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From Finance to Fascism

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From Finance to Fascism*

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Abstract

Do financial crises radicalize voters? We study Germany's banking crisis of 1931, when two major banks collapsed and voting for radical parties soared. We collect new data on bank branches and firm-bank connections of over 5,500 firms and show that incomes plummeted in cities affected by the bank failures; connected firms curtailed their payrolls. We further establish that Nazi votes surged in locations exposed to failing Danatbank, led by a prominent Jewish manager and targeted by anti-Semitic Nazi propaganda. Our results suggest a synergy between cultural and economic factors: Danatbank's collapse boosted Nazi support especially in cities with deep-seated anti-Semitism; and the Nazis gained few additional votes in cities exposed to collapsing Dresdner Bank, which was not the target of Nazi hate speech. Danat-exposed and non-exposed cities were similar in their pre-crisis characteristics and exhibited no differential pre-trends; firms borrowing from Danat had lower leverage before the crisis than other firms. Unobservables are unlikely to account for the results.

Keywords: financial crises, political extremism, populism, anti-Semitism, Great Depression.

JEL classification: E44, G01, G21, N20, P16.

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1 Introduction

Can financial crises fan the flames of fanaticism? The global financial crisis of 2008-9 not only wreaked havoc on employment and output; its problematic aftermath paved the way for populists to gain considerable electoral ground – and often rise to power – in many countries around the world. The *Financial Times* headlined its editorial on the 10th anniversary of the Lehman collapse "Populism is the true legacy of the financial crisis".[1] Some studies argue that there is a direct link between financial crises and right-wing populist movements.[2] And yet, cross-country results are often inconclusive, insights into mechanisms are rare, and micro-based evidence of a causal link running from financial shocks to political cataclysm is largely conspicuous by its absence.

We examine the canonical case of a radical government coming to power amid economic and financial disaster: the Nazi Party taking the reins of government during Germany's economic depression in the 1930s, leading to a bellicose and genocidal dictatorship that left millions of victims in its wake. In less than four years, the Nazis went from capturing 2.6% to 37.3% of the popular vote. One year before their greatest electoral triumph in the summer of 1932, a severe banking crisis aggravated Germany's economic slump. While different factors contributed to the financial crisis during the summer of 1931, it became largely synonymous with the collapse of Danatbank in July 1931 in the eyes of the public (Danat was the second-largest of Germany's four great banks).[3] Following a banking crisis in Austria earlier in May, German banks had endured major foreign deposit withdrawals. Danatbank itself faced unsustainable losses when one of its borrowers, a large textile firm, defaulted. Central bank support was limited because of depleted reserves and the political conflict between Germany and France over World War I reparations.[4] Without effective government support, Danatbank's troubles turned into a full-blown banking crisis, followed by a bank holiday and a government-led recapitalization (Ferguson and Temin, 2003; Schnabel, 2004).

The German banking crisis of 1931 sharply reduced output. In this paper, we demonstrate that it also had important political consequences, boosting the electoral fortunes of the Nazi Party through both economic and non-economic channels.

[1] *Financial Times*, 30 August 2018. The *New York Times* carried a similarly titled article, "From Trump to trade, the financial crisis still resonates 10 years later" (10 September 2018).

[2] De Bromhead et al. (2013); Mian et al. (2014); Funke et al. (2016); Algan et al. (2017); Eichengreen (2018). At the same time, the literature has mentioned other factors such as rising concerns over immigration, growing income inequality, fiscal austerity, and the adverse effects of foreign trade (Dippel et al., 2016; Autor et al., 2017; Becker et al., 2017; Moriconi et al., 2018; Fetzer, 2019).

[3] Great banks refers to the four largest German banks at the time (so-called *"Großbanken"*). Apart from Danatbank, they included Dresdner Bank, Commerzbank and Deutsche Bank.

[4] When its own gold reserves ran out, the German central bank asked for support from the Bank of England and the Banque de France, but none was forthcoming (Born, 1967).

We collect historical information on bank branch networks and bank connections for the universe of 5,610 joint stock firms.[5] This novel data enables us to reconstruct pre-crisis cross-sectional variation in exposure to failing banks for all major German municipalities.[6] We exploit the fact that the biggest German banks lent countrywide and that the German economy was heavily bank-based, with persistent bank-firm relations.[7] We establish that municipalities more exposed to collapsing Danatbank suffered sharper economic declines. Their incomes during the crisis fell by 7.8 percentage points (p.p.) more than the average 14 p.p. decline across cities.

Crucially, bank distress boosted the Nazi Party's performance at the ballot box – localities affected by Danatbank's failure voted more for the Hitler movement. Figure 1 summarizes our key finding: in locations exposed to Danatbank there was a clear upward shift in voting for the Nazis that added up to 2.9 p.p. to the party's gains between September 1930 and July 1932.[8] We find no differential pre-trends in support for the NSDAP across cities: before 1932, Danat exposure had no effect on Nazi voting, not even during the early years of Germany's Great Depression in 1930 (see Figure 2).

[Figure 1 about here]

Dresdner Bank, Germany's third-largest lender, failed as well. Exposure to Dresdner Bank had a similar negative effect on city incomes as exposure to Danat, but had almost no effect on support for the Nazis. What accounts for this stark difference? Danatbank was widely seen as responsible for causing the financial crisis, and it was headed by the well-known Jewish manager Jakob Goldschmidt, a favourite target of Nazi propaganda. In contrast, Dresdner Bank was not the key target for Nazi propaganda – even if it had numerous Jews occupying leading positions like most German banks.[9] The striking contrast between the effect of exposure to Danat relative to Dresdner suggests that the Nazi message ("The Jews are [Germany's] misfortune")[10] resonated more where financial collapse could be blamed on the supposedly 'sinister influence' of Jewish high finance.

The role of anti-Semitism is further highlighted by the differential impact of financial collapse on Nazi success – the deeper the historical roots of anti-Semitism, the greater the effect of Danat's collapse on Nazi voting. Some towns and cities had

[5] Joint stock companies were responsible for the majority of output and employment in the German economy; only a fraction of them were listed on exchanges.

[6] Our sample is based on the Statistical Yearbook of German Cities that covers statistics on the approximately 200 largest German cities, with a total population of around 20 million.

[7] In contrast, US banks during the Great Depression mostly lent locally.

[8] The party's overall rise in the share of the vote it received amounted to 19.1 p.p.

[9] Dresdner Bank had to be recapitalized and, after the banking crisis, Danat and Dresdner merged at the behest of the government in 1932 (see Section 2).

[10] This was the motto of *Der Stürmer*, a highly anti-Semitic weekly.

already persecuted their Jewish communities during the Middle Ages, or voted for anti-Jewish parties before 1914, while others had no earlier record of anti-Semitism. In those that did, Danat-exposure leads to a surge in support for the Nazis. Instead, the effect of exposure to Dresdner Bank on Nazi voting is positive, but mostly insignificant in both types of cities. Our results therefore suggest an important synergy between cultural and economic factors and show that pre-existing attitudes exacerbate the initial impact of a financial shock on radicalization.[11]

In response to the banking crisis, voters were not only radicalized at the ballot box; they were also radicalized in their actions. As the fate of German Jews worsened after 1933, towns and cities more affected by the financial turmoil of 1931 committed more atrocities. Higher pre-crisis Danatbank exposure is associated with significantly more anti-Semitic letters sent to a far-right Nazi newspaper, more frequent attacks on synagogues during the *Kristallnacht* pogroms in 1938, and higher post-1933 deportation rates of Jews.

A potential concern for identification is that Danat-connected cities may have already been more vulnerable before the crisis. However, Danat-exposure was not systematically correlated with the pre-crisis share of blue-collar workers, share of Jews or Protestants, income per capita, or the unemployment rate (conditional on city population). There was also no difference in the *change* in unemployment from 1930 to 1931, i.e. the early years of Germany's Great Depression prior to the banking crisis. We also examine whether Danat-connected *firms* may have already been more vulnerable before the crisis. Our analysis of firm-level data from the universe of 5,610 joint stock companies, covering two-thirds of total non-financial assets in the German economy, rules this out: pre-crisis leverage of Danat-connected enterprises was identical to that of firms connected to the other great banks, and notably lower than at companies dealing with smaller banks. There were also no significant differences in firm profitability before the crisis.

We further rule out any differential trends in support for the Nazi Party before the banking crisis erupted: Danat exposure does not predict support for the Nazi movement or its predecessor parties in any federal election prior to the banking crisis (1924, 1928, or 1930). A difference-in-differences analysis shows parallel trends in exposed vs. unexposed cities before Danat's failure, but a highly significant differential in each election thereafter (see Figure 2). We also find that including city controls and region fixed effects in our regressions leads to no material change in coefficients, while the R^2 increases by over 50 p.p. Unobservables are hence unlikely to explain our finding, reducing potential concerns about self-selection and omitted

[11] Our findings accord with recent research by D'Acunto et al. (2019), who show that, even today, the areas of Germany that harbored greater anti-Semitism remain more skeptical about financial markets.

variable bias (Altonji et al., 2005; Oster, 2019).

Danat expanded rapidly in the 1920s. Perhaps, while the average firm associated with it was no riskier than those linked to other banks, new clients were less stable in unobservable ways? To examine this issue, we construct measures of firm- and city-level exposure based on bank-firm connections and branch networks before 1921. In that year, Danat emerged from a takeover of Darmstädter Bank by the Nationalbank. Danat's regional expansions began only thereafter. We find near-identical effects of 1921-involvement with Danat on firms' wages, as well as on city-level output and voting.

For a subset of around 400 firms, we can also trace the real effects of credit restrictions on their total payrolls, reflecting wage, salary, and headcount cuts.[12] Firm-level data allow us to control for observable pre-crisis company characteristics such as size, age, profits, and leverage, as well as unobservable shocks at the city or industry level. In firm-level regressions, firms' pre-crisis connections to Danat are associated with an additional 25% reduction in their payroll, compared with companies not linked to the lender. Danat-connected firms see a significantly stronger reduction in their wage bill even when we compare firms within the same industry and city: including industry and city fixed effects in our firm-level regressions does not change the size or significance of our coefficients, despite increasing R^2 by more than 40 p.p. In other words, our results suggest that unobservables are not driving our real effects (Altonji et al., 2005; Oster, 2019).

Our findings are robust to a wide range of alternative specifications. We examine whether the memory of the hyperinflation (1921-23) or cities' export exposure could account for changes in voting patterns and find no evidence. Through the inclusion of state-level fixed effects we also exclude the possibility that fiscal austerity explains our results. No single city or firm drives our results, and they do not change when we exclude entire regions such as the Ruhr (Germany's industrial powerhouse) or the Austrian border region (potentially subject to spillover effects from Austria's banking crisis). They remain similar when we stratify our sample of cities by terciles of the unemployment rate in 1931. Their significance cannot be attributed to either spatial correlation or general anti-finance sentiment. To overcome potential imbalances in covariates, we also show that our results are robust to coarsened exact matching. Finally, Danat exposure has no significant impact on support for the Communist Party.

We relate to three strands of literature – those that discuss the real and political effects of banking crises, the factors that influence populism, and the history of the Nazi Party's rise to power in Germany. Our main contribution is to document the effect of a banking crisis on political extremism. Importantly, we demonstrate

[12] There is no direct data on employment.

that economic and non-economic channels alike played a role. We find that voting patterns vis-a-vis the Nazis differed sharply based on whether cities suffered due to the Danatbank or Dresdner Bank collapse, and demonstrate significant interaction effects between Danatbank exposure and deep-rooted anti-Semitic attitudes. These findings suggest that financial distress converts into political extremism in a process shaped by cultural context – and in particular when a plausible scapegoat is readily available.

Since Bernanke's (1983) classic paper, a growing literature has documented the real effects of financial crises (Reinhart and Rogoff, 2009; Bernanke, 2018). Recent evidence shows that companies suffer from a decline in lending during financial crises (Duchin et al., 2010; Ivashina and Scharfstein, 2010; Jiménez et al., 2012) and that a credit crunch affects company investment and/or employment (Chodorow-Reich, 2014; Jiménez et al., 2017; Huber, 2018).[13] Mian et al. (2014) demonstrate that financial crises can exact medium- or long-term costs by leading to the wrong (economic) policies.

The political consequences of financial crises have attracted greater attention as well. Funke et al. (2016) analyze crises and general elections over the past 140 years in 20 advanced economies. They conclude that political extremism does not increase during normal recessions or other non-financial macroeconomic shocks, but only after financial crises. Taking a similar long-term perspective, De Bromhead et al. (2013) underline the key role that financial panics play in the rise of extremism, and Eichengreen (2018) emphasizes the importance of identity politics in the turn toward radicalization. Gyongyosi and Verner (2020) show how a currency crisis and the subsequent rise in household debt intensified political extremism in Hungary – not least because the far-right party was the only one to argue for debt modification. Braggion et al. (2020) contend that an exogenous shock to bank lending in interwar China provoked worker unrest and created support for the Communist Party. A recent and related literature examines the origins of populist and extreme movements more broadly. Several papers show that trade shocks swell support for more extreme candidates (Dippel et al., 2016; Autor et al., 2017; Dal Bó et al., 2018). Algan et al. (2017) find that the Great Recession undermined trust in national and European institutions. Others have argued that immigration is a major determinant of right-wing voting (Moriconi et al., 2018), and point to the significance of cultural concerns (Eatwell and Goodwin, 2018). Evidence from Denmark illustrates that immigration scares can fuel support for far-right parties (Dustmann et al., 2019).

The rise of the Nazi Party has attracted extensive scholarly attention over the last 80 years. The National Socialists constituted a "catch-all" political movement

[13]For a summary, see Gertler and Gilchrist (2018). Calomiris (1993) and Benmelech et al. (2019) provide evidence for the US Great Depression.

that enjoyed support not only from the middle classes, but from all strata of German society (Falter and Zintl, 1988; Childers, 1983). Nonetheless, some differences emerge: Protestants were likelier to back the party than Catholics, and the well-off turned toward it after 1930, while the unemployed overwhelmingly backed the Communists. King et al. (2008) use ecological inference to hypothesize that economic fragility drove voters toward the Nazis.[14] While few doubt that the party's rise was facilitated by the Great Depression (Evans, 2004; Kershaw, 2016), only limited evidence indicates that the more economically distressed areas of Germany turned in relatively greater numbers toward the Hitler movement at the polls.[15]

2 Historical background

In this section we briefly describe four aspects of the historical context: the Great Depression in Germany, the banking crisis of 1931, the rise of the Nazi Party to power, and the centrality of Nazi propaganda to party success.

The Great Depression in Germany. The Great Depression in Germany ranked among the worst worldwide. Peak to trough, German industrial output fell by 40%. The only other major industrialized country whose decline in economic activity compared in severity was the US. In 1933, Germany counted six million unemployed, a third of its workforce. Unemployment insurance benefits were cut several times. After some months, the unemployed received only emergency aid, which offered minimal assistance. Joblessness was only the most visible manifestation of economic misery. Workers were put on short working hours, civil servants' wages and public pensions were reduced, and many small business owners and entrepreneurs suffered severe income declines. Wages and real earnings declined by more than 20%, and GDP contracted by almost 40% (Feinstein et al., 2008).

Fiscal austerity was one important feature of the German slump (Galofré-Vilà et al., 2017). The federal government, states, and municipalities had borrowed heavily before 1929, often from abroad. Once international debt markets froze, authorities had to raise taxes and cut expenditure. Germany's export industries suffered as protectionism surged after 1929. New tariffs and difficulties in obtaining export financing translated into rapidly falling sales of German products abroad, especially

[14] This work modified insights from analyses emphasizing either class-based theories (Lipset, 1960; Hamilton, 1983) or theories of the masses (Ortega y Gasset, 1932; Arendt, 1973). King et al. (2008) show that, while a broad-based shift underpinned the Nazis' rise to electoral success, some groups were more susceptible than others. Prominent among them were the self-employed from high-unemployment areas, and domestic employees from regions with low to medium jobless rates.

[15] One notable exception are Galofré-Vilà et al. (2017), who argue that austerity was a key reason for pro-Nazi voting.

during the early years of the crisis (Eichengreen, 1992). By 1933, German exports had declined by over 60% relative to their 1929 value.

The banking crisis of 1931. In the summer of 1931, Germany's downturn was aggravated by a severe banking crisis. Output had contracted before, but the banking crisis helped turn a recession into the Great Depression: over 80% of the decline in output in durable production from peak to trough occurred after the start of the banking crisis.[16] The crisis became visible to the wider public with the collapse of Darmstädter Nationalbank (Danatbank or simply Danat), the second-largest of Germany's four great universal banks, even if strains had already begun to appear in the banking system before (Blickle et al., 2020). In May 1931, the failure of Austrian Creditanstalt had made investors nervous (Kindleberger, 1986). Also in May, huge losses at the German textile firm Nordwolle came to the attention of its main creditor, Danatbank. Nordwolle management's ill-timed speculation prompted them to hide losses in a Dutch shell company (Born, 1967; Ferguson and Temin, 2003). Loans to the defaulting textile firm were equivalent to 80% of Danatbank's equity and threatened the bank's survival.[17] Nordwolle declared bankruptcy in June.

The German central bank's reserve position and commitment to the gold standard limited its ability to come to the aid of Danat. Political inactivity because of repayments due to the Versailles Treaty and conflict between Germany and France over a proposed customs union with Austria destroyed all hope of international support being extended to the German central bank (James, 1985; Schnabel, 2004). Also, German banks had entered the Great Depression with relatively low equity ratios, and a significant share of their deposits was short term and came from abroad (Eichengreen, 1992).[18]

When the scale of Danatbank's problems became public in July 1931, the ensuing bank run among retail depositors led to a suspension of bank deposits, the failure of Danat and Dresdner Bank, a three-week bank holiday and Germany's de facto exit from the gold standard (Born, 1967). Ultimately, Danat was merged with Dresdner in the summer of 1932 at the behest of the government, which initially held 75% of the new bank's equity (Krenn, 2012). Both external and domestic factors turned Danat's troubles into a full-blown financial crisis.[19]

[16] See Online Appendix. We report durables because they reflect a large part of the variation in demand during downturns, and may be particularly affected by financial-sector shocks (Romer, 1990).

[17] Besides Danatbank, Dresdner Bank was also heavily invested in Nordwolle. A further 11 German and 18 foreign banks had lent to the troubled firm, though in smaller amounts.

[18] Ferguson and Temin (2003) nonetheless conclude: "German banks failed in 1931, but the problem was not primarily with them. Instead, the crisis was a failure of political will in a time of turmoil that induced a currency crisis."

[19] Kindleberger (1986) and Eichengreen (1992) argue that the Austrian banking crisis was crucial for the German one, whose origins, they underscore, were international. Ferguson and Temin (2003)

Some scholars have termed the German banking crisis a "twin crisis": a latently fragile banking system faltered due to foreign withdrawals and a run on the Mark (Schnabel, 2004). Underlying this view is the belief that many banks lent recklessly in the late 1920s, believing themselves "too big to fail." Others have argued that "the crisis was primarily [an] exchange rate and foreign liability crisis, which [...] would have occurred [...] even if the banks had acted with exemplary caution in the 1920s" (Hardach, 1976). Ferguson and Temin (2003) and Temin (2008) emphasize politics, contending that the crisis was "made in Germany" – that the German government's bid to renegotiate reparations caused foreign withdrawals of funds and the subsequent banking collapse.

The banking crisis was caused by a confluence of external factors, from the failure of Creditanstalt to the reparations problem and the pressure on the German currency. Though banks might have acted with less-than-exemplary caution – and a banking crisis ex-post is no proof that they did – no evidence suggests that Danatbank was laxer in its lending standards than other Großbanken.[20] Also, demand deposits only declined after Danat's collapse – not during the early phase of the crisis, and banks' pre-crisis equity or liquidity were uncorrelated with their probability of default (Blickle et al., 2020). This suggests that Danatbank was not perceived as riskier than other Großbanken. Instead, the unanticipated default of Nordwolle brought Germany's second-largest lender to its knees, affecting borrowers all over the country.

The rise of the Nazi Party. From obscure beginnings, the Nazi Party grew in influence in postwar Munich. It made a violent but failed bid for power in 1923, the so-called Beerhall Putsch. After this bid was bloodily thwarted, Nazi leaders were tried and sent to prison, Hitler chief among them, and the party was declared illegal. During his prison stay, Hitler wrote *Mein Kampf* ("My Struggle") about his political vision. Anti-Semitism was integral to his ideology. His beliefs about Jewish finance are well-summarized in his contention that "Jewish finance desires ... not only the economic smashing of Germany but also its complete political enslavement" (p. 905).[21] The lost war, the reparations settlement as part of the Versailles treaty, and the hyperinflation – all stemmed in Hitler's mind from a vast Jewish conspiracy.

Hitler returned to politics in 1925. The Nazi Party initially had little success. In the 1928 Reichstag election, it received a mere 2.6% of the vote. But as the Great Depression deepened, national politics became increasingly acrimonious. The last democratically elected chancellor, Hermann Müller, resigned in 1930. Thereafter,

highlight the inaction of German politicians and the run on the currency, while Schnabel (2004) cite crises both of the currency and the banks.

[20] We show below that Danatbank-connected firms had lower pre-crisis leverage than companies connected to other banks.

[21] Cited according to the 1941 edition (Reynal and Hitchcock).

Chancellor Heinrich Brüning governed without a parliamentary majority, propped up by presidential emergency powers (Bracher, 1955).

Following their poor showing at the polls in 1928, the Nazis changed their tune. They no longer publicly advocated a violent revolution and instead emphasized legal means of gaining government control. This made the party more acceptable to middle- and upper-class voters (Evans, 2004), and Hitler formed links with businessmen (Ferguson and Voth, 2008). The party also played a prominent role in a referendum against the rescheduling of Germany's reparations obligations ("Young Plan"). This provided a platform for it to argue that Germany was being enslaved by foreigners for generations to come (Hett, 2018). Shortly thereafter, the Nazis scored their biggest success yet – in the September 1930 election they won 18.3% of the vote.

As aggregate GDP in Germany plunged by 40% and unemployment surged toward six million, the Nazis went from capturing 18.3% of the popular vote in 1930 to 43.9% in March 1933. The party's biggest ballot box breakthrough came in July 1932 (the first national parliamentary elections held after the banking crisis). The Nazi Party became the largest party in parliament, receiving 13.7 million votes (37.4%), more than the Social Democrats and Communists combined. Hitler demanded to be named chancellor – but was rebuffed by President Paul von Hindenburg. By November 1932, in another round of federal parliamentary elections, electoral support for the party began to slip. The Nazi vote count fell by 2 million. However, barely a month later von Hindenburg appointed Hitler as chancellor. Within two months, the Nazis had staged elections and taken over effective power in the entire country (Turner, 2003). Their rise to power and the end of German democracy ultimately led to genocide, the Second World War, and more than 60 million casualties.

Nazi propaganda in the aftermath of the banking crisis. Nazi propaganda exploited the financial crisis, which provided seemingly incontrovertible proof for their misguided theories of Jewish domination and destruction. It consistently blamed Jews for Germany's slump. Immediately after the banking crisis erupted, Josef Goebbels instructed party propagandists to emphasize that it validated the party's anti-Semitic line. While Jews were over-represented in German high finance – as indeed they were in all the top tiers of German industry (Mosse, 1987) – Danat was singled out due to its central role in the financial crisis.

A key target of Nazi propaganda was Danatbank's prominent Jewish CEO Jakob Goldschmidt, who was made the scapegoat for Germany's depression. The *Völkischer Beobachter* (VB), the leading mouthpiece of the Hitler movement, published an article under the heading "The Wrong Banking System". It argued that Danatbank's collapse revealed the ills of the old system, and claimed that ever more bankers were

coming round to the Nazi point of view. In the same issue, another article entitled "Goldschmidt's Lossmaking Deals" maintained that the CEO of Danat held more than 100 (paid) seats on supervisory boards, thereby making "hundred of thousands German non-Jewish workers his submissive menials". The article went on to argue that the Nazis had warned of the inevitable crisis all along. The highly anti-Semitic *Der Stürmer* weekly even featured a cartoon showing a gigantic, obese Jewish banker hanging a starving German businessman; another cartoon from the time shows a rotten apple with a human-faced worm inside, against a background of the names of Jews associated with scandals, including Goldschmidt's.[22]

Discussion of Goldschmidt and his bank's allegedly 'corrosive influence' was not limited to the immediate aftermath of the banking crisis. In May 1932, just before the decisive electoral breakthrough for the Hitler movement, the *Völkischer Beobachter* (28.5.1932) argued

> "The collapse of Nordwolle shows how right our fight against the excesses of capitalism has been [while] Jewish financial papers have tried to obscure the public's view by shouting 'hold the thief!' [i.e. blaming Nordwolle, rather than Goldschmidt and Danatbank]. We cannot be indifferent to the fate of 22,000 German workers who have lost their daily bread [...]"

Crucially, the same paper pointed out that the banking crisis increased the acceptability of Nazi ideas – the bourgeois middle class had shown "an ever-increasing convergence towards national socialist language and national socialist thought. The turning point came approximately during the summer crisis of 1931 [...] the conflict between Germany's vital needs and those of the global economic and financial policy can no longer be obscured" (VB 31.5.1932).[23]

3 Data and main variables

3.1 Data

We combine a number of data sources for interwar Germany, several of them hand-collected and digitized for the first time. We collect data for the universe of German joint stock companies in 1929 to construct a measure of a municipality's exposure to Danatbank.[24] The Handbook of German Joint Stock Companies (*"Handbuch der deutschen Aktien-Gesellschