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HISTORICAL ANTISEMITISM, ETHNIC SPECIALIZATION, AND FINANCIAL DEVELOPMENT

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ABSTRACT

For centuries, Jews in Europe have specialized in financial services. At the same time, they have been the victims of historical antisemitism on the part of the Christian majority. We find that present-day financial development is lower in German counties where historical antisemitism was higher, compared to otherwise similar counties. Households in counties with high historical antisemitism have similar savings rates but invest less in stocks, hold lower bank deposits, and are less likely to get a mortgage–but not to own a house–after controlling for wealth and a rich set of current and historical covariates. Present-day antisemitism and supply-side forces do not appear to fully explain the results. Present-day households in counties where historical antisemitism was higher express lower trust in finance, but have levels of generalized trust similar to other households.

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1 Introduction

Financial development varies persistently across space, which might help explain spatial wealth inequalities, because households accumulate wealth through the stock market (Guiso, Sapienza, and Zingales (2004a)). Substantial spatial variation of demand-driven and supply-driven financial development exists also within countries whose regions have faced the same regulatory environment and the same financial institutions for decades (Gennaioli, La Porta, Lopez-de Silanes, and Shleifer (2013)). Understanding the determinants of these systematic regional differences in development has proven difficult, because such determinants should vary persistently across space despite the implementation of institutional reforms and place-based policies.

A potential route to study the drivers of regional variation in financial development is to exploit the determinants of its origins in history. To this end, we note that historical inter-ethnic tensions produce persistent anti-minority sentiment, which can survive the physical presence of minorities themselves (Voigtlaender and Voth, 2012). If different ethnic groups specialized in different economic activities in the past, ethnic tensions could lead one group to discriminate against the activity led by the other group. Parallel to the discrimination against minorities, discrimination against economic activities might persist even after ethnic specialization faded (Jha (2013), Grosfeld, Rodnyansky, and Zhuravskaya (2013), Jha (2014)).

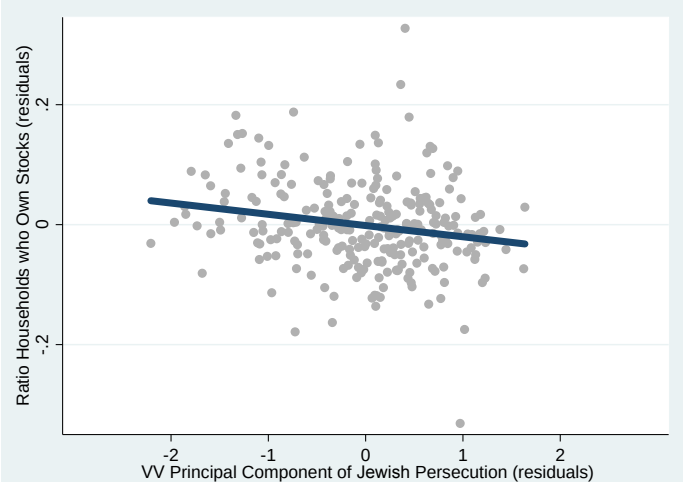
We build on this framework to ask whether ethnic specialization paired with historical inter-ethnic tensions affect economic decision-making and financial development in the long run, whether the effects are sizable, and which supply- and/ or demand-side channels might have allowed the long-run transmission of these effects. Specifically, we test whether the centuries-long specialization of Jews in financial services, paired with persistent historical antisemitism across space, helps explain the present-day regional variation of financial development and the channels that might have transmitted these effects over time.

Our analysis focuses on Germany as an ideal laboratory, because Germans persecuted Jews since the Middle Ages at various degrees across cities, and local anti-Jewish sentiment has persisted for centuries (Voigtlaender and Voth, 2012). At the same time, the ethnic specialization of Jews in finance was an important component of historical antisemitism. It led to the emergence of negative stereotypes attached to Jews but unrelated to religious creed, which Reuveni and Wobick-Segev (2011) label "economic antisemitism."

Local stock market participation is an important determinant of local demand for finance and hence financial development (Guiso, Sapienza, and Zingales, 2004b). We document that present-day households in German counties with higher anti-Jewish sentiment

in the Middle Ages and the Nazi period invest less in stocks than other households. Figure 1 plots the negative correlation between stock market participation and historical antisemitism at the county level conditional on a large set of historical and present-day observables. Present-day households in counties where historical antisemitism was one standard deviation higher are about 9% less likely to hold stocks. The size of this association is similar to the effect of holding a college degree, and college education is one of the most studied determinants of stock market participation (van Rooij, Lusardi, and Alessie, 2011).

Figure 1: **Historical Antisemitism and Present-Day Stock Market Participation**



Each point is a German county. The vertical axis plots the residuals from estimating the following equation,

$$Ratio\ Stockholders_k = \alpha + K_k' \times \delta + \epsilon_k,$$

where K_k is the set of historical and present-day observables described in Section 3. The horizontal axis plots the residuals of a regression of the Voigtlaender-Voth (VV) principal component of Jewish persecution in the 1920s and 1930s, which is our main measure of historical antisemitism (see Section 3.A), and the same set of covariates K_k.

Our analysis focuses mainly on financial development in the form of stock market participation for two reasons. First, the defamation of Jews as stock market manipulators was salient in the press and popular culture even after the Jewish presence in banking had faded (Köhler, 2005). Second, regional stock market participation is a heavily studied aspect of financial development.[1] Yet, consistent with the historical stereotype of Jews as moneylenders (e.g., Reuveni and Wobick-Segev (2011)), we find that present-day households in German counties where historical antisemitism was higher also use banking services less than other households, even if they do not face a lower supply of banking services or banking services of worse quality. Moreover, households in counties with higher historical antisemitism are 10% less likely to have a mortgage, but as likely as other households to own a house. The ratio of retail deposits over total assets of the banks in counties with higher historical antisemitism is 2% lower than in other counties, even if saving propensities and the concentration of bank branches do not differ systematically across counties. We also find

[1]Section 1.A discusses previous literature on the stock market participation puzzle.

suggestive evidence that households in counties with higher historical antisemitism hold a larger fraction of their wealth in cash.

Testing for a causal effect of historical antisemitism on present-day financial decisions would require the quasi-random assignment of historical antisemitism across similar German counties in the distant past. Unfortunately, we cannot construct such an ideal experiment. To reduce the concern that unobservable dimensions not captured by our controls drive both historical antisemitism and present-day financial development, we run a large set of robustness tests and replicate our baseline results using alternative data sets and sources of historical antisemitism. Our main robustness test exploits the forced migrations of the first Ashkenazi communities across the German lands because of the Crusades. Forced migration paths provide quasi-exogenous variation in the early settlement of Jewish communities across space, and hence in the likelihood that inter-ethnic tensions and historical antisemitism developed across otherwise similar counties. We use this historical variation in the presence of Jewish communities across space to instrument for the emergence of historical antisemitism across German counties, and confirm our baseline results.

In the last part of the paper, we study a set of potential supply- and demand-side channels that might have transmitted the effect of historical antisemitism to present-day financial development.

On the supply side, we note that all German counties have faced the same financial-sector regulation since the 19^{th} century,[2] but locally-run independent financial institutions are still an important pillar of the German banking system. Historical antisemitism might have triggered the establishment of local banks of different quality and efficiency across counties. We find that the present-day supply of finance and the present-day efficiency of the local banking sector do not vary systematically with historical antisemitism. We interpret these results as direct evidence that the present-day local supply of financial services cannot fully explain our results.

Alternatively, economic antisemitism might have worsened the *historical* local supply and efficiency of financial services. Even if these differences in supply had disappeared over time, present-day households might still be less accustomed to accessing financial services in counties with higher historical antisemitism. We collect data on the supply of financial services in the past, which we can measure at the county level in the 19^{th} century, and we do not find evidence that this channel is relevant to our results.

On the demand side, we first test whether present-day households that are antisemitic might still associate financial services with Jews, and thus invest less in stocks and demand

[2]Eastern German counties during the Cold War are an obvious exception, but the shock of facing a communist economic system is exogenous to the spatial variation of historical anti-Jewish sentiment.

fewer financial services. We test this channel using data on present-day antisemitism at the county level. We find that present-day antisemitism and stock market participation are negatively associated, as predicted by the long-term persistence of local antisemitism (Voigtlaender and Voth, 2013). At the same time, however, we find no association between present-day antisemitism and stock market participation after controlling for historical antisemitism. Our measures of historical antisemitism are arguably subject to higher measurement error than the measures of present-day antisemitism, and hence this test should bias us towards detecting an effect of present-day antisemitism on top of historical antisemitism even if such an autonomous effect did not exist. Thus, the results suggest that the variation in antisemitism intervened in the last decades has no role in explaining the present-day demand for finance.

Apart from present-day antisemitism, historical anti-Jewish sentiment might correlate with other retrograde beliefs such as xenophobia, racism, or distrust for the unfamiliar, which we label collectively "backwardness." Using county-level data on present-day xenophobic beliefs, we propose a set of tests that suggest our results are not consistent with these alternative demand-side channels.

Motivated by Gennaioli, Shleifer, and Vishny (2015), we move on to test for the possibility that a persistent cultural norm of distrust in finance, transmitted across generations, has developed more in counties in which historical antisemitism was stronger. Past households in counties with higher antisemitism might have developed a negative sentiment towards the economic activity in which Jews specialized, namely, financial services. This sentiment might have persisted to the present day even if its underlying determinants–specifically, discrimination against Jews and the association of Jews with financial services–have faded.

We use novel survey data on a representative sample of 1,000 present-day Germans to elicit their distrust in finance.[3] The survey also elicits measures of risk tolerance and generalized trust at the individual level, both of which are strong determinants of stock market participation (Guiso et al. (2009)). Indeed, present-day distrust in finance is higher for respondents in counties with higher historical antisemitism, even after controlling for their risk tolerance and average generalized trust. Consistent with a relevant role of this channel in explaining our results, households that distrust finance more also report they invest less in stocks and bonds.

We cannot test directly whether distrust in finance caused ethnic tensions between Christians and Jews, or whether ethnic tensions paired with ethnic specialization produced

[3]We thank Stefano DellaVigna and Noam Yuchtman for inspiring this test.

a norm of distrust in finance over time, because we cannot observe households' attitudes toward finance in the Middle Ages. But if the cross-sectional variation of distrust in finance existed prior to antisemitism, it would have been produced by religious norms, and hence should have reflected the extent of religiosity across German counties in the distant past.[4] We cannot measure the extent of religiosity of the broader population in the Middle Ages, but we use the *World Value Survey* to construct a direct measure of the importance of religion at the local level for present-day households, irrespective of their religious denomination. Region-wide religiosity is negatively related to present-day stock market participation, but controlling for it does not change our results.

Overall, we cannot rule out completely that pre-existing distrust in finance caused antisemitism in the early Middle Ages in Europe, but three additional considerations suggest that antisemitism might have at least in part existed irrespective of distrust in finance. First, Muslims did not commit frequent pogroms against Jews during the Black Death period, even if Islam condemned moneylending like Christianity. Second, Christian merchants and families involved in financial services after the Middle Ages, such as the Medici family in Florence, were not persecuted by local populations, which should have happened had the population discriminated and persecuted financiers irrespective of their ethnicity. Because stock markets did not exist in the Middle Ages, salient stock market crashes cannot have determined the historical variation of historical antisemitism either.

A Related Literature

This paper builds on several strands of literature. First, we build on the literature that studies the determinants of the spatial variation of economic development. In particular, we build on research that focuses on variation of development across areas that face the same institutions and regulations. This literature was initiated by Banfield (1958) and Putnam (1993), who emphasize the importance of demand-side factors, such as social capital and generalized trust, to explain persistent localized differences in development. Gennaioli et al. (2013) use data from 110 countries covering 97% of the world GDP to show that human capital is crucial to account for regional differences in development. For the case of financial development, Guiso et al. (2004b) show that present-day social capital helps explain stock market participation, illiquid investments, and the use of checks across Italian counties. In Algan and Cahuc (2010), the inherited component of trust by immigrants affects economic growth in the United States. This literature has introduced influential measures of present-day social capital and trust, and has documented the robust association between

[4]We thank Paola Sapienza, our NBER discussant, for proposing this argument.

these dimensions and financial development. Our contribution to this literature is to propose a determinant of these local demand-side characteristics that is not prone to the concern of reverse causality between local characteristics and economic decision-making, and to test its effects on long-run development, instead of taking the present-day variation in demand characteristics as given.

Second, the paper builds on recent research in Political Economy documenting the long-run persistence of discrimination across ethnic minorities due to historical inter-ethnic tensions. Voigtlaender and Voth (2012) and Voigtlaender and Voth (2013) document that localized historical anti-Jewish sentiment persisted for centuries and can still be detected to the present day. Anderson, Johnson, and Koyama (2017) show that low agricultural yield explains the time-series and spatial variation of pogroms against Jews across Europe from 1100 to 1800. They argue Jews were richer than the average population due to their overrepresentation in lucrative economic activities, and hence represented scapegoats to expropriate at times of economic crisis and social unrest. Grosfeld, Sakalli, and Zhuravskaya (2017) argue that Jews were persecuted at times of low agricultural yield only in areas in which they were more overrepresented in grains trade and moneylending, and hence economic specialization combined with negative shocks was crucial to the emergence of pogroms against Jews.

We build on these results and on the fact that European Jews specialized for centuries in providing financial services in order to explain the present-day regional differences in financial development.

Previous work in contexts different from ours shows that persistent anti-minority sentiment due to historical inter-ethnic tensions is rooted in the historical economic specialization of ethnic groups. Jha (2014) shows that areas in Gujarat that enjoyed inter-ethnic economic complementarity in the past were less likely to engage in ethnic violence in 2002, whereas the opposite was true for areas in which inter-ethnic economic tensions arose in the past. Grosfeld, Rodnyansky, and Zhuravskaya (2013) show a positive effect of the Pale of Settlement–a region of present-day Ukraine in which Jews were confined–on post-Soviet electoral support for left-wing parties and on generalized trust. We contribute to this literature by asking whether the combination of ethnic specialization and historical ethnic conflict helps explain important present-day economic outcomes. We also contribute by investigating which demand- and supply-side channels might have transmitted the effects of historical inter-ethnic tensions on present-day economic outcomes. We see the demand-side channel of transmission of historical antisemitism on present-day economic outcomes as complementary to recent work that documents the supply-side effects of Jewish persecution

on a variety of outcomes (e.g., Acemoglu, Hassan, and Robinson (2011), Waldinger (2010), Akbulut-Yuksel and Yuksel (2015)).

Note that our results cannot reflect the generic anti-market beliefs studied by Grosfeld et al. (2013). Grosfeld et al. (2013) focus on sociological outcomes. Their main result is that households in areas with higher Jewish persecution were more likely to support left-wing parties in the 1990s. In untabulated results, we find no effect of historical antisemitism on the electoral support for left-wing parties of present-day Germans. Moreover, Grosfeld et al. (2013) find a positive association between generic anti-market beliefs and generalized trust. Generalized trust increases households' likelihood of demanding financial services (Guiso et al., 2009), and hence if the anti-market beliefs proposed by Grosfeld et al. (2013) explained our results, we should detect a *positive* effect of historical anti-Jewish sentiment on households' demand for financial services, which is the opposite of what we find. If anything, the channel Grosfeld et al. (2013) study should reduce the size of our estimated effects.

This paper additionally contributes to the literature by bringing together the two lines of research described above, that is, the analysis of regional differences in financial development and the long-run effects of historical ethnic tensions paired with ethnic specialization. So far, the first literature has focused mainly on documenting the role of present-day determinants in explaining present-day regional differences. The second literature has focused mainly on establishing the long-run persistence of political and sociological beliefs. Our paper builds on both approaches to study the deep-rooted, long-run determinants of present-day variation in economic outcomes and the channels through which these determinants affect present-day economic outcomes. This step is relevant not only as a research investigation, but also as a basis for informing policy makers about the aspects of the demand- and supply-side of financial services on which they should intervene in order to modify the economic behavior of households.

The paper also relates to the body of research that uses historical natural experiments to understand present-day outcomes, surveyed by Spolaore and Wacziarg (2013) and Nunn (2014). For the case of financial outcomes, D'Acunto (2016) labels this nascent approach "History & Finance." Recent contributions include Pascali (2016), who shows that Jewish-managed banking in Southern Italy triggered the establishment of competing Christian financial institutions. These institutions stayed after the expulsion of Jews, and their influence on financial development is still detectable. Because of this peculiar institutional feature in the Italian case, Pascali (2016) detects a positive association between historical Jewish persecution and the present-day supply of banking in Southern Italy. Pierce and Snyder (2017) find that present-day firms in African countries with higher historical

extraction of slaves face lower access to formal and informal credit, whereas D'Acunto (2017) shows that variation in basic education across European regions has persisted for centuries, and helps explain the present-day regional differences in income and innovation.

In the discussion of the potential supply- and demand-side channels that might help understand our results, the channel of discrimination against financial services requires that a cultural norm of distrust in finance has transmitted across generations at the local level. This hypothesis builds on the literature on the intergenerational transmission of norms, which has studied the persistence and vertical transmission of cultural traits like risk attitudes and trust both at the theoretical level (e.g., see Bisin and Verdier (2000) and Bisin and Verdier (2001)) and at the empirical level (e.g., see Dohmen, Falk, Huffman, and Sunde (2012)).

Finally, the paper relates to the literature on the stock market participation puzzle–the fact that many households do not actively invest in stocks and accumulate wealth through the high expected returns in the stock market. Other explanations include background risk (Paxson (1990), Guiso, Jappelli, and Terlizzese (1996)), social interactions (Hong, Kubic, and Stein (2004)), awareness (Guiso and Jappelli (2005)), generalized trust (Guiso et al. (2009)), insurance motives (Gormley, Liu, and Zhou (2010)), financial literacy (van Rooij et al. (2011)), macroeconomic experiences (Malmendier and Nagel (2011)), labor income risk (Betermier, Jansson, Parlour, and Walden (2012)), and corporate scandals (Giannetti and Wang (2016)).

2 Jewish Specialization in Finance and Historical Antisemitism

Our analysis is based on two features of the history of Jewish minorities across Europe since the Middle Ages. On the one hand, Jews had specialized in the provision of financial services after the fall of the Roman Empire. The sorting of Jews in the mercantile and financial sectors started around the eighth century, largely because of their human capital and their tradition in contract enforcement (Botticini and Eckstein (2012)).

Bans on lending money at interest for Christians and Muslims may have contributed to crystallizing this sorting. Pope Leo IX banned Christians from lending money at interest as far back as 1049, and Gratian formalized the ban in the *Corpus Iuris Canonici* in 1150. The human capital Jews had accumulated since the second century facilitated their sorting into trade and finance well before 1049. At the same time, an important push for the specialization of Jews in financial services and trade came also from the contemporaneous bans on owning land Jewish communities faced, which were common all over Europe during the Middle Ages (e.g., see Roth (1938) and Roth (1960)).

Financial institutions owned and led by Christians, such as the Medici Bank, were

active since the 15^{th} century, but the Catholic Church maintained a formal ban on usury for centuries. For instance, Pope Benedict XIV condemned firmly the sin of usury in his encyclical "Vix Perveni" of 1745. At the same time, the specialization of Jews in finance persisted for centuries even once the ban on moneylending had been effectively inactive for all Christian denominations. For instance, in 1882, 3% of German workers were Jewish, but 23% of the overall financial sector workforce, and more than 85% of the brokers in the Berlin stock exchange, were Jewish (see Glagau (1876) and Fritsch (1892)).[5] Gross (1975) argues that Jewish brokers started the Berlin stock exchange and enjoyed a monopoly on brokerage activities, to the extent that the few non-Jewish brokers would not work on Saturdays because of the lack of traders, even though the market was open.

Localized inter-ethnic tensions and outright violence against Jews also accompanied European Jewish communities since the Middle Ages. On top of religious antisemitism, the Jewish specialization in trading and finance led to the emergence of stereotypes and anti-Jewish sentiment related to the role of Jews in the economy. Reuveni and Wobick-Segev (2011) refer to this form of economic-based anti-Jewish sentiment as "economic antisemitism."

To date, the historiography of economic antisemitism is still debating the relationship between economic antisemitism and the discrimination and persecution of Jewish communities over the centuries. In particular, the debate is still open on whether violence against religious minorities existed beyond the minorities' occupational specializations, or whether hatred toward specific occupations led to the persecution of ethnic minorities that specialized in those occupations. Penslar (2001) argues that the distrust toward trade and the mercantile economy has roots in ancient Greece and Rome, and translated into distrust toward Jews once Jewish communities sorted into running financial services. In Sociology, Bonacich (1972), Bonacich (1973), and Horowitz (1985) propose a theory of ethnic tensions deriving from the specialization of ethnicities in different economic occupations. Ethnicities specializing in middlemen activities are especially prone to be subject to inter-ethnic violence.

Other historians argue that the motivations for Jewish persecutions in Europe were at first mainly cultural, political, and religious (e.g., see Flannery (1985)). This position is based on the observation that the first recorded acts of violence against Jews, such as the Alexandria pogrom in 38 CE, happened when Jews had not yet sorted into the mercantile and financial sectors (Barclay (1996)). Several attacks against synagogues were also recorded all over Europe in the fourth and fifth centuries, again before the Jewish sorting into moneylending and financial services. The *Codex Theodosianus* of 439 reflects this wave

[5]Table A.4 of the Online Appendix reports the share of Jewish workers across sectors in 1882 Germany.

of hatred against Jews, imposing restrictions of Jewish rights throughout the Roman Empire. Historians who support the non-economic roots of the early instances of persecution against Jewish minorities argue that the hatred against Jews as economic exploiters of the Christian majority appeared at a later stage (e.g., Poliakov (1975) and Perry and Schweitzer (2002)).

An additional argument in support of the view that early discrimination and persecution against Jews was not necessarily based on economic motives comes from a comparative analysis with other religious minorities in the Middle Ages. Several other religious minority groups like the Cathars and the Huguenots in France, or the Roma populations in the German lands and Eastern Europe, faced extensive persecution and violence based on religious and political grounds at the same time as the Jews, but largely unrelated to their role in the economy.

3 Data

Our tests require that we define proxies for local historical antisemitism across German counties, and that we assess the association between historical antisemitism and the likelihood that present-day households access financial services.

A Measures of Historical Antisemitism

We propose three proxies for historical antisemitism. The first proxy is the first principal component of six measures of anti-Jewish violence proposed by Voigtlaender and Voth (2012). The measures cover several types of acts of violence perpetrated against local Jewish communities in Germany after World War I, in the 1920s and 1930s, including the Nazi period. The variables that enter the *Voigtlaender-Voth principal component* (VV P.C.) are as follows: (i) the number of documented pogroms–that is, recorded acts of physical violence–against Jewish communities in the 1920s based on the information in Alicke (2008); (ii) the share of votes for the far-right and strongly antisemitic *Deutschvölkische Freiheitspartei* (DVFP) in 1924, which obtained a large share of the then-banned Nazi Party (NSDAP), based on the election data in Falter and Hänisch (1988); (iii) the share of votes for the NSDAP in 1928, which is also based on the data in Falter and Hänisch (1988); (iv) the logarithm of the number of "letters to the editor" published by the Nazi newspaper *Der Stürmer* from 1935 to 1938; (v) the share of Jews deported in 1933; and (vi) a dummy variable that equals 1 if a synagogue was destroyed or damaged in the 1920s and 1930s in the location. We consider the authors' extended sample of cities, which include all cities with Jewish communities during the Weimar Republic. The only difference between the

original version of the VV P.C. and the one we use in this paper is the level of aggregation of the information. Voigtlaender and Voth (2012) compute their variables at the city level, which we cannot do in this paper, because the finest geographic partition for which we observe financial data of present-day households is county (*Kreis*). We therefore compute the principal component by aggregating the city-level variables at the county level. Aggregation consists of summing up the count variables (number of pogroms in the 1920s and number of letters to *Stürmer*), averaging the share variables (share of DVFP votes in 1924, share of NSDAP votes in 1928, and share of Jews deported in 1933), and defining a dummy variable equal to 1 if a synagogue was destroyed or damaged in the 1920s and 1930s in any city within a county.

The second proxy aims to capture localized and deep-rooted historical antisemitism at the time when Jews still had the monopoly on the provision of financial services. This proxy, *Pogrom 1349*, is also based on observed violence against Jewish communities. It is a dummy that equals 1 if any town in the county experienced at least one anti-Jewish pogrom during the years of the Black Death around 1349. The Black Death was arguably the worst pandemic in human history, and up to one half of the European population at the time may have died. Unsubstantiated theories on the origins of the pandemic diffused all over Europe. Accusations against Jews were common and led to persecution, especially in the German lands. Voigtlaender and Voth (2012) find that the incidence of pogroms during the Black Death period predict the extent of Jewish persecution during the 1920s and 1930s at the town level. Similar to the principal component measure, the level of resolution of our financial data dictates that we depart from the city-level analysis of Voigtlaender and Voth (2012). For this reason, we also define *Pogrom 1349* as a dummy variable, but at the county rather than city level. A potential alternative definition for this proxy would be the count of the number of pogroms documented during the Black Death in cities that belong to the county. The number of pogroms is meaningful in a city-level analysis, because cities that experienced more pogroms must have developed stronger anti-Jewish sentiment in the past. But counting the number of pogroms in a county would artificially assign higher values of historical antisemitism to counties for which a higher number of cities have data on pogroms available, as opposed to counties with a higher concentration of pogroms.

Our third proxy for historical antisemitism is the mere presence of a Jewish community in each county at any point in time before 1300. This measure is not based on the documented acts of violence against local Jewish communities, and aims to capture the possibility that historical antisemitism arose in counties even if it did not necessarily express itself through pogroms or major acts of violence against Jews. Defining this measure as exposure to Jewish

communities before 1300 also allows us to assess separately the effects of exposure to Jews before the Black Death period and the actual explosion of anti-Jewish tensions at the time of the Black Death. Moreover, using exposure before 1300 allows us to assess the interaction effect of deep-rooted exposure to Jewish communities and violence against them during the Black Death period, to test whether counties with deep-rooted exposure to but no violence against Jews behave differently from exposed counties in which medieval violence against Jews emerged.

B Other Data Sources

To run the tests in the paper, we collect data from 13 additional sources.

The characteristics of German households are from the *Socio-Economic Panel* (SOEP) run by the *Deutches Institut für Wirtschaftsforschung Berlin* (DIW). The SOEP has conducted interviews on a yearly basis since 1984. For each wave, the SOEP includes households that have been interviewed in previous waves, as well as new households. Because we are interested in the cross-sectional association between historical antisemitism and financial development, we only include non-repeated observations when running the main analysis. A drawback of the SOEP data is that they do not provide the complete financial portfolios of households; hence, we cannot document how anti-Jewish sentiment affects every component of households' financial portfolios. Moreover, the SOEP data set does not include measures of the household head's risk aversion, financial literacy, or generalized trust which the literature on stock market participation identifies as important determinants for investing in stocks.

To address these shortcomings of the SOEP data, we show that our results are robust to using the balance sheets of the German households in the 2011 wave of the *Panel of Household Finances* (PHF) run by the *Deutsche Bundesbank*. We can match the PHF sample with the historical data for 1,256 households across 99 counties, and hence this data set is too small to be our main working sample. But in the PHF data, we can control directly for households' wealth, as well as the elicited risk aversion, financial literacy, and generalized trust of household heads. To test for the effects of historical antisemitism on present-day bank deposits, we collect information on German banks' balance sheets from *Bankscope*.

We obtain county-level historical characteristics from the *Ifo Prussian Economic History Database*, described in detail by Becker, Cinnirella, Hornung, and Woessmann (2014). We also collect a set of present-day county-level controls: socio-demographics from *DeStatis*; the index of land quality from Ramankutty, Foley, Norman, and McSweeney (2002); and the coordinates of the centroid of each county from *Eurostat*, which we use to

measure the Euclidean distance of each county from the Rhine Valley in our distance-based three-stage least-squares test we describe below. We construct a placebo test on the association between the distance from the Rhine Valley and stock market participation for French households to the West of the Rhine using the micro data underlying the *2014 Enquete Patrimoine* run by the Banque de France, which provides us with geo-coded information on the investment decisions of a representative set of present-day French households.

To assess the association between present-day antisemitism and financial development, we use data on present-day antisemitism at the county level from the German Social Survey (*ALLBUS*), which gathered information on Germans' attitudes toward Jews in 1996 and 2006. The data are described in detail in Voigtlaender and Voth (2013). We also use the ALLBUS data on present-day xenophobic attitudes to differentiate the role of antisemitism from generic xenophobia. To use these data, we arranged a special agreement between ALLBUS and DIW to merge these two proprietary data sources. Moreover, we use the micro data underlying the *World Value Survey*'s 2006 wave, in which households were asked about the importance of religion for their life and other questions related to religiosity. This survey allows us to create regional-level measures of the importance of religion to present-day households irrespective of their creed or denomination.

In the analysis of the channels that transmitted the long-run association between localized historical antisemitism and financial decisions, we also introduce three sources of data that are in large part new to research in Economics: (i) data on the market structure, competition, and efficiency in German banking at the county level from the *German Council of Economic Experts*[6]–an advisory institution to the German administration similar to the US Council of Economic Advisers (see Koetter (2013)); (ii) data on the foundation dates of German's Volksbanken and Raiffeisenbanken from the *Hoppenstedt database*, which allow us to construct the spatial diffusion pattern of credit unions across the German lands in the second half of the 19$^{\text{th}}$ century; and (iii) our own survey aimed at eliciting the distrust toward financial services of present-day German households. We ran the survey through the company *Clickworker* because we are not aware of any data on a representative set of German households regarding their trust toward financial services. We describe the survey design and characteristics in more detail in Section 7. These data include elicitation of several types of financial beliefs and attitudes, and are publicly available to any authors interested in their use.

[6]The original label of this institution is *Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung*, which is also referred to as the five wise men of the German economy (*Fünf Wirstchaftensweisen*).

C Summary Statistics

The full sample of non-repeated households in the SOEP county-level data set includes 29,680 observations. The county of residence is not available for 2,655 households. Moreover, we are missing the county-level historical information for 9,207 households. The remaining missing observations are due to refusal to answer demographic questions, such as the income or age of the household head.

We report the basic summary statistics for the variables in the main analysis in Table 1. The top panel of Table 1 describes the measures of historical antisemitism at the county level. We observe the emergence of pogroms during the Black Death and a county's exposure to Jewish communities before 1300 in 307 counties, whereas we can compute the VV P.C. of Jewish persecution for 298 counties. During the Black Death period, 54% of counties faced a pogrom against the local Jewish community, whereas 92% of the counties were exposed to local Jewish presence at least once before 1300. In the regression analysis, we assign the county-level value of each variables to all SOEP households residing in the county.

The middle panel of Table 1 reports the other observables measured at the county level, whereas the bottom panel describes household-level variables. The average fraction of households owning stocks between 1984 and 2011 is 16%. The average age of the person who makes financial decisions is 49 years. Thirty-nine percent of responding households are homeowners, and the average self-reported income is 31,355 euros. The SOEP survey does not ask households for an estimate of their overall wealth. We use income and homeownership to proxy for wealth. About 77% of responding households have a high school degree or higher levels of education. Moreover, about 13% of the households we observe reside in Eastern Germany.[7]

Figure 2 depicts the properties of historical antisemitism and present-day stock market participation at the county level. Panels (a) and (b) of Figure 2 show the spatial distribution of the standardized VV P.C. and of the average ratio of households that own stocks from 1984 to 2011. In both maps, the darker is the county, the higher is the value of the variable. The data are not available for blank counties. Violence against Jews in the 1920s and 1930s was higher in western counties. Stock market participation is higher in the south and in the north. As expected, participation is systematically lower in Eastern Germany. Panels (c) and (d) of Figure 2 plot the densities of the VV P.C. and present-day stock market participation, both measured at the county level. Panel (e) plots the correlation between the VV P.C. and the average ratio of households that own stocks from 1984 to 2011, which is negative (-0.13, p-value=0.03). Panel (f) of Figure 2 shows the average participation across counties

[7]Note that we only observe information for Eastern-German households starting in 1991.

with and without pogroms during the Black Death. Participation is higher in counties with no pogroms, but a t-test for the difference between the two means does not reject the null that the means are equal. We find the negative, although statistically insignificant, association between experiencing a pogrom around 1349 and present-day stock participation encouraging. Of course, the non-significant difference in stock market participation in the raw data might reflect substantial variation in important determinants of participation across counties such as income, age, or education, which is why we can only assess the precision of this negative association by running a multivariate analysis that keeps constant other determinants of participation across counties.

The Online Appendix describes additional characteristics of the raw data. In Figure A.1, we show that persecution was higher in states closer to the Rhine Valley than in those in Southern, Northern, and Eastern Germany. In Figure A.2, we plot the correlations between stockholdings and additional proxies for historical antisemitism in the raw data, all of which are negative.

4 Historical Antisemitism and Stock Market Participation

In the baseline analysis, we estimate the association between historical antisemitism measured at the county level and stock market participation by German households from 1984 to 2011. The following is our most general specification:

$$Pr(HoldsStocks_{ikt}|X_{ikt}, K_k) = \Phi(\alpha+\beta Historical\ Antisemitism_k+X'_{ikt}\gamma+K'_k\delta+Income\_deciles+\eta_t+\epsilon_{ikt}), \quad (1)$$

where $HoldsStocks_{ikt}$ is a dummy that equals 1 if household i in county k and surveyed in wave t holds any stocks, and $Historical\ Antisemitism_k$ is one of the proxies for historical antisemitism we describe in Section 3. X_{ikt} includes the following individual-level controls: gender, single status, age (2^{nd} degree polynomial), and dummies for college education, homeownership, and investment in life insurance. K_k includes the following county-level current and historical controls: latitude, income per capita, share of college-educated population, index of quality of cultivable land, log of population in 1933, log of Jewish population in 1933, share of population employed in the retail sector in 1933, share of population employed in manufacturing in 1933, and share of Catholic population in 1925. $Income\_deciles$ are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf.[8] η_t are a set of survey-wave group fixed effects, each capturing a group of four adjacent years.[9] We allow for correlation of unknown

[8] All the results are virtually identical if we include second- or third-degree income polynomials instead of deciles.

[9] Results do not change if we make the survey-wave fixed effects coarser or finer.

form across residuals at the county level, because attributing county-level measures to each household induces a mechanical correlation of residuals across households in the same county.

Table 2 reports the average marginal effects for our baseline specification. All the variables are standardized, with the exception of dummy variables. In columns (1)-(2), the proxy for historical antisemitism is the VV P.C. of Jewish persecution in the 1920s and 1930s. In column (1), we only include the logarithm of the number of Jews residing in each county in 1933 to scale the persecution measure by the size of the local Jewish community, and hence the scope for persecution. A one-standard-deviation increase in the VV P.C. (1.02) is associated with 0.9-percentage-point lower stock market participation. In column (2), we add the full set of historical and present-day controls, a dummy that equals 1 for households in Eastern Germany, and survey-wave group fixed effects. Adding this set of controls increases the size of the negative association between historical antisemitism and stock market participation to 1.4 percentage points. Because the average stock market participation rate in our sample is 16%, this association corresponds to about 9% of the average participation. In column (3), we use the medieval-persecution proxy: the dummy that equals 1 if a pogrom was documented in the county during the Black Death around 1349. Pogroms in 1349 are associated with a 2-percentage-point lower stock market participation by present-day households, which is 12.5% of the average participation rate. Thus, the associations between historical antisemitism in the Nazi period and in the Middle Ages and present-day stock market participation are statistically significant and economically large.

An important issue is whether our proxies for historical antisemitism are capturing an effect of the presence of a Jewish community in a county in the Middle Ages, because unobservables that favored the settlement of Jewish communities in the past could drive both historical antisemitism and present-day stockholdings. To address this point, we estimate specifications that include a dummy that equals 1 if the county was exposed to a Jewish community before the Black Death, as well as the interaction of this dummy with the measures of historical antisemitism. Note that the exposure to a Jewish community in the Middle Ages might be interpreted as a proxy for historical anti-Jewish sentiment by itself, as we discuss in Section 3. In particular, this dummy captures the potential for localized anti-Jewish sentiment that did not necessarily express itself in pogroms or major acts of violence against Jews. In columns (4)-(6) of Table 2, we find that the baseline associations between historical antisemitism and present-day stock market participation do not change substantially in terms of magnitude or statistical significance once we add the dummy for exposure to Jewish communities before the Black Death. Exposure is negatively associated with present-day stock market participation, which suggests that either historical

antisemitism that did not erupt in violence against Jews also helps explain stock market participation, or that counties with medieval exposure to Jews became less financially developed in the long run irrespective of antisemitism. In both cases, controlling directly for exposure to Jews does not change the baseline result that historical antisemitism is negatively related to present-day financial development. Moreover, we find that the effect of historical antisemitism on present-day stock market participation does not vary systematically across counties that were or were not exposed to Jews well before the Black Death. This result corroborates the interpretation of deep-rooted exposure to Jewish communities as a proxy for historical antisemitism by itself.

As a further test of the hypothesis that historical antisemitism relates to present-day financial development on top of the historical exposure to Jews, in columns (7)-(9) of Table 2, we restrict the sample to present-day households in counties in which a Jewish community was documented before 1300. Within this sample, we confirm that both the Nazi and medieval measures of historical antisemitism are negatively associated with present-day stock market participation in an economically and statistically significant manner.

5 Robustness

German counties are likely to differ along several dimensions, such as geography, history, and the quality of current and historical institutions. For these reasons, we check the robustness of the negative association between historical antisemitism and present-day stock market participation by considering partitions of the full sample. Table 3 reports the results for these estimations.[10] Each column refers to an alternative cut of the full sample. In Panel A, we report the estimation when using all counties in the subsample, which corresponds to column (2) of Table 2. In Panel B, we report the estimation corresponding to counties in the subsample in which a Jewish community existed before the Black Death, which corresponds to column (8) of Table 2.

We first verify that the baseline results hold when only considering counties in West Germany. Note that the baseline results in Table 2 already include a dummy variable for whether a county was part of Eastern Germany after the Second World War, but one might still be concerned about systematic non-linear differences in the effect across the two areas. In column (1) of Table 3, we find that our results do not change if we look only at Western counties.

In our second test, we add the longitude of the counties' centroids to the baseline specification as a direct control. This control is motivated by the fact that important shocks

[10]Table A.3 in the Online Appendix reports the coefficient estimates for the full set of covariates.

related to counties' longitude had differential long-run effects on the growth of German regions. For instance, Acemoglu et al. (2011) show that institutions imposed by the French on German areas closer to the French border after the French Revolution had a long-run effect on growth through their effect on institutions. In column (2) of Table 3, we find that our results are similar if we include longitude explicitly as a control in the baseline specification. Note that the shocks that had long-run effects on growth and were correlated with longitude happened after the Black Death of 1349. Such shocks then would only be able to explain the results if their geographic dispersion were highly correlated with the geographic distribution of medieval pogroms.

Moreover, we propose a specification that controls directly for a measure of the importance of religion at the local level. As we discussed in the introduction, if the cross-sectional variation of distrust in finance existed prior to antisemitism, it would have been the result of religious norms, and hence should have reflected the extent of religiosity across German counties in the distant past. Although we cannot measure the extent of religiosity of German households in the distant past, we can test if a persistent component of religiosity that transmitted locally to the present day explains our results. To do so, we consider respondents that declare that religion is "very important" to them in the 2006 wave of the *World Value Survey* (WVS), in which this question was asked. The most granular geographic level at which we observe respondents to the WVS is the *Bundesland*, and hence we compute the share of respondents that answer religion is very important to them at the *Bundesland* level. In column (3) of Table 3, we augment our baseline specification with this control, and we find that our baseline result is largely unchanged.

In columns (4)-(5) of Table 3, we exclude counties that were more open to trade and cultural exchange historically, because they were part of the Hanseatic League or hosted a bishop's seat. We find that our baseline results are unchanged.

Finally, in columns (6)-(9) of Table 3, we exclude groups of counties, which perform worst based on economic indicators in the present day. In column (6), we exclude the bottom quarter of counties by population density and hence the most rural counties; in column (7), we exclude the top quarter of counties by income inequality; in column (8), we exclude the bottom quarter of counties by average income and hence the poorest counties; and in column (9), we exclude the bottom quarter of counties by share of college-educated inhabitants and hence the least educated counties. Across all subsamples, we do not detect substantial differences compared to our baseline results.

A Forced Migrations of Ashkenazi Jews and Historical Antisemitism

Unobservable characteristics of German counties may have jointly determined Jewish persecution and long-run financial development. Ideally, we would have assigned anti-Jewish sentiment across similar German counties randomly before the Black Death of 1349, because the variation of historical antisemitism across counties has persisted since the Middle Ages.

To get close to such an experiment, we look at the forced migrations of Ashkenazi Jews out of the Rhine Valley after the 11^{th} century. We provide intuition for this strategy in Figure 3. In the top map of Figure 3, the darker is a county, the older is the first Jewish community documented in the county. Blank counties are those with missing data. The earliest Jewish presence in the German lands was found in the cities of Trier, along the Mosel, and Cologne, along the Rhine. Archaeologists date this presence to the ninth century. Research has found evidence of Jewish communities in the 10^{th} century along the entire Rhine Valley.[11] The Jewish population in other areas of current Germany was sparse before the 11^{th} century (Engelman (1944)). At the onset of the Crusades, Christian knights traveling from England and France to the Holy Land persecuted Jewish communities. Several towns on the Rhine expelled Jews, causing a massive Jewish migration toward Eastern, Northern, and Southern Germany. Evidence of sizable Jewish communities dates back to the late 13^{th} and 14^{th} centuries in Munich (south) and Berlin (east) (Toch, 2012).[12] The bottom maps of Figure 3 show the location of the cities of Trier, on the Mosel, and Emmerich, on the northern end of the German Rhine. The age of the first documented Jewish community in a county increases as one moves toward each of these cities.

We argue that the distance of counties from the Rhine Valley determined the existence of Jewish communities at the time of medieval persecutions. In a first step, we use the distance of a county from the Rhine Valley to predict the probability that a Jewish community existed in the county before the Black Death. In a second step, we use the existence to predict the extent of Jewish persecution. The rationale is as follows: in counties with no Jewish communities before the Black Death, violence against Jews cannot have emerged, because no targets for such violence existed. In counties where early Jewish communities existed, the probability of a historical pogrom against the local Jews is strictly positive ex ante, because of the mere presence of Jews.[13] In a third step, we use the persecution to predict present-day stock investments.

[11] We refer to Toch (2012) as a comprehensive economic history of European Jews in the Middle Ages.

[12] Only in the 15^{th} century did Ashkenazi Jews merge with the communities of Khazar origin who had moved from the Black Sea to current Poland. See van Straten (2004) for archaeological evidence and Elhaik (2013) for genetic-based evidence.

[13] Of course, we will not necessarily observe a positive realization, that is, a pogrom in all of these counties ex post.

Note this source of variation does not capture the different attitudes toward Jewish persecution across the counties that hosted Jewish communities, but only the variation in the likelihood of persecution between the counties that hosted a community and those that did not. Both margins of variation in persecution are relevant to our effect.

For this test, we consider five measures of the distance of a county from the Rhine Valley. They are the Euclidean distances of a county's centroid from five large cities that lie at different longitudes on the Rhine and Mosel rivers, namely, Mainz, Worms, Speyer, Trier, and Emmerich, on the northern end of the German Rhine. The shortest distance is about 2 km, whereas the greatest distance is 1100 km. The alternative measures aim to capture alternative gradients of the distance from the Rhine Valley, ranging from the southwest/northeast gradient and the northwest/southeast gradient. Across all gradients, the likelihood that a Jewish community existed in the Middle Ages increases toward the Rhine Valley.

If we wanted to interpret this strategy as a causal test for the effect of Jewish persecution on present-day financial development, we should assume a demanding exclusion restriction. The distance of a county from the Rhine Valley should not affect current stock market participation through channels different from the county-level historical persecution against Jewish communities. Moreover, Jewish communities escaping from the Rhine Valley should have been equally likely to settle in any counties at the same distance from the Rhine Valley. Note if the latter condition did not hold, we would expect, if anything, that Jewish communities were more likely to settle in counties with higher demand for financial services; hence, the selection would bias our reduced-form coefficients downward.

We propose two tests to assess the extent to which this exclusion restriction may be economically plausible. First, in Panel A of Table 4, we estimate the reduced-form effect of the distances from the Rhine Valley on the ratio of households that own stocks when the distance, instead of historical antisemitism, enters as a regressor, and when both the distance and the VV P.C. enter jointly. All the coefficients refer to OLS regressions. In odd columns, all five distances are positively associated with the likelihood that households hold stocks. Once the VV P.C. enters the reduced-form specifications, the estimated autonomous associations between the distances and stockholdings drop in magnitude, whereas the estimated standard errors attached to coefficients barely change. This result suggests that the distance from the Rhine Valley is unlikely to capture unobserved determinants of present-day stockholdings, which are not already captured by historical antisemitism.

Second, in Panel B of Table 4, we look at the effect of the distance on the likelihood that French households own stocks. If the distance from the Rhine captures anything peculiar to

the spatial diffusion of development or wealth, we should observe an effect of the distance on the stockholdings by French households to the west of the Rhine. Instead, if distance captures Jewish persecution we should find no effect of distance on the stockholdings of French households, because Jews did not escape to France, where Crusaders were already persecuting local Jewish communities. Across all our measures, we find no economically or statistically significant association between the distance from the Rhine and the stockholdings of French households.

To implement the three-stage strategy, we estimate the following linear system by OLS (see Becker and Woessmann (2009)):

$$\begin{aligned} Community\ 1349_{ik} &= \alpha + \beta \times Log\ Distance\ Rhine_{ik} + K'_{ik} \times \delta + \epsilon_{ik} \\ Persecution_{ik} &= \alpha + \ \beta \times \hat{Community\ 1349}_{ik} + K'_{ik} \times \delta + \epsilon_{ik} \\ Stockhold_{ik} &= \alpha + \beta \times \hat{Persecution}_{k} + X'_{ik} \times \delta + \epsilon_{ik}, \end{aligned}$$

where $\hat{Community1349}_{ik}$ and $\hat{Persecution}_{ik}$ are the predicted values for county k when estimating the system of three simultaneous equations. Panel A of Table 5 reports the results for estimating the first stage of the system, that is, the association between each measure of distance from the Rhine Valley and the likelihood that a Jewish community existed in the county in 1349, the time of the Black Death. Panel B reports the results for estimating the second stage of the system, whereas Panel C refers to the third stage.

In Panel A, the farther a German county is from the Rhine, the less likely a Jewish community is to have existed there in 1349. A one-standard-deviation increase in any of the distance measures is associated with a 13- (Trier) to 23-percentage-point (Worms) drop in the likelihood a community existed in 1349. In Panel B, the instrumented likelihood of a Jewish community in a county in 1349 increases the VV P.C. of historical Jewish persecution across all measures of distance. In Panel C, consistent with the baseline results, an increase in the instrumented persecution of Jews significantly reduces stock market participation when using any of the measures of distance from the Rhine Valley.

B Alternative Samples and Sources of Variation

The SOEP sample does not allow us to keep constant dimensions that previous research has shown to be important determinants of financial decision-making. Prior research shows that financial literacy (van Rooij et al., 2011), risk aversion (Samuelson, 1969), and household wealth are first-order determinants of stock market participation. Moreover, an important determinant of historical antisemitism could be households' religiosity, which might have

also persisted over time irrespective of households' religious denomination, and hence might confound our interpretation of the baseline results.

To assess the extent to which any of these dimensions might explain our results, we replicate the cross-sectional analysis on the German households in the 2011 wave of the *Panel of Household Finances* (PHF). The size of the PHF sample is more than one order of magnitude lower than the SOEP sample, and we can only exploit the variation in Jewish persecution across 99 German counties for which we have both historical data on persecution and PHF observations. For these reasons, we cannot use the PHF sample as the main sample in our analysis, but we believe it provides a useful alternative data set to assess the robustness of our baseline results. The PHF questionnaire asks households to provide an estimate of their overall wealth. It also elicits households' financial literacy and risk aversion using qualitative scales, as well as the frequency with which respondents attend religious functions, irrespective of their religious denomination.

All the results based on the PHF sample are reported in Table A.1 in the Online Appendix. In column (1) of Table A.1, we replicate our baseline results by estimating the specification in equation (1) and augmenting the right-hand side with direct measures of financial literacy, risk tolerance, the religiosity of the respondent, as well as a full set of dummies for wealth deciles. As expected, the measures of risk tolerance and financial literacy are positively associated with the likelihood of holding stocks, on top of the effect of being male and holding a college degree. We estimate a larger negative association between historical antisemitism and the likelihood respondents hold stocks in the PHF sample than in the SOEP sample, even after controlling for additional important determinants of stock market participation. One-standard-deviation higher historical antisemitism in the county decreases the likelihood that the household owns stocks by 7 percentage points, which is about 24% of the average likelihood of holding stocks in the sample. The likelihood of holding stocks in the PHF sample is 29%, which is similar to the likelihood of holding stocks for the SOEP households in the 2010 wave (28%).

In Section 1 of the Online Appendix, we also propose an alternative test to address the concern that historical persecution against Jews might have been perpetrated due to incentives unrelated to antisemitism. For instance, individuals and political leaders may have hoped to seize Jewish property if they took part in or promoted the attacks against Jews, which would have affected historical persecution against Jews as well as the long-run wealth of local households.

The test exploits political support for the Nazi party as an alternative proxy for historical antisemitism, because antisemitism was a major pillar of the Nazi party's ideology

in the late 1920s and early 1930s. But motivations other than antisemitism contributed to the political support for the Nazi party. In particular, the prolonged economic recession that hit Germany after 1929 was famously a major determinant of Nazi support. We therefore conjecture that voting support for the Nazi party should be a more direct proxy for antisemitism in counties in which unemployment was low with respect to the national average, whereas it should be a noisier proxy for antisemitism in counties in which unemployment was high, and hence motivations other than antisemitism might have increased Nazi votes. Armed with this interpretation, we estimate the effect of county-level Nazi votes in the general elections of September 1930 and of 1933 on present-day stock market participation.

Consistent with our conjecture, we find that Nazi votes are strongly negatively associated with present-day stockholdings in counties at the bottom of the distribution by unemployment, whereas this association stays negative but smaller in size and statistically insignificant for counties at the top of the distribution by unemployment. The negative association declines monotonically as the share of a county's unemployment decreases, as depicted in Figure A.3 of the Online Appendix. Contrary to Nazi votes, all the other dimensions we measure at the county level in the early 1930s do not produce the pattern described above, including the vote shares for non-antisemitic parties, as can be observed in Figure A.4 of the Online Appendix.

These results corroborate our baseline analysis by using a completely different source of variation and proxy for historical antisemitism than the ones we used above.

6 Historical Antisemitism and Banking: Mortgages and Deposits

So far, we have focused on the likelihood that German households hold stocks. Focusing on stock market participation is meaningful, because the defamation of Jews as stock-market manipulators survived in the press and popular culture even after the Jewish presence in other financial institutions, such as banking, had faded. The role of Jews in banking services started to decrease substantially with the foundation of the first *Raiffeisenbank* in 1843, and the subsequent diffusion of *Volksbanken* across German counties. Several generations of Germans have accessed banking services run by the non-Jewish population. But if the historical association between Jews and financial services affects current financial decisions through channels other than current antisemitism, we would expect also to find an effect of historical antisemitism on present-day Germans' access to banking services.

We first look at the decision to get a mortgage to finance homeownership. This decision

allows observing whether households increase their debt through bank financing, or if they use their own savings, keeping constant the likelihood that they are homeowners. For the case of Germany, looking at this margin is quite relevant: in 2001, 43% of German households owned their home, but only 20% of households have ever held mortgages; that is, only 47% of homeowners had financed their homeownership via a mortgage (Georgarakos et al. (2010)). In Table 6, we find that historical antisemitism is unrelated to households' decision to buy their home, but it significantly decreases the likelihood that households hold a mortgage. In columns (1)-(2), we report the coefficients for estimating two probit specifications whose outcome variable is a dummy equal to 1 if the household owns any real estate properties. The effect of antisemitism on the likelihood of homeownership is economically and statistically insignificant. In columns (3)-(4), we report the coefficients for the same specifications, but where the outcome variable is a dummy equal to 1 if the household has ever held a mortgage. A one-standard-deviation increase in historical antisemitism reduces the likelihood of holding a mortgage by 0.7 percentage points, which is 10% of the average likelihood of holding mortgages in our sample (6.9%).[14] The size and statistical significance of this association are in line with the effect of antisemitism on present-day stockholdings, which we documented above.

The second decision that relates households to banking services is their likelihood of saving through bank deposits. In the SOEP data set, we observe whether households declare that they regularly save part of their income. Reassuringly, in columns (5)-(6) of Table 6, we find that historical antisemitism is unrelated to the likelihood that the households in our sample declare that they regularly save part of their monthly income. This non-result suggests that households in counties with higher or lower historical antisemitism do not differ in their wealth or overall saving behavior. Ideally, we would like to observe the share of households' savings in bank deposits. Unfortunately, we do not observe this information in the SOEP sample. Our second source of household-level data, the PHF, does include information on whether households declare they have a checking/ savings account. We do find that 99.35% of respondents declare they have a checking/ savings account, which does not provide us with enough variation in this outcome to compare the behavior of households across counties with different levels of historical antisemitism. Because aggregate deposits of bank customers appear as liabilities in the balance sheets of banks, we can use aggregate data on the ratio of deposits to total assets for the banks that operate in each county. We obtain this information from *Bankscope*, and we regress this ratio on historical antisemitism and the other observables. This test aims to check the amount of money households deposit

[14]The average in our cross section of households observed from 1984 to 2011 is lower than the average for the cross section of households studied by Georgarakos et al. (2010), which are all observed in 2001.

in local banks, keeping constant the size of the local banks' activities. In columns (7)-(8) of Table 6, we find that a one-standard-deviation higher antisemitism reduces the county-level ratio of deposits over the sum of local bank assets by 1.5 percentage points, which is 2% of the average ratio of deposits over assets across counties (76%). This result is consistent with the notion that households in counties with higher historical antisemitism tend to use bank services less than other households.

Mortgages and deposits in the PHF data. For robustness, in Table A.1 of the Online Appendix, we replicate the results described above in the PHF sample of German households surveyed in 2010. Historical antisemitism is unrelated to the likelihood that households save a part of their monthly income regularly, and it is unrelated to the likelihood that the household is a homeowner. Instead, higher antisemitism is associated with a lower likelihood of holding a mortgage, even after controlling for wealth and for the elicited risk tolerance, financial literacy, and religiosity of the household head. In addition, we find that historical antisemitism is unrelated to outcomes that do not require accessing financial services (see columns (6)–(11)). In column (12) of Table A.1 of the Online Appendix, we also find suggestive evidence that households in counties with higher historical antisemitism keep a higher fraction of their wealth in cash form, although this effect is barely statistically significant. Overall, the PHF data also provide results consistent with the notion that present-day households in counties with higher historical antisemitism access financial services less than other households.

7 Channels Mediating the Effect of Historical Antisemitism on Financial Decisions

Several supply- and demand-side channels could explain the relationship between historical antisemitism, Jewish specialization in finance, and present-day financial development. After describing briefly the channels we consider, we proceed to assess their potential role in explaining our results.

On the supply side, historical persecution of local Jewish communities paired with the Jewish economic specialization in the financial sector could have represented a negative shock to the local availability and/or quality of local financial services. This negative shock could reflect on the quality and efficiency of present-day local financial services, as long as the segmentation across local financial markets has not completely disappeared over time. The negative shock could have persisted if, for instance, lower-quality local financial institutions replaced Jewish-run financial institutions in areas in which the Jewish

population was persecuted more in the past.[15] In this section, we assess the possibility that this channel explains our results using two sources of data, namely, data on the efficiency of the present-day German banking sector at the county level from the *German Council of Economic Experts* and data on the foundation dates of German's Volksbanken and Raiffeisenbanken from the *Hoppenstedt database*, which allows us to construct the spatial pattern of diffusion of credit unions across the German lands in the second half of the 19$^{\text{th}}$ century.

On the demand side, any potential channel that might partially explain our findings requires that historical antisemitism reduces households' present-day demand for financial services at the local level. Voigtlaender and Voth (2015) show that present-day antisemitic beliefs across Germany are positively correlated with historical antisemitism. This fact suggests three potential demand-side channels for our results. First, historical antisemitism might capture present-day households' "backwardness," that is, a set of cultural cues and beliefs that promote distrust toward the unfamiliar, including but not limited to stocks and financial services. Second, present-day households that are antisemitic may still associate financial services with Jews based on the historical economic specialization of Jews in finance and thus invest less in stocks and demand fewer financial services. Third, the combination of historical antisemitism with the Jewish specialization in financial services in the past might have produced a local cultural norm of distrust in finance. This norm might have persisted over time alongside antisemitism, and hence might still affect the financial decision-making of present-day households–even those that are not antisemitic. In this section, we use two sources of data to address the possibility that one or more of these channels explain our results: (i) confidential data on present-day antisemitism as well as other forms of xenophobia and racist beliefs from ALLBUS, which we were able to merge with the confidential information in SOEP for the first time, and (ii) a survey of present-day German households in which we elicited households' trust toward banks and the stock market, in addition to several other sets of beliefs and attitudes.

A Supply-Side Channels

To assess the possibility that historical antisemitism paired with the Jewish specialization in finance is associated with the quality of the present-day supply side of financial services across German counties, we start with testing whether historical antisemitism correlates

[15]Note that this potential channel would be the *opposite* of the channel documented by Pascali (2016). In Pascali (2016), the areas of Southern Italy from which Jews were expelled had seen the development of competing Christian financial institutions that explain the higher quality of the banking sector in those areas today, compared to areas that had never hosted Jews.

negatively with the present-day efficiency of the local banking sector.

To this aim, we obtained data on the efficiency of the present-day German banking sector at the county level from the *German Council of Economic Experts*. The data include a wealth of measures of efficiency of present-day local banking systems, each of which captures a different aspect of efficiency and competitiveness. The data cover measures of: (i) cost efficiency; (ii) price efficiency; and (iii) Lerner indices, defined as the difference between average revenues and marginal cost of the bank scaled by average revenues. Higher values of the Lerner index indicate higher market power for the banks in the county, because in a perfectly competitive market, average revenues equal marginal cost. Koetter (2013) describes the calculation of these measures in detail. For each measure, the data include a bank-level fixed-effect-panel stochastic frontier version (FEM), a latent-class stochastic frontier model version (LCM), and a cross-sectional stochastic frontier version (CSSF).

Table 7 reports the results of this analysis. We run a set of county-level regressions, whose right-hand side includes the same county-level controls as in equation (1). The measure of historical antisemitism is the VV P.C. of Jewish persecution. In each column of Table 7, the outcome variable is the measure of efficiency of the local banking system indicated at the top. Across the board, we fail to detect any systematic association between historical antisemitism and the present-day efficiency of the local banking sector, irrespective of the measure of efficiency we consider. The coefficients we estimate are neither economically nor statistically different from zero, and the sign of the point estimates changes across specifications. We interpret these results as direct evidence that historical antisemitism is not related to the present-day efficiency of the the local German banking sector.

These non-results are inconsistent with a long-run effect of Jewish persecution on the present-day supply of finance, although they might be consistent with a decrease in the supply side of finance in the past, alongside the decrease in the demand for finance. Whereas the county-level segmentation of financial services may have faded over time due to financial integration of German regions, the demand for financial services may not have changed. In particular, since 1843, credit unions (*Volks-* and *Raiffeisenbanken*) have diffused across Germany. They did and still do specialize in financing local businesses and collecting households' savings. If credit unions diffused early into more antisemitic areas, current households in those areas might be less aware of stock investment.

To assess this hypothesis, we collected data on the foundation dates of credit unions across German counties from the proprietary registry of the *Hoppenstedt Firmendatenbank*.[16]

[16]The registry reconstructs the chains of mergers and acquisitions over the decades for currently existing German banks. They collect the foundation date, the type, and other characteristics of any entity involved in these chains as far back as any information is retraceable.

Panel (a) of Figure A.5 of the Online Appendix shows the diffusion path of credit unions across Germany. In Panel (b) of Figure A.5 of the Online Appendix, we plot the year the first credit union is documented in a county against the ratio of deported Jews over the 1933 Jewish population at the county level. The two dimensions are not negatively correlated, so credit unions did *not* diffuse earlier in the more antisemitic counties.

A third potential supply-side channel concerns the skill structure of counties. Persecution may have reduced local financial services because a large share of finance workers were Jewish. If the depletion of human capital needed to run financial institutions drove our baseline effect, the effect should be larger in counties with a higher ratio of Jewish workers in finance in the past. We find no systematic association between the ratio of Jews in finance as of 1882 or 1933 and present-day stockholdings (see Panel (a) and Panel (b) of Figure A.6 of the Online Appendix). In untabulated results, we estimate our baseline specification using the present-day number of bank branches per capita at the county level as our dependent variable on the measures of historical antisemitism, and we find these two dimensions are also unrelated.

Note that, unlike the case of Italy studied by Pascali (2016), institutions the Church supported to compete with the Jewish monopoly in banking did not diffuse in Germany. In Pascali (2016), Christian financial institutions founded in areas with ethnic tension against Jews improved the strength of the financial sector in areas with higher historical ethnic tensions.

B Demand-Side Channels

Moving on to assessing potential demand-side channels, we first study the relationship between historical antisemitism, present-day antisemitism, and present-day stock market participation. Voigtlaender and Voth (2013) show that county-level historical antisemitism explains the spatial variation in present-day antisemitism. Based on this result, county-level measures of present-day antisemitism should be negatively associated with stock market participation. Note that present-day antisemitism could even be a demand-side channel that in part explains our results. Present-day households that are antisemitic may still associate financial services with Jews, and thus invest less in stocks and demand fewer financial services. Instead, if variation in historical antisemitism drives our results, and if historical antisemitism is not measured with substantial error, we should not detect a negative association between present-day antisemitism and stock market participation once we control for both historical antisemitism and present-day antisemitism in the same specification.

To discriminate between these two possibilities, we combined for the first time two proprietary individual-level geolocated German data sources, namely, the ALLBUS data on present-day social beliefs and the SOEP. From the ALLBUS data, we construct a measure of present-day antisemitism as the county-level average of individual responses regarding attitudes toward Jews, which were elicited in 1996 and 2006. As a main measure of current antisemitism, we use the reciprocal of the answer to question 307, which reads as follows: "Jewish people living in Germany should have the same rights as Germans in every respect." The answer scale ranges from 1 (Completely disagree) to 7 (Completely agree).[17]

Table 8 provides evidence that supports our conjectures. In columns (1) and (2), we find that present-day antisemitism measured at the county level is negatively associated with stock market participation when we do not control directly for historical antisemitism. At the same time, once we control for historical antisemitism in column (3), we detect no autonomous association between present-day antisemitism and stock market participation.

A related potential demand-side channel is present-day households' "backwardness," that is, a set of cultural cues and beliefs that promote distrust toward the unfamiliar, including stocks and financial services. Present-day antisemitism might be a weak proxy for backwardness, which would be why we do not detect an association with stock market participation once we control for historical antisemitism. To test whether "backwardness" might explain our results, we construct a measure for present-day xenophobia at the county level using the ALLBUS data, similar to the way we constructed the measure of present-day antisemitism described above. The measure of present-day xenophobia is the reciprocal of the answer to question 306, which reads as follows: "Turkish people living in Germany should have the same rights as Germans in every respect." The answer scale ranges from 1 (Completely disagree) to 7 (Completely agree). In columns (4)-(6) of Table 8, we find that present-day xenophobia does not explain stock market participation in our setting, whether or not we control directly for historical antisemitism.

Motivated by Gennaioli et al. (2015), we move on to test directly whether a persistent cultural norm of distrust in finance, transmitted across generations, might contribute to explain our results. Past households in counties where strong negative stereotypes against the Jews had developed might have also developed a negative stereotype toward what the Jews represented at the time, namely, the financial sector.

We do not observe distrust in financial institutions for the households in the SOEP sample, and hence, we run our own survey on a sample of 1,000 German households, asking them the extent to which they trust the stock market, commercial banks (*Privatbanken*),

[17] In Table A.2 of the Online Appendix, we show that all the results are virtually identical when we use alternative questions related to current antisemitism and xenophobia.

and local banks (*Sparkassen* and *Genossenschaftsbanken*). The company *ClickWorker* administered the survey on a stratified sample of the German population that sign up to the platform to perform tasks and surveys for pay. The respondents only know they are part of a survey, and they ignore the identity or scopes of the researchers. This protocol is crucial to avoid demand effects invalidating the procedure. We also ask for demographics and the zip code in which respondents reside, which we map into counties.

We adapted the questions developed for the United States in the Kellogg-Booth Index of Financial Trust (Sapienza and Zingales (2012)). In the Online Appendix, we report the questions in the original survey. After providing their demographics, the respondents answered a set of four questions asking the extent to which they trust others (generalized trust), the stock market, commercial banks, and local banks, on a scale from 1 (do not trust at all) to 7 (trust completely). We also elicited households' willingness to take risks in general and in financial decisions, on a similar scale from 1 to 7. Finally, the respondents reported whether they owned stocks and whether they had a primary banking relationship with a commercial bank or with a local bank. The final sample on which we can run the analysis is about one half the original 1,000 households. This drop in the sample size is due to the loss of respondents in counties for which we have no historical persecution data. Also, our final sample is distributed across 57 counties, because we don't have respondents for all German counties in the survey, and we only consider counties for which we have at least five respondents, to guarantee the representativeness of the answers.[18]

To make the results directly comparable to the baseline analysis, we transform the trust measures into dummy variables that equal 1 if the measure is larger than or equal to 5, and zero otherwise, and we estimate probit specifications whose outcomes are the trust in each of the financial institutions.[19] Table A.5 of the Online Appendix reports the summary statistics and the correlational structure across these trust measures. Interestingly, the correlations across the financial trust measures, and with generalized trust, are positive but not high. A "pecking-order" of trust exists in financial institutions: on average, 41% of respondents trust local banks, 17% trust commercial banks, and only 13% trust the stock market. The average generalized trust is 39%, and its correlation with the measures of financial trust varies from 9% to 11% across measures. Risk tolerance is correlated with the trust in the stock market (38%), but not with the trust in local banks (2%), which suggests that controlling for the respondent's risk tolerance in the analysis is important.

In Panel A of Table 9, we regress the trust toward the stock market on VV P.C.

[18]The results are similar if we change this threshold.

[19]All the results are qualitatively similar if we instead use the original categorical variables and estimate multinomial logit specifications.

(columns (1)-(2)), after controlling for generalized trust, risk tolerance, and demographics at the individual level. A one-standard-deviation increase in historical antisemitism is associated with a 4-percentage-point drop in the respondents' trust in the stock market. Columns (3)-(4) of Table 9 report a similar specification whose outcome is the dummy for whether respondents trust commercial banks, and columns (5)-(6) of Table 9, for whether respondents trust local banks. We do not detect an association between Jewish persecution and the trust in commercial banks, but we find that a one-standard-deviation increase in persecution is associated with an 8-percentage-point drop in the trust in local banks. Panel B of Table 9 shows that the trust measures we elicit are positively associated with the trusted outcomes, even when controlling for generalized trust, risk tolerance, and respondents' demographics.

Overall, the tests in this section do not allow us to assess definitively the role of any possible channels in explaining our results. We do not find strong supporting evidence for any of the supply- and demand-side channels we consider, with the exception of a cultural norm of distrust in finance, transmitted locally across generations and still influencing German households' financial decisions.

8 Conclusions

Historical ethnic tensions paired with ethnic specialization produce long-run discrimination against the economic activities in which minorities specialized. We show that this combination has substantial effects on long-run economic decision-making and helps us understand the persistent spatial variation in financial development. Households in German counties where historical antisemitism was higher in the Middle Ages and the Nazi period access financial services less than other households. They are less likely to hold stocks, they have fewer mortgages, but not lower homeownership, and they put less savings into bank accounts, but are as likely as other households to save. We find suggestive evidence that households in counties with higher historical antisemitism are more likely to keep their money in cash form.

We assess a set of channels that might explain how ethnic tensions and ethnic specialization can affect economic outcomes in the long run. A set of supply-side explanations do not appear to be able to fully explain our findings. On the demand side, our results are consistent with a lingering discrimination against financial services by households in counties in which historical antisemitism was higher.

Future research should study which policy interventions might moderate the transmission of norms that affect the economic decision-making process of households in the long

run. For instance, can financial education dissipate a deep-rooted norm of discrimination against financial services, by making households aware of the costs of not accessing finance? Or do households decide not to invest despite knowing the negative effects of their actions on the long-run accumulation of financial wealth? Answering these questions is crucial to designing policies that might increase financial development in the long run, and to inform governments on which costly place-based policies they implement might be ineffective simply because they do not affect the ultimate determinants of local underdevelopment.

Our results contribute to the interdisciplinary debate on inter-ethnic tensions, hatred beliefs, and their long-term consequences on societies. Because of the historically high equity premium and the reliance of firms on equity capital, hatred against Jews in the past reduces not only the long-term wealth of the persecuted, but of the persecutors as well.

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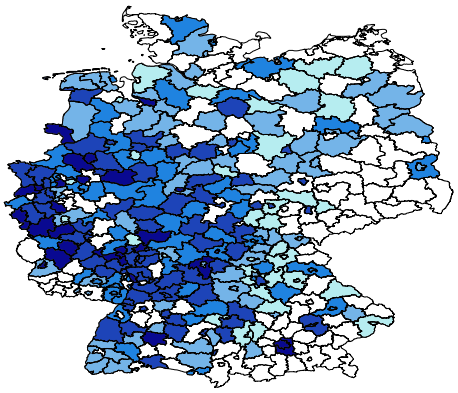
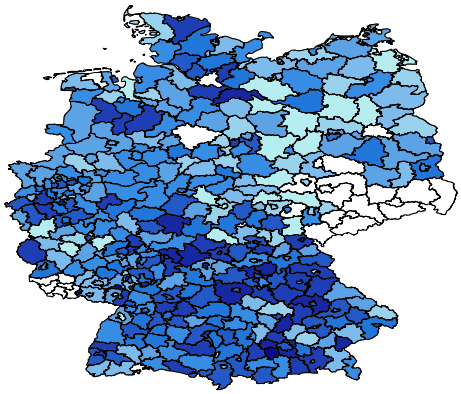
Figure 2: **Data Properties: Historical Antisemitism and Stock-Market Participation**

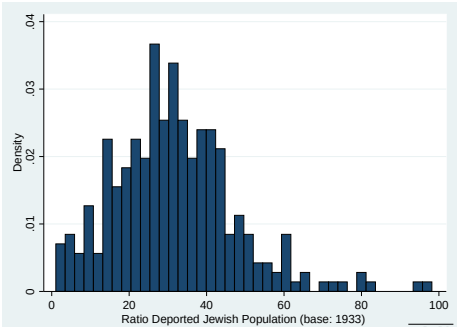
(a) VV Principal Component



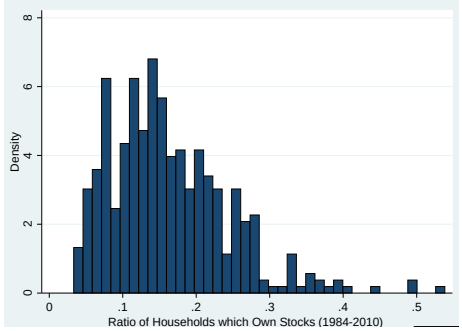
(b) Present-day Stock-Market Participation



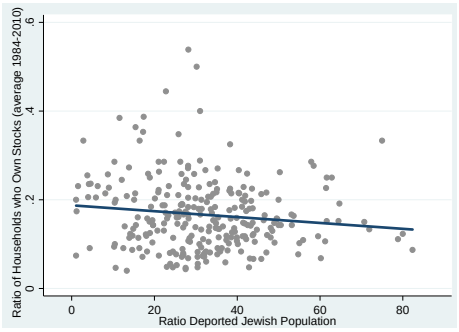
(c) VV Principal Component



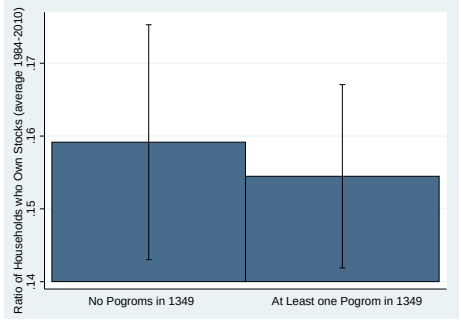
(d) Stock Market Participation Density



(e) VV Principal Component and Participation



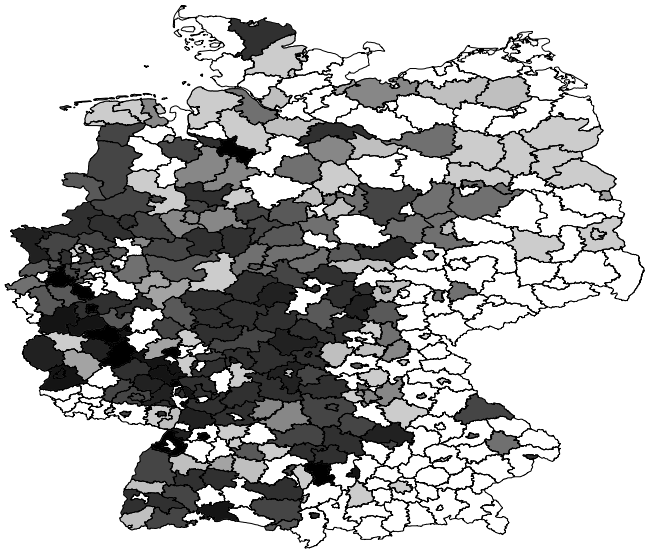
(f) Pogroms and Participation



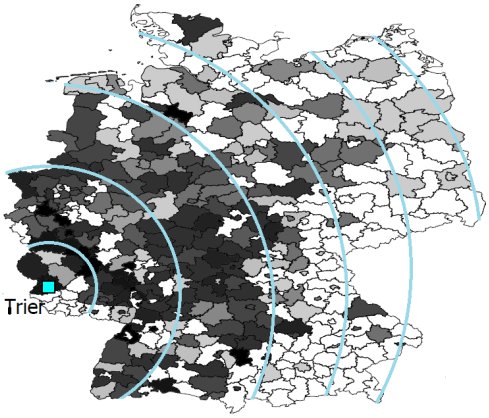
In Panels (a) and (b), the darker a county is, the higher the value of the depicted variable. Blank counties are those for which the data are not available. Panel (a) plots Voigtlaender-Voth principal component (VV P.C.) of Jewish Persecution in the 1920s and 1930s. Panel (b) plots the average yearly ratio of households who have invested in stocks from 1984 to 2011. Panels (c) and (d) plot the sample distributions of the same measures as above. Panel (e) depicts the unconditional correlation between stock market participation and the VV P.C. across German counties. Panel (f) shows the mean stock market participation in counties that experienced and did not experience a pogrom in 1349.

Figure 3: **Settlement of Jewish Communities and Distance from the Rhine Valley**

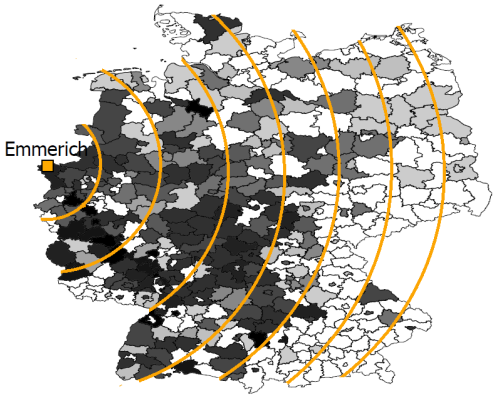
(a) Year when the first Jewish community was documented



(b) Counties at same distance from Trier



(c) Counties at same distance from Emmerich



The maps document the foundation dates of Jewish communities at the county level. The darker a county is, the earlier a Jewish community was documented in that county. Blank counties are those for which the data are not available. The bottom maps show the location of the cities of Trier, on the Mosel, and Emmerich, on the northern end of the river Rhine in Germany. The isodistance curves centered around those two cities emphasize which counties are at the same distance from Trier or Emmerich.

Table 1: **Summary Statistics**

This Table reports summary statistics for measures of historical antisemitism in Germany, and for the characteristics of households and counties where households live. Each observation is a German household interviewed by SOEP any time between 1984 and 2011. For each variable, the table reports the number of observations for which the variable is observed, its mean, standard deviation, minimal, and maximal values. The table reports statistics for households for which we observe the county of residence. We exclude repeated observations. VV principal component is the principal component of Voigtlaender and Voth (2012) of their different measures of Jewish persecution in the 1920s-1930s, Pogrom 1349 is a dummy variable which equals 1 if a pogrom against Jews occurred during the Black Death, and Exposure to Jews pre-1300 is a dummy variable which equals 1 if a county hosted a Jewish community before 1300.

	Obs.	Mean	Std	Min	Max
	(1)	(2)	(3)	(4)	(5)
Historical antisemitism					
VV Principal component	298	−0.61	1.02	−3.84	2.25
Pogrom 1349	307	0.54	0.50	0.00	1.00
Exposure to Jews pre-1300	307	0.92	0.27	0.00	1.00
County characteristics					
Log Jews 1933	307	5.43	1.76	0.00	11.99
Percentage unemployed 1933	307	16.24	8.26	2.62	40.52
Percentage blue collars 1933	307	42.86	11.32	16.49	72.40
Percentage self employed 1933	307	21.01	4.55	9.10	32.74
Percentage catholics 1925	307	36.75	34.62	0.50	98.77
Latitude	443	50.64	1.72	47.95	54.03
Land quality index	442	0.56	0.14	0.31	0.87
Income per capita 2005	413	17,294	2,280	12,846	27,253
Population density 2005	425	2,308	2,549	546	29,036
Percentage college graduates 2005	430	24.49	5.03	17.60	34.60
Household characteristics					
Holds stocks	26,761	0.16	0.37	0.00	1.00
Homeowner	27,064	0.39	0.49	0.00	1.00
Has life insurance	26,761	0.47	0.50	0.00	1.00
Income	26,761	31,522	26,614	-36	986,400
Age	21,981	48.62	17.64	17.00	97.00
Female	21,982	0.49	0.50	0.00	1.00
Single	27,064	0.18	0.38	0.00	1.00
High school or higher	27,079	0.77	0.42	0.00	1.00
Eastern Germany	27,079	0.13	0.34	0.00	1.00

Table 2: **Historical Antisemitism and Present-day Stock Market Participation**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(HoldsStocks_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}).$$

Each observation is a German household interviewed by SOEP between 1984 and 2011. In all columns, the dependent variable is a dummy which equals 1 if the household holds stocks. The main covariate of interest, Historical Antisemitism, is the measure of historical antisemitism described at the top of each column–either the Voigtlaender-Voth principal component (VV P.C.) of Jewish persecution in the 1920s-1930s, or a dummy that equals 1 if the county experienced a pogrom against the local Jewish community during the Black Death, around 1349. X_{ik} includes the following individual-level controls: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy. Other individual controls include: homeownership dummy and life and social insurance dummy. Other historical controls include: log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Other regional controls include: population density; latitude; index of quality of cultivable land. Income_deciles are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	All Counties			All Counties			Only if Jewish Community in 1300		
	VV P.C.	VV P.C.	Pogrom 1349	VV P.C.	VV P.C.	Pogrom 1349	VV P.C.	VV P.C.	Pogrom 1349
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Historical Antisemitism	−0.009**	−0.014***	−0.020**	−0.009**	−0.014***	−0.018*	−0.021*	−0.021*	−0.039**
	(0.005)	(0.004)	(0.009)	(0.005)	(0.004)	(0.010)	(0.013)	(0.011)	(0.017)
Exposure to Jews pre-1300				−0.009	−0.022**	−0.026*			
				(0.016)	(0.011)	(0.013)			
Antisemitism × Exposure				0.010	0.006	0.021			
				(0.010)	(0.008)	(0.017)			
Log Jews 1933	0.007***	0.003	−0.001	0.008***	0.000	−0.001	0.008***	−0.002	−0.006
	(0.003)	(0.005)	(0.004)	(0.003)	(0.005)	(0.004)	(0.003)	(0.008)	(0.006)
% Catholics 1925		0.000	0.000		0.000	0.000		0.000	0.000
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
Age		−0.002*	−0.002**		−0.002*	−0.002**		−0.002	−0.002*
		(0.001)	(0.001)		(0.001)	(0.001)		(0.001)	(0.001)
Age^2/100		0.043***	0.046***		0.043***	0.005***		0.0415***	0.043***
		(0.011)	(0.011)		(0.011)	(0.000)		(0.012)	(0.012)
Female		−0.001	−0.002		−0.001	−0.002		0.001	0.000
		(0.006)	(0.006)		(0.006)	(0.006)		(0.006)	(0.006)
Single		0.060***	0.060***		0.060***	0.060***		0.059***	0.059***
		(0.010)	(0.009)		(0.010)	(0.009)		(0.010)	(0.010)
College		0.011***	0.010***		0.012***	0.012***		0.011***	0.010***
		(0.004)	(0.004)		(0.004)	(0.004)		(0.004)	(0.004)
Eastern Germany		−0.024	−0.021		−0.026	−0.021		−0.024	−0.021
		(0.021)	(0.020)		(0.021)	(0.019)		(0.021)	(0.020)
Income p.c. 2005		0.005***	0.003*		0.005***	0.003*		0.004**	0.003
		(0.002)	(0.002)		(0.002)	(0.002)		(0.002)	(0.002)
% College graduates 2005		0.001	0.001		0.001	0.001		0.001	0.001
		(0.001)	(0.001)		(0.001)	(0.001)		(0.001)	(0.001)
Income deciles		X	X		X	X		X	X
Other individual controls		X	X		X	X		X	X
Other historical controls		X	X		X	X		X	X
Other regional controls		X	X		X	X		X	X
Wave groups f.e.		X	X		X	X		X	X
Observations	13,599	13,599	13,870	13,599	13,599	13,870	12,737	12,737	12,873
N. of clusters	261	261	270	261	261	270	243	243	248
(Pseudo-) R2	0.001	0.105	0.106	0.001	0.106	0.106	0.001	0.106	0.106

Table 3: **Historical Antisemitism and Present-day Stock Market Participation: Robustness**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(HoldsStocks_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}),$$

across subsamples defined by the column headings. Each observation is a German household interviewed by SOEP between 1984 and 2011. In all columns, the dependent variable is a dummy that equals 1 if the household holds stocks. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Individual controls include: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy; homeownership dummy; and life and social insurance dummy. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Only Western Germany	Adding Longitude	Adding Religiosity	Excl. Hanse	Excl. Bishop Seats	Excl. Least Populated	Excl. High Inequality	Excl. Poorest Counties	Excl Least Educated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Panel A. All Counties				
Historical Antisemitism	−0.015***	−0.010**	−0.010**	−0.011***	−0.013***	−0.013***	−0.016***	−0.020***	−0.013**
	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Observations	12,701	13,599	13,599	11,289	12,152	11,168	11,012	11,144	10,128
N. of clusters	226	261	261	235	240	188	206	200	191
(Pseudo-) R2	0.106	0.093	0.093	0.093	0.093	0.095	0.094	0.096	0.090
					Panel B. Only if Jewish Community in 1300				
Historical Antisemitism	−0.015***	−0.011**	−0.011**	−0.012***	−0.013***	−0.014***	−0.017***	−0.020***	−0.013**
	(0.004)	(0.004)	(0.005	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Observations	11,873	12,737	12,737	10,427	11,290	10,564	10,501	10,472	9,506
N. of clusters	209	243	243	217	222	178	193	187	180
(Pseudo-) R2	0.108	0.093	0.093	0.094	0.094	0.096	0.095	0.098	0.090
Income deciles	X	X	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X	X	X
Historical controls	X	X	X	X	X	X	X	X	X
Regional controls	X	X	X	X	X	X	X	X	X
Wave group f.e.	X	X	X	X	X	X	X	X	X

Table 4: **Exclusion Restriction: Distance and Persecution in Reduced Form**

Panel A reports average marginal effects for estimating the following probit specification:

$$Pr(HoldsStocks_i|X_i, K_k) = \Phi(\alpha + \beta_1 \times Distance\ Rhine_k + \beta_2 \times Historical\ Antisemitism_k + X_i' \times \delta + K_k' \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}),$$

where Distance Rhine is the natural logarithm of different measures of distance from the Rhine Valley indicated above each column, and VVP.C. is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Panel B reports the coefficients for regressing a dummy that equals 1 if the household holds stocks on the measure of distance from the Rhine Valley indicated above each column, on the subsample of French households from the Enquete Patrimoine, which live to the west of the Rhine Valley. Individual controls include: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy; homeownership dummy; and life and social insurance dummy. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. Income_deciles are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$

	Distance Mainz		Distance Worms		Distance Speyer		Distance Trier		Distance Emmerich	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Panel A: Reduced Form									
Log Distance	0.0117**	0.0076	0.0127**	0.0089	0.0149**	0.0111*	0.0129**	0.0104	0.0165**	0.0109
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)
VV P.C.		−0.0133***		−0.0132***		−0.0129***		−0.0132***		−0.0127***
		(0.004)		(0.004)		(0.004)		(0.004)		(0.005)
Income deciles	X	X	X	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X	X	X	X
Historical controls	X	X	X	X	X	X	X	X	X	X
Wave group f.e.	X	X	X	X	X	X	X	X	X	X
Regional controls	X	X	X	X	X	X	X	X	X	X
Observations	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870	13,870
Adjusted R^2	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068

	Distance Trier			Distance Emmerich			Minimal Distance		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Panel B: French Households: West of the Rhine Valley, no Jewish migrations								
Log Distance	−0.003	-0.005	−0.004	0.005	−0.003	-0.003	-0.003	−0.005	−0.004
	(0.013)	(0.011)	(0.011)	(0.028)	(0.024)	(0.024)	(0.013)	(0.011)	(0.011)
Income quintiles		X	X		X	X		X	X
Individual controls		X	X		X	X		X	X
Regional controls	X	X	X	X	X	X	X	X	X
Size of town			X			X			X
Observations	9,692	9,383	9,383	9,692	9,383	9,383	9,692	9,383	9,383
Adjusted R^2	0.01	0.13	0.13	0.01	0.13	0.13	0.01	0.13	0.13

Table 5: **Three-stage OLS: Distance from Rhine, Historical Antisemitism, Stockholdings**

This table reports OLS coefficients for the three-stage instrumental variable procedure described in Section 5. In the first stage (Panel A), the probability that a Jewish community existed in 1349 in each German county is predicted by the the distance of the county from the Rhine Valley. In the second stage (Panel B), the Voigtlaender and Voth (2012) principal component of measures of Jewish persecution in the 1920s and 1930s is predicted with the predicted probability that a Jewish community existed in a county in 1349. In the third stage (Panel C), the ratio of households who own stocks in each county is predicted with the predicted extent of Jewish persecution. In all stages observations are German counties and coefficients are estimated with OLS. Individual controls include: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy; homeownership dummy; and life and social insurance dummy. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. We report Hubert-White standard errors. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Distance Mainz	Distance Worms	Distance Speyer	Distance Trier	Distance Emmerich
Panel A. First Stage: Jewish Community Exists in 1349					
	(1)	(2)	(3)	(4)	(5)
Log Distance	−0.227***	−0.199***	−0.186***	−0.131***	−0.196***
	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
Adj. R^2	0.35	0.34	0.33	0.30	0.32
Panel B. Second Stage: Historical Antisemitism (V.V. PC)					
Existence 1349	1.244***	1.375***	1.599***	2.418***	2.36***
	(0.050)	(0.058)	(0.064)	(0.098)	(0.070)
Adj. R^2	0.51	0.50	0.51	0.51	0.52
Panel C. Third Stage: Holds Stocks					
VV P.C.	−0.044**	−0.050**	−0.053**	−0.044**	−0.035**
	(0.021)	(0.022)	(0.021)	(0.021)	(0.016)
Adj. R^2	0.08	0.08	0.08	0.08	0.08
Income deciles	X	X	X	X	X
Individual controls	X	X	X	X	X
Historical controls	X	X	X	X	X
Regional controls	X	X	X	X	X
Wave group f.e.	X	X	X	X	X
Observations	13,599	13,599	13,599	13,599	13,599

Table 6: **Historical Antisemitism, Mortgages, and Deposits**

Columns (1)-(6) report average marginal effects computed after estimating the following probit specification:

$$Pr(Depvar_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}).$$

Each observation is a German household interviewed by SOEP between 1984 and 2011. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. X_{ik} includes the following individual-level controls: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy. Other individual controls include: homeownership dummy and life and social insurance dummy. Other historical controls include: log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Other regional controls include: population density; latitude; index of quality of cultivable land. Income_deciles are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf. The outcome variable, $Depvar_{ik}$, is a dummy that equals 1 if the household owns any real estate property in columns (1)-(2), a dummy that equals 1 if the household has ever had a mortgage outstanding in columns (3)-(4), and a dummy that equals 1 if the household declares they save part of their monthly income regularly in columns (5)-(6). Columns (7)-(8) report the results for a county-level OLS regression of the ratio of total bank deposits in each county to total assets. We aggregate the branch level deposits and assets from Bankscope at the county level. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Home Owner		Has a Mortgage		Regularly Saves part of Income		Deposits/Assets Local Banks	
	Probit	Probit	Probit	Probit	Probit	Probit	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VV P.C.	−0.009	−0.008	−0.007**	−0.007**	0.006	0.005	−0.015**	−0.015**
	(0.010)	(0.011)	(0.003)	(0.003)	(0.007)	(0.020)	(0.007)	(0.006)
Log Jews 1933	−0.007	−0.011	0.004	0.004	−0.001	−0.001	−0.025**	−0.021**
	(0.011)	(0.012)	(0.003)	(0.003)	(0.009)	(0.007)	(0.011)	(0.010)
% Catholics 1925	0.002	0.000	0.000	−0.001	0.000	0.000	0.000	0.000
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age	0.000	−0.001	0.011***	0.01***	−0.001	−0.005***		−0.002
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)		(0.002)
Age^2 /100	0.000	−0.001	−0.001***	−0.001***	0.001***	0.001***		
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)		
Female	0.019*	0.019*	−0.005	−0.004	−0.034***	−0.032***		0.005
	(0.010)	(0.010)	(0.004)	(0.004)	(0.009)	(0.008)		(0.044)
Single	0.153***	0.147***	−0.001	0.006	0.077***	0.092***		−0.035
	(0.013)	(0.013)	(0.006)	(0.007)	(0.017)	(0.018)		(0.072)
College	0.036***	0.033***	−0.001	0.003	−0.016***	−0.012***		0.230
	(0.006)	(0.005)	(0.002)	(0.002)	(0.005)	(0.005)		(0.177)
Eastern Germany	0.068	0.065	−0.019*	−0.019*	0.005	0.005		0.079***
	(0.049)	(0.048)	(0.011)	(0.010)	(0.030)	(0.028)		(0.020)
Income p.c. 2005	−0.004	−0.003	0.001	0.002	0.003	0.001		−0.001
	(0.004)	(0.004)	(0.001)	(0.001)	(0.003)	(0.003)		(0.007)
% College graduates 2005	0.001	−0.003	0.001	0.001	0.001	0.001		
	(0.030)	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)		
Income deciles	X	X	X	X	X	X		
Other individual controls		X		X		X		X
Other historical controls		X		X		X		X
Other regional controls		X		X		X		X
Wave groups f.e.		X		X		X		
Observations	11,484	11,484	11,484	11,484	10,900	10,900	236	236
N. of clusters	236	236	236	236	236	236		
(Pseudo-) R^2	0.05	0.06	0.16	0.18	0.09	0.11	0.07	0.19

Table 7: **Historical Antisemitism and Local Banking Efficiency**

This Table reports OLS coefficients for the following spefication:

$$Bank\ Efficiency_k = \alpha + \beta \times Historical\ Antisemitism_k + K_k' \times \delta + \epsilon_k.$$

Bank Efficiency are different measures for the efficiency of the local banking system from the German Council of Economic Experts listed on top of each column. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. We report Hubert-White standard errors. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Cost Efficiency			Price Efficiency			Lerner Indices				
	FEM	LCM	CSSF	FEM	LCM	CSSF	OLS	FEM	LCM	CSOLS	CSSF
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VV P.C.	0.000	−0.002	0.006	−0.001	−0.002	0.004	0.003	0.002	0.000	0.002	0.002
	(0.002)	(0.003)	(0.004)	(0.004)	(0.002)	(0.006)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)
Historical controls	X	X	X	X	X	X	X	X	X	X	X
Regional controls	X	X	X	X	X	X	X	X	X	X	X
Observations	231	231	231	231	231	231	231	231	231	231	231
R2	0.008	0.049	0.033	0.001	0.024	0.029	0.074	0.066	0.027	0.051	0.066

Table 8: **Historical Antisemitism, Current Antisemitism, and Stock Market Participation**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(HoldsStocks_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}).$$

Each observation is a German household interviewed by SOEP between 1984 and 2011. In all columns, the dependent variable is a dummy which equals 1 if the household holds stocks. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Present − day Antisemitism and Present − day Xenophobia are dummies constructed from county-level measures obtained from ALLBUS. X_{ik} includes the following individual-level controls: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy. Other individual controls include: homeownership dummy and life and social insurance dummy. Other historical controls include: log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Other regional controls include: population density; latitude; index of quality of cultivable land. Income_deciles are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Present-Day Antisemitism			Present-Day Xenophobia		
	(1)	(2)	(3)	(4)	(5)	(6)
Present-day Antisemitism	−0.008***	−0.007*	−0.003			
	(0.003)	(0.004)	(0.005)			
VV P.C.			−0.024***			−0.024***
			(0.005)			(0.005)
Present-day Xenophobia				−0.002	−0.002	0.003
				(0.003)	(0.003)	(0.005)
Log Jews 1933		−0.013**	−0.010		−0.013**	−0.008
		(0.005)	(0.008)		(0.005)	(0.008)
% Catholics 1925		0.000*	0.000		0.000*	0.000
		(0.000)	(0.000)		(0.000)	(0.000)
Age			−0.003			−0.003**
			(0.001)			(0.001)
Age^2 /100			0.052			0.052***
			(0.014)			(0.014)
Female			−0.003			−0.003
			(0.008)			(0.008)
Single			0.058***			0.058***
			(0.011)			(0.011)
College			0.013***			0.013***
			(0.005)			(0.005)
Eastern Germany			−0.044*			−0.046*
			(0.024)			(0.024)
Income p.c. 2005			0.002			0.000
			(0.002)			(0.000)
% College graduates 2005			0.003*			0.003*
			(0.002)			(0.002)
Income deciles			X			X
Other individual controls			X			X
Other historical controls		X	X		X	X
Other regional controls			X			X
Wave group f.e.			X			X
Observations	16,006	11,444	9,114	16,006	11,444	9,114
N. of clusters	216	146	134	216	146	134
(Pseudo-) R2	0.001	0.004	0.112	0.000	0.004	0.112

Table 9: **Historical Antisemitism, Distrust in Finance, and Financial Decisions**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(Depvar_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X_k' \times \gamma + \epsilon_{ik}),$$

where the main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. X_{ik} includes the following individual-level controls: gender, age-group fixed effects (15-28, 29-35, 36-45, 46-60, 61+); education-group fixed effects (Hauptschule, Realschule, Abitur, Hochschulabschluss); respondent's elicited generalized trust; respondent's elicited financial risk tolerance; and a dummy that equals 1 if the respondent resides in Eastern Germany. Φ is the standard normal cdf. The outcome variables, $Depvar_{ik}$, are dummy variables indicated on top of each column. The outcome variables and the household-level demographics are from our own survey of present-day Germans run by the company Clickworker, as described in Section 7 of the paper. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

Panel A: Historical Antisemitism and Distrust in Finance

	Trust the Stock Market		Trust Commercial Banks		Trust Local Banks	
	(1)	(2)	(3)	(4)	(5)	(6)
VV P.C.	−0.047**	−0.041**	−0.001	0.001	−0.083***	−0.082***
	(0.020)	(0.018)	(0.021)	(0.021)	(0.025)	(0.026)
Generalized Trust	0.029	0.041	0.066*	0.078*	0.100**	0.102**
	(0.035)	(0.032)	(0.039)	(0.039)	(0.047)	(0.047)
Risk Tolerance	0.089***	0.078***	0.024*	0.018	0.004	0.002
	(0.014)	(0.011)	(0.015)	(0.014)	(0.020)	(0.020)
Eastern Germany	−0.059	−0.061	−0.070	−0.049	0.047	0.058
	(0.069)	(0.062)	0.040*	(0.039)	(0.075)	(0.081)
Age group f.e.		X		X		X
Gender f.e.		X		X		X
Education group f.e.		X		X		X
Observations	495	495	495	495	495	495
N. of clusters	57	57	57	57	57	57
Pseudo-R^2	0.21	0.26	0.03	0.06	0.03	0.04

Panel B: Distrust in Finance and Stock Market Participation

	Holds Stocks		Relationship with Commercial Banks		Relationship with Local Banks	
	(1)	(2)	(3)	(4)	(5)	(6)
Trust the Stock Market	0.224***	0.230***	0.032	−0.018	−0.093*	−0.076
	(0.065)	(0.062)	(0.070)	(0.068)	(0.055)	(0.057)
Trust Commercial Banks	0.070	0.060	0.260***	0.279***	−0.140***	−0.145***
	(0.060)	(0.061)	(0.068)	(0.065)	(0.051)	(0.049)
Trust Local Banks	0.014	0.011	−0.039	−0.049	0.203***	0.211***
	(0.049)	(0.048)	(0.055)	(0.051)	(0.048)	(0.045)
Generalized Trust	−0.011	−0.005	−0.089*	−0.090**	0.096***	0.097**
	(0.044)	(0.042)	(0.046)	(0.043)	(0.040)	(0.038)
Risk Tolerance	0.099***	0.099***	0.041**	0.034**	0.018	0.014
	(0.013)	(0.012)	(0.019)	(0.015)	(0.013)	(0.012)
Eastern Germany	−0.124**	−0.133	0.207***	0.172***	0.020	0.014
	(0.056)	(0.057)	(0.073)	(0.065)	(0.051)	(0.047)
Age group f.e.		X		X		X
Gender f.e.		X		X		X
Education group f.e.		X		X		X
Observations	488	488	490	490	490	490
N. of clusters	57	57	57	57	57	57
Pseudo-R^2	0.22	0.24	0.06	0.10	0.08	0.12

Online Appendix:

Historical Antisemitism, Ethnic Specialization, and Financial Development

Francesco D'Acunto, Marcel Prokopczuk, and Michael Weber

Not for Publication

1 Anti-Jewish Ideology, Nazi Votes, and Stockholdings

Incentives unrelated to antisemitism may have driven Jewish persecution. For instance, individuals and political leaders may have hoped to seize Jewish property if they took part or promoted the attacks against Jews.

We therefore study the association between historical antisemitism and current stockholdings using a source of variation of ideological anti-Jewish sentiment different from persecution, that is, voting. Unlike persecution, voting is unobservable and not verifiable. Voting choices were unlikely to raise the expectation of rewards by the Nazis before the start of the Third Reich. The Nazis rose to power during a long and deep economic crisis: hyperinflation was a major concern, and unemployment plagued several counties. Many voters supported the Nazi party (which had not been in power before 1933) in the hope of improving their economic conditions. de Bromhead, Eichengreen, and O'Rourke (2013) show that persistently depressed economic conditions are a strong predictor of the electoral support of right-wing, anti-system parties in Europe in the 1930s. Thus, voting for the Nazi party in 1933 should be a valid proxy for anti-Jewish sentiment in areas where unemployment in 1933 was low. The economic crisis was less severe in those areas, and votes for the Nazis were more likely to capture the local support for their ideological platform. By contrast, votes for the Nazis should be a noisier proxy for anti-Jewish sentiment in counties where unemployment was high, that is, where voters were likely driven by economic motives when voting for the Nazis. This argument does not imply that the Nazis had higher support, on average, in counties with higher unemployment,[1] but it exploits the different motives *within* the group of Nazi voters in 1933.

If indeed past anti-Jewish sentiment reduces stock market participation, we would expect a negative association between Nazi vote shares in 1933 and present-day stockholdings in counties where unemployment was low in 1933, and a less negative effect in other counties. We find exactly this pattern. In Figure A.3, the left vertical axis reports the average marginal effect of the Nazi vote share in 1933 elections on households' stockholdings, and is associated with the histograms. The horizontal axis indicates the percentile of the distribution of counties by the unemployment rate in 1933. We sort counties in cumulative percentiles of this distribution. For instance, the histogram labeled "20" reports the average marginal

[1] In fact, King, Rosen, Tanner, and Wagner (2008) find that voters hit by the economic crisis but without a high risk of unemployment supported the Nazi party in 1933.

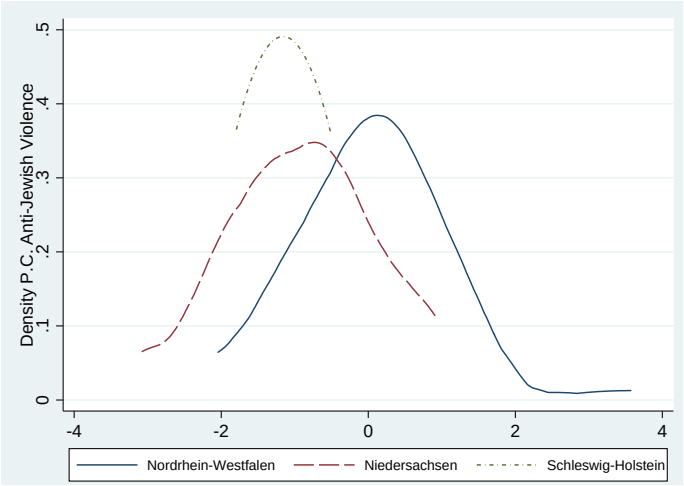
effect for households in counties in which the unemployment rate in 1933 was below the 20^{th} percentile. The right vertical axis reports the standard errors attached to the marginal effects, which are clustered at the county level. They are associated with the black line. The average marginal effect of Nazi vote shares in 1933 is negative in counties with low unemployment in 1933, up to the 45^{th} percentile of the distribution. The magnitude of the effect and its statistical significance decrease up to the 80^{th} percentile. The effect becomes economically and statistically insignificant once we add households in counties above the 85^{th} percentile of the distribution of unemployment in 1933.

In Figure A.4 of the Online Appendix, we find a virtually identical pattern as in Figure A.3 for the September 1930 elections. These elections were held during the economic crisis but in a time when the Nazis had no control of the German mass media, such as the radio (Adena, Enikolopov, Petrova, Santarosa, and Zhuravskaya, 2015). We also propose a set of placebo analyses to corroborate our interpretation of the evidence. Figure A.4 of the Online Appendix shows that votes for the Social-Democrats or Communists do not predict the same pattern as Nazi votes. Whereas the economic motives to vote for these parties might be similar as for the Nazis, these parties should not have attracted antisemitists more than the Nazis. In Panels (d), (e), and (f), we show that the Nazi votes are uncorrelated with the likelihood that households invest in life insurance products, that the household head is a woman, or with household income.[2]

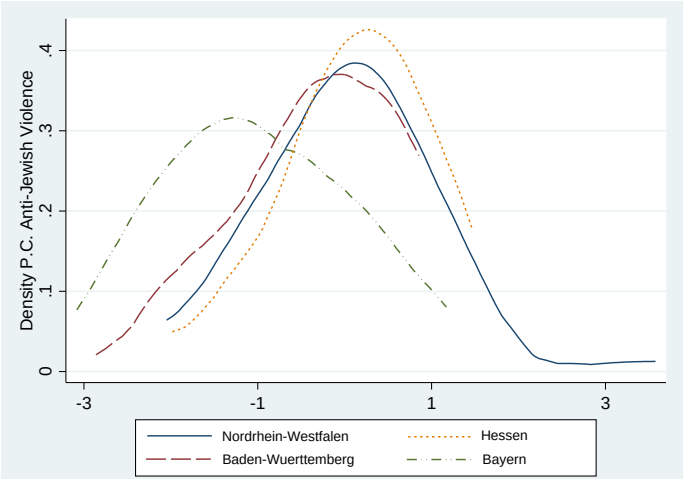
[2]In unreported results, we also find no significant associations if using the age, the education level, or the homeownership status of the household head as alternative outcomes.

Figure A.1: **Densities of Historical Antisemitism across German States**

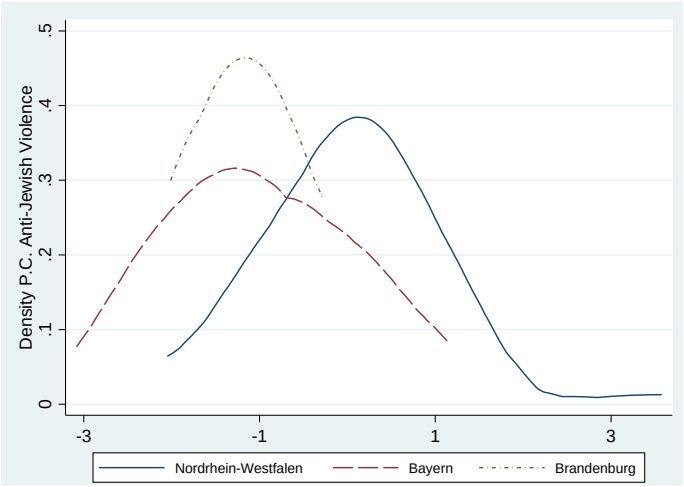
(a) Out of Rhine Valley towards North



(b) Out of Rhine Valley towards South



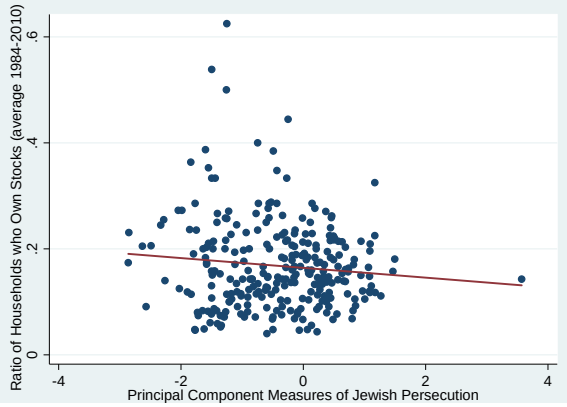
(c) Farthest Distance from Rhine Valley in Both Directions



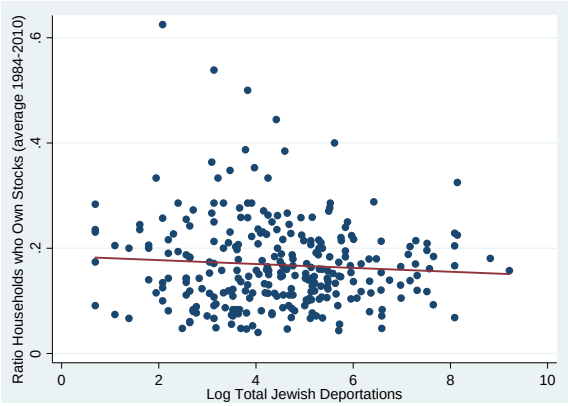
The figures plots the densities of principal component of historical anti-Jewish violence for German states with different distances from the Rhine Valley.

Figure A.2: **Historical Antisemitism and Stockholdings: Raw Data**

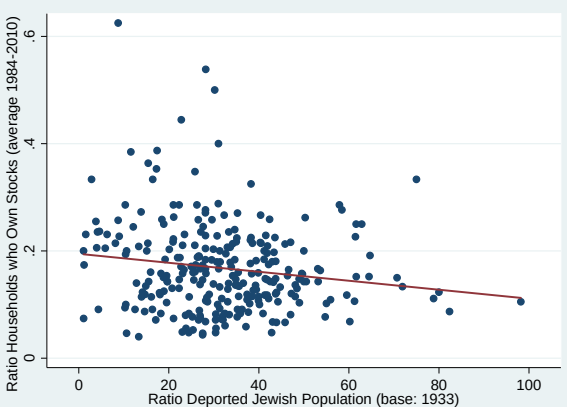
(a) Principal Component Jewish Persecution



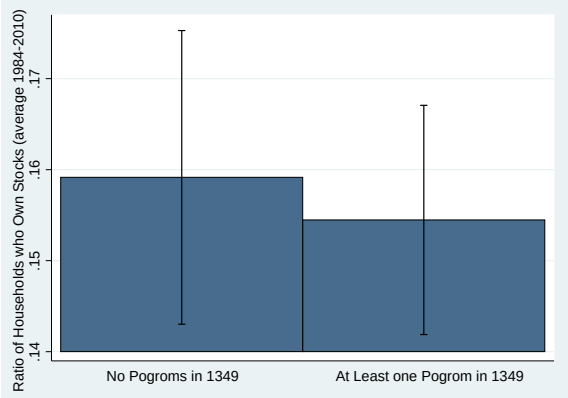
(b) Logarithm Jews Deported



(c) Ratio Jews Deported

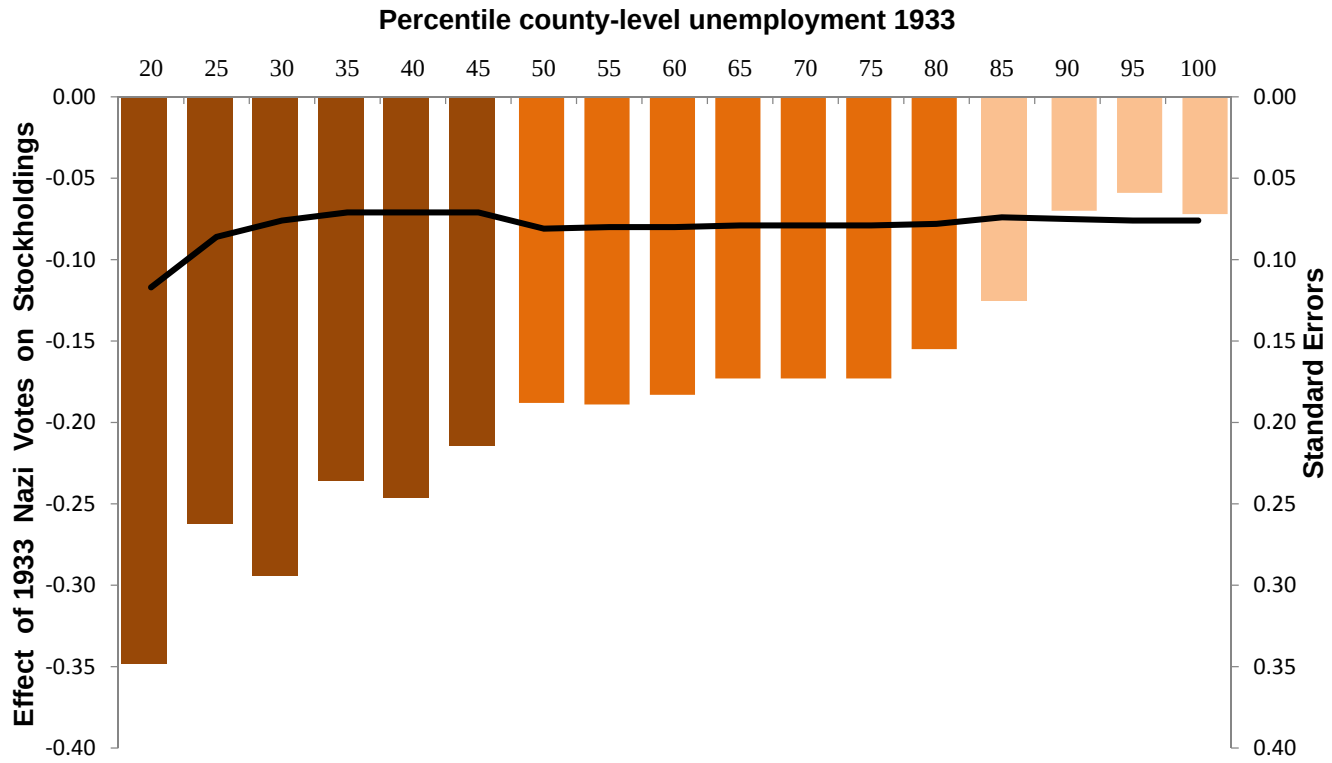


(d) Pogrom in 1349



The figures plot the correlation between proxies of historical antisemitism and current-day stock market participation at the county level. We average the micro data from the socioeconomic panel to obtain measures of stock market participation at the county level. The sample period is 1984 to 2011.

Figure A.3: **Nazi Votes, Economic Crisis, and Stock Market Participation**



The figure plots the average marginal effects of the variable $VoteShareNazi1933$ *on current-day stock market participation computed after estimating the following probit specification in subsamples of households sorted by the unemployment rate in their county of residence as of 1933:*

$$Pr(HoldsStocks_{ik}|X_i, K_k) = \Phi(\alpha + \beta \times VoteShareNazi1933_k + X_i' \times \gamma + K_k' \times \delta + \eta_t + \epsilon_{ik}).$$

Each observation is a German household interviewed by SOEP any time between 1984 and 2011. The left vertical axis reports the average marginal effect of $VoteShareNazi1933$*, and it is associated with the histograms. The horizontal axis indicates the percentile of the distribution of counties by the unemployment rate in 1933. For instance, the histogram labeled "20" reports the average marginal effect for estimating the probit model only for households which live in counties where the unemployment rate in 1933 was below the* 20^{th} *percentile; the histogram labeled "30" reports the average marginal effect for estimating the probit model only for households which live in counties where the unemployment rate in 1933 was below the* 30^{th} *percentile. The right vertical axis reports standard errors attached to each marginal effect. We cluster standard errors at the county level and they are associated with the black line. Dark brown histograms are marginal effects that are significant at the 1% level or lower; orange histograms at the 5% level; white histograms are not significant at any conventional level.*

Figure A.4: **Votes and Placebo Outcomes**

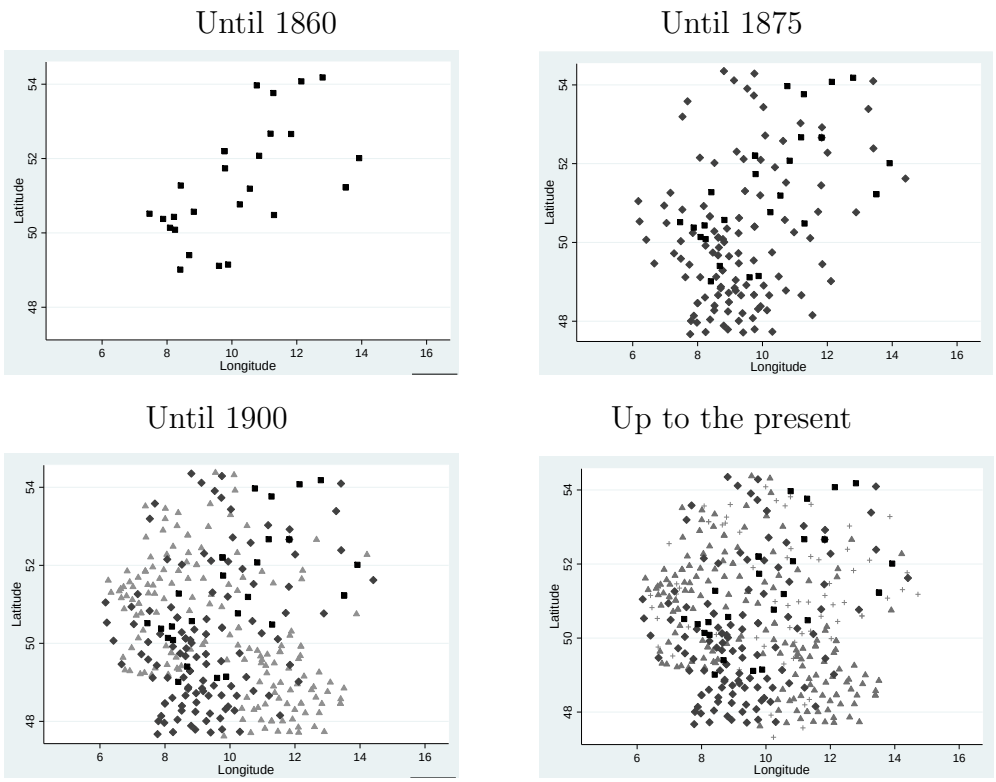
The figure plots the average marginal effects of the variables listed on top of each figure for the top panel on current-day stock market participation computed after estimating the probit specification of Figure A.3 or the following OLS specifications for the bottom panel in subsamples of households sorted by the unemployment rate in their county of residence as of 1933:

$$DepVar_{ik} = \alpha + \beta \times VoteShare_k + X_i' \times \gamma + K_k' \times \delta + \eta_t + \epsilon_{ik}.$$

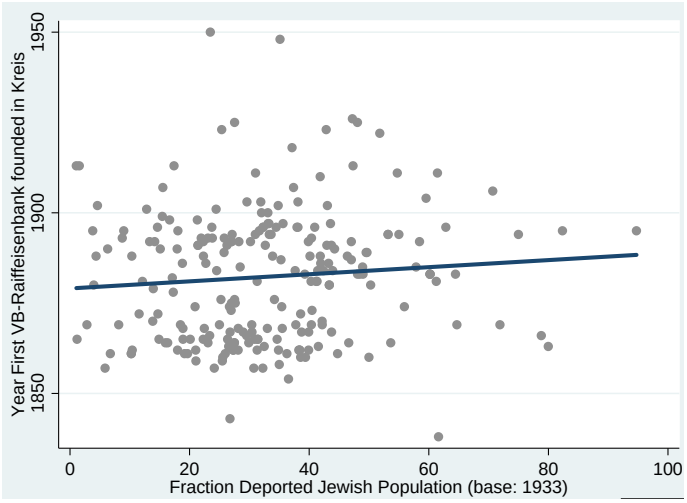
Each observation is a German household interviewed by SOEP any time between 1984 and 2011. DepVar is indicated on top of each figure for the bottom three figures. In each graph, the left vertical axis reports the OLS coefficient on VoteShare, and it is associated with the histograms. In the top panel, VoteShare is indicated on top of each figure, whereas it is VoteShareNazi1933 in the bottom panel. The horizontal axis indicates the percentile of the distribution of counties by the unemployment rate in 1933. For instance, the histogram labeled "20" reports the average marginal effect for estimating the OLS coefficient for estimating the OLS specification only for households which live in counties where the unemployment rate in 1933 was below the 20th percentile; the histogram labeled "30" reports the OLS coefficient only for households which live in counties where the unemployment rate in 1933 was below the 30th percentile. The right vertical axis reports standard errors attached to each coefficient. We cluster standard errors at the county level and they are associated with the black line. Dark brown histograms are marginal effects that are significant at the 1% level or lower; orange histograms at the 5% level; white histograms are not significant at any conventional level.

Figure A.5: **Supply-side Channel 2: Historical Antisemitism & Spread of Credit Unions**

(a) Diffusion Path of Credit Unions Across Space and Over Time



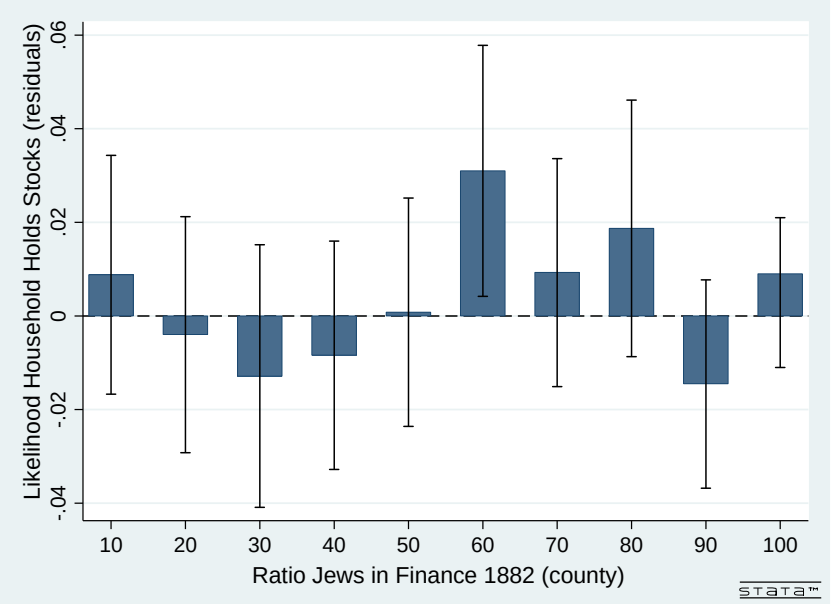
(b) Historical Antisemitism and the Foundation of Credit Unions



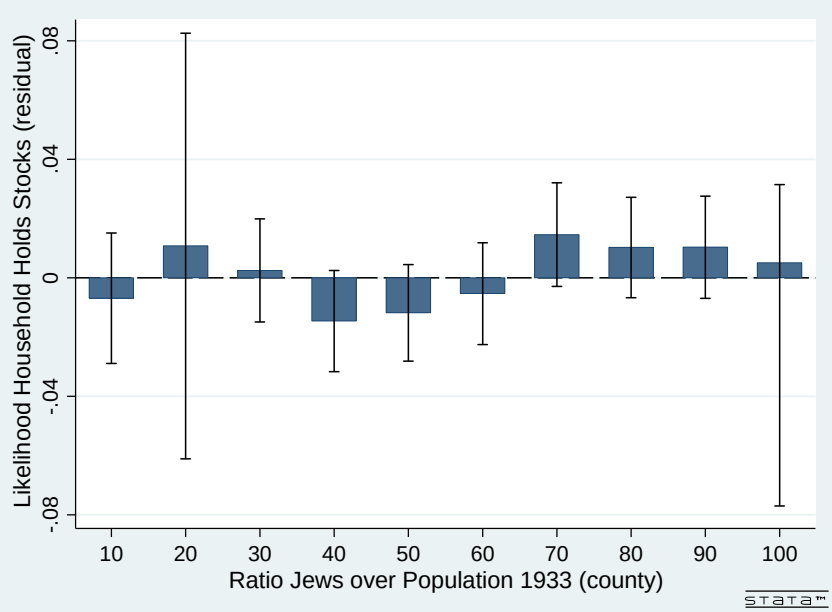
Panel (a) plots the Germans counties with existing credit unions at different points in time. Each marker represents a different county. Panel (b) plots the correlation between the founding year of the first credit union in a given county and the ratio of Jews deported during the Nazi period over the total Jewish population in 1933. The underlying data on the foundation dates is obtained from the Hoppenstedt database.

