. National Archives, Washington, D.C.

Naturalization Petitions of the U.S. District Court for the Western District of Virginia (Charlottesville), 1910-1929. NARA Microfilm Publication M1646, 1 roll). Records of Dis-

trict Courts of the United States, Record Group 21. National Archives, Washington D.C.

Naturalization Petitions of the U.S. District Court for the Eastern District of Virginia (Alexandria), 1909-1920. NARA Microfilm Publication M1648, 5 rolls. Records of the District Courts of the United States, Record Group 21. National Archives, Washington D.C.

FamilySearch.org data on naturalization documents come from the following collections:

Illinois

Illinois, Northern District Petitions for Naturalization, 1906-1994. Images. *FamilySearch.* http://FamilySearch.org : 14 June 2016. Citing U.S. District Court for the Eastern Division of the Northern District of Illinois, 3/3/1905, NAID 593882. Records of District Courts of the United States, 1685 - 2009, RG 21. National Archives at Chicago.

Pennsylvania

Pennsylvania, Eastern District Petitions for Naturalization, 1795-1931. Images. *FamilySearch.* http://FamilySearch.org : 14 June 2016. Citing NARA microfilm publication M1522. Washington, D.C.: National Archives and Records Administration, n.d.

References

Chrislock, Carl H. 1981. *Ethnicity Challenged: The Upper Midwest Norwegian-American Experience in World War I*. North-field, Minnesota: Norwegian-American Historical Association.

Gillespie Lewis, Anne. 2004. *Swedes in Minnesota*. St Paul, Minnesota: Minnesota Historical Society Press.

Greenwood, Michael J, and Zachary Ward. 2015. "Immigration Quotas, World War I, and Emigrant Flows from the United States in the Early 20th Century". *Explorations in Economic History* 55:76–96.

ICPSR. 1994. *United States Historical Election Returns, 1824-1968*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].

United States Bureau of Immigration. 1908. *Annual Report of the Commissioner General of Immigration to the Secretary of Labor*. Washington D.C.: US Department of Labor.

Wargelin, John. 1924. *The Americanization of the Finns*. Finnish Lutheran Book Concern.

Willcox, Walter F. 1929. "Statistics of Migrations, National Tables, United States". In *International Migrations, Volume I: Statistics*, ed. by Walter F. Willcox, 372–498. Cambridge, Massachusetts: NBER.

Wittke, Carl. 1936. *German Americans and the World War*. Columbus: The F. J. Heer Printing Co.