Figure A.6: **Supply-side Channel 3: Jews in Finance & Present-day Stockholdings**

(a) Ratio of Jews in Finance in 1882 and Present-day Stockholdings



(b) Ratio of Jews in 1933 and Present-day Stockholdings



This figure plots the average residuals from regressing a dummy that equals 1 if the household holds stocks on the controls of Equation (1) in the main body of the paper, across the deciles of the distribution of the share of Jewish employees in the financial sector in a county as of 1882 in Panel (a) and of the ratio of Jews over the total German population in a county as of 1933 in Panel (b). Intervals represent 95% confidence intervals for the estimated averages. We use the micro data underlying SOEP to measure stock market participation and the Ifo Prussian Economic History Database to measure the share of employees in the financial sector.

Table A.1: **Wealth, Financial Literacy, and Risk Tolerance: The PHF Sample**

This Table reports average marginal effects for various specifications. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Individual controls include: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy; homeownership dummy; and life and social insurance dummy; financial literary; risk tolerance; and religiosity. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. The outcome variables and the household-level demographics are from the first wave of the Panel of Household Finances of the German Bundesbank. All columns contain all individual controls, historical controls, regional controls, and wealth deciles. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Holds Stocks	Holds Stocks directly	Saves	Has Mortgage	Home-owner	Entre-neur	Has Govern. bonds	Has Commodities	HH is creditor	Has Credit Card	Trusts Others	Cash/ Wealth
	Probit	Probit	Probit	OLS	Probit	Probit	Probit	Probit	Probit	Probit	Probit	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VV P.C.	−0.071	−0.017	0.022	−0.041	−0.029	−0.017	−0.007	−0.013	0.038	−0.031	−0.026	0.035
	(0.031)**	(0.008)**	(0.032)	(0.021)**	(0.027)	(0.025)	(0.005)	(0.029)	(0.023)*	(0.040)	(0.042)	(0.021)*
Log Jews 1933	−0.005	−0.001	−0.017	0.013	−0.028	0.015	0.001	−0.009	−0.011	0.040	0.011	0.004
	(0.010)	(0.002)	(0.011)	(0.007)*	(0.009)***	(0.008)*	(0.002)	(0.009)	(0.006)*	(0.013)***	(0.012)	(0.008)
% Catholics 1925	0.033	0.011	0.015	0.028	−0.021	0.031	0.006	0.003	−0.007	−0.071	−0.034	−0.024
	(0.036)	(0.010)	(0.049)	(0.024)	(0.036)	(0.035)	(0.006)	(0.036)	(0.031)	(0.056)	(0.049)	(0.029)
Age	0.004	0.002	0.013	0.027	0.020	0.015	0.001	−0.004	0.011	0.021	−0.015	−0.009
	(0.006)	(0.002)	(0.007)*	(0.006)***	(0.005)***	(0.006)***	(0.001)	(0.004)	(0.005)**	(0.006)***	(0.007)**	(0.004)**
Age^2 /100	0.000	0.000	−0.001	−0.001	−0.001	−0.001	0.000	0.000	0.000	−0.001	0.001	0.001
	(0.001)	(0.001)	(0.000)**	(0.001)***	(0.000)***	(0.000)**	(0.001)	(0.001)	(0.000)**	(0.000)***	(0.000)**	(0.000)**
Male	0.069	0.003	−0.006	−0.016	−0.005	0.006	0.011	0.014	0.023	0.040	−0.038	0.018
	(0.017)***	(0.005)	(0.028)	(0.015)	(0.022)	(0.021)	(0.006)*	(0.019)	(0.018)	(0.028)	(0.030)	(0.018)
Single	−0.031	−0.007	−0.042	−0.079	−0.038	0.040	0.015	−0.005	0.067	0.005	0.066	0.024
	(0.047)	(0.018)	(0.049)	(0.047)*	(0.038)	(0.043)	(0.010)	(0.041)	(0.034)*	(0.044)	(0.066)	(0.050)
College	0.055	−0.001	0.076	0.008	−0.058	0.043	0.010	0.031	−0.010	0.174	0.040	0.008
	(0.029)*	(0.007)	(0.037)**	(0.021)	(0.030)*	(0.029)	(0.005)*	(0.024)	(0.022)	(0.031)***	(0.041)	(0.021)
Eastern Germany	0.004	0.007	−0.107	−0.061	−0.062	−0.016	0.003	0.030	0.044	0.001	−0.042	0.096
	(0.050)	(0.010)	(0.047)**	(0.033)*	(0.036)*	(0.059)	(0.011)	(0.042)	(0.036)	(0.054)	(0.053)	(0.035)**
Fin. Literacy	0.062	0.000	0.003	0.017	0.078	0.032	−0.003	−0.036	0.009	0.036	−0.057	−0.073
	(0.025)**	(0.008)	(0.038)	(0.023)	(0.028)***	(0.024)	(0.004)	(0.022)*	(0.019)	(0.028)	(0.038)	(0.029)**
Risk Loving	0.228	0.023	0.032	0.034	−0.012	0.080	0.003	0.017	0.028	0.138	0.100	−0.066
	(0.021)***	(0.010)**	(0.032)	(0.019)*	(0.020)	(0.023)***	(0.006)	(0.021)	(0.019)	(0.025)***	(0.029)***	(0.026)**
Religiosity	−0.002	−0.006	−0.026	−0.040	−0.039	−0.016	0.005	0.019	−0.023	−0.092	0.064	0.032
	(0.026)	(0.009)	(0.037)	(0.029)	(0.029)	(0.033)	(0.006)	(0.028)	(0.029)	(0.043)**	(0.044)	(0.030)
Observations	1,256	1,256	1,256	1,256	1,256	1,256	1,256	1,256	1,256	1,256	1,256	1,256
N. of clusters	99	99	99	99	99	99	99	99	99	99	99	99
Pseudo-R^2	0.27	0.28	0.06	0.16	0.15	0.11	0.17	0.02	0.04	0.21	0.05	0.08

Table A.2: **Historical Antisemitism, Current Antisemitism, and Stock Market Participation: Robustness**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(HoldsStocks_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}).$$

Each observation is a German household interviewed by SOEP between 1984 and 2011. In all columns, the dependent variable is a dummy which equals 1 if the household holds stocks. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Present − day Antisemitism and Present − day Xenophobia are dummies constructed from county-level measures obtained from ALLBUS. X_{ik} includes the following individual-level controls: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy. Other individual controls include: homeownership dummy and life and social insurance dummy. Other historical controls include: log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Other regional controls include: population density; latitude; index of quality of cultivable land. Income_deciles are dummies indicating the decile of the income distribution to which the household belongs, and Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Present-Day Antisemitism			Present-Day Xenophobia		
	(1)	(2)	(3)	(4)	(5)	(6)
Current Antisemitism	−0.005*	−0.009***	−0.002			
	(0.003)	(0.004)	(0.004)			
Persecution of Jews			−0.023***			−0.025***
			(0.005)			(0.006)
Current Xenophobia				−0.005	−0.001	0.004
				(0.003)	(0.003)	(0.004)
Log Jews 1933		−0.013**	−0.010		−0.012**	−0.009
		(0.005)	(0.008)		(0.005)	(0.008)
% Catholics 1925		0.000**	0.000		0.000**	0.000
		(0.000)	(0.000)		(0.000)	(0.000)
Age			−0.003*			−0.003**
			(0.001)			(0.001)
Age^2 /100			0.0521***			0.052***
			(0.014)			(0.000)
Female			−0.003			−0.003
			(0.008)			(0.008)
Single			0.058***			0.058***
			(0.012)			(0.011)
College			0.013***			0.013***
			(0.005)			(0.005)
Eastern Germany			−0.044*			−0.045*
			(0.024)			(0.024)
Income p.c. 2005			0.002			0.002
			(0.002)			(0.002)
% College graduates 2005			0.003*			0.003*
			(0.002)			(0.002)
Income deciles			X			X
Other historical controls		X	X		X	X
Wave groups f.e.			X			X
Regional controls			X			X
Observations	16,006	11,444	9,114	16,006	11,444	9,114
N. of clusters	216	146	134	216	146	134
(Pseudo-) R2	0.000	0.004	0.112	0.000	0.004	0.113

Table A.3: **Robustness**

This Table reports average marginal effects computed after estimating the following probit spefication:

$$Pr(HoldsStocks_{ik}|X_{ik}, K_k) = \Phi(\alpha + \beta \times Historical\ Antisemitism_k + X'_{ik} \times \gamma + K'_k \times \delta + Income\_deciles + \eta_t + \epsilon_{ik}),$$

across subsamples defined by the column headings. Each observation is a German household interviewed by SOEP between 1984 and 2011. In all columns, the dependent variable is a dummy that equals 1 if the household holds stocks. The main covariate of interest, Historical Antisemitism, is the Voigtlaender-Voth principal component of measures of Jewish persecution in the 1920s-1930s. Individual controls include: gender; single status dummy; age (2^{nd} degree polynomial); college education dummy; homeownership dummy; and life and social insurance dummy. Historical controls include: log of Jewish population in 1933; ratio of Catholic population in 1925; log of population in 1933; ratio of population employed in the retail sector in 1933; and ratio of population employed in manufacturing in 1933. Regional controls include: income per capita; population density; share of college-educated population; latitude; and index of quality of cultivable land. Φ is the standard normal cdf. We cluster standard errors at the county level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

	Only Western Germany	Adding Longitude	Excl. Hanse	Excl. Bishop Seats	Excl. Least Populated	Excl. High Inequality	Excl. Poorest Counties	Excl Least Educated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A. All Counties							
VV P.C.	−0.015***	−0.010**	−0.011***	−0.013***	−0.013***	−0.016***	−0.020***	−0.013**
	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Log Jews 1933	0.005	−0.001	0.000	0.006	0.000	0.000	−0.003	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.006)	(0.007)	(0.006)
% Catholics 1925	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age	−0.002	−0.002**	−0.002	−0.002	−0.002	−0.003***	−0.003**	−0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age^2 /100	0.044***	0.043***	0.045***	0.041***	0.041***	0.045***	0.048***	0.047***
	(0.012)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Female	0.000	−0.002	0.001	0.000	0.000	0.000	−0.001	0.004
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Single	0.066***	0.053***	0.059***	0.060***	0.056***	0.047***	0.065***	0.050***
	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)
College	0.011***	0.012***	0.011***	0.010***	0.013***	0.013***	0.013***	0.010**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Eastern Germany		−0.033*	0.000	−0.008	−0.006	−0.030	−0.045*	−0.020
		(0.018)	(0.022)	(0.018)	(0.028)	(0.019)	(0.024)	(0.020)
Income p.c. 2005	0.005***	0.005***	0.007***	0.006***	0.008***	0.003	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
% College graduates 2005	0.001	−0.001	−0.001	0.000	0.000	0.001	−0.001	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Longitude		0.008***						
		(0.003)						
Income deciles	X	X	X	X	X	X	X	X
Other historical controls	X	X	X	X	X	X	X	X
Wave groups f.e.	X	X	X	X	X	X	X	X
Regional controls	X	X	X	X	X	X	X	X
Observations	12,701	13,599	11,289	12,152	11,168	11,012	11,144	10,128
N. of clusters	226	261	235	240	188	206	200	191
(Pseudo-) R2	0.106	0.093	0.093	0.093	0.095	0.094	0.096	0.090

continued on next page

Table A.3: **Continued from Previous Page**

	Only Western Germany	Adding Longitude	Excl. Hanse	Excl. Bishop Seats	Excl. Least Populated	Excl. High Inequality	Excl. Poorest Counties	Excl Least Educated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel B. Only if Jewish Community in the Middle Ages							
VV P.C.	−0.015***	−0.011**	−0.012***	−0.013***	−0.014***	−0.017***	−0.020***	−0.013**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Log Jews 1933	−0.002	−0.008	−0.009	0.001	−0.009	−0.010	−0.015	−0.002
	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)	(0.008)	(0.009)	(0.011)
% Catholics 1925	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age	−0.002	−0.002*	−0.002*	−0.002	−0.002	−0.002*	−0.002*	−0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age^2 /100	0.043***	0.041***	0.044***	0.039***	0.040***	0.042***	0.046***	0.049***
	(0.013)	(0.011)	(0.013)	(0.012)	(0.012)	(0.012)	(0.013)	(0.013)
Female	0.002	0.000	0.004	0.002	0.001	0.002	0.001	0.006
	(0.007)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Single	0.065***	0.053***	0.059***	0.060***	0.057***	0.046***	0.066***	0.050***
	(0.011)	(0.009)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)
College	0.012	0.013***	0.012***	0.011***	0.013***	0.014***	0.014***	0.011**
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Eastern Germany		−0.034*	−0.001	−0.010	−0.004	−0.033*	−0.040	−0.028
		(0.019)	(0.022)	(0.019)	(0.030)	(0.019)	(0.025)	(0.021)
Income p.c. 2005	0.005***	0.005***	0.006***	0.005***	0.008***	0.003	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
% College graduates 2005	0.002	0.000	−0.001	0.000	0.000	0.001	−0.001	0.003
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Longitude		0.007***						
		(0.003)						
Income deciles	X	X	X	X	X	X	X	X
Other historical controls	X	X	X	X	X	X	X	X
Wave groups f.e.	X	X	X	X	X	X	X	X
Regional controls	X	X	X	X	X	X	X	X
Observations	11,873	12,737	10,427	11,290	10,564	10,501	10,472	9,506
N. of clusters	209	243	217	222	178	193	187	180
(Pseudo-) R2	0.108	0.093	0.094	0.094	0.096	0.095	0.098	0.090

Table A.4: **Jewish Population and Geman Sectors in 1882**

This Table reports the number of Jewish employees by sector and the total sector size. The data is from the first Census in Prussia in 1882.

	Jews	Total sector	Jews/ Total sector	Total sector/ overall workers
	(1)	(2)	(3)	(4)
Total working population	357,546	11,037,320	3.24%	100.00%
Unemployed			2.60%	6.12%
Agriculture, Manufacturing, Trade				
Agriculture	1,641	4,625,893	0.04%	41.91%
Forestry and fishing	65	66,455	0.10%	0.60%
Mining and metal transf.	1,255	866,794	0.15%	7.85%
Chemical	266	28,908	0.92%	0.26%
Textile	1,724	385,565	0.45%	3.49%
Food and beverage	9,239	363,837	2.54%	3.30%
Building and construction	1,312	533,925	0.25%	4.84%
Printing	555	35,352	1.57%	0.32%
Retail trade	70,175	466,249	15.05%	4.22%
Bookshops, art dealers	485	9,580	5.06%	0.09%
Services				
Engineering services	591	146,650	0.40%	1.33%
Health care	1,108	40,883	2.71%	0.37%
Transportation	421	128,136	0.33%	1.16%
Hotels and restaurants	3,654	147,061	2.49%	1.33%
Household services	692	278,927	0.25%	2.53%
Military	918	25,860	0.36%	2.34%
Administration	1,093	119,140	0.92%	1.08%
Finance	3,042	13,324	22.99%	0.12%
Insurance	223	6,655	3.35%	0.06%

Table A.5: **Summary Statistics: Survey**

This Table reports summary statistics for the survey on trust in banks run on a representative sample of German households in 2015.

	Panel A. Descriptive Statistics				
	Obs.	Mean	Std	Min	Max
	(1)	(2)	(3)	(4)	(5)
Trust in the stock market	981	0.13	0.34	0	1
Trust in commercial banks	981	0.17	0.38	0	1
Trust in local banks	981	0.41	0.49	0	1
Generalized trust	1000	0.39	0.49	0	1
Risk tolerance (1 to 7)	989	3.04	1.44	1	7

	Panel B. Correlations			
	Trust in stock market	Trust in commercial banks	Trust in local banks	Generalized trust
	(1)	(2)	(3)	(4)
Trust commercial banks	0.264			
	(0.000)			
Trust local banks	0.132	0.252		
	(0.002)	(0.000)		
Generalized trust	0.093	0.095	0.106	
	(0.026)	(0.023)	(0.013)	
Risk tolerance	0.383	0.127	0.022	0.161
	(0.000)	(0.002)	(0.594)	(0.000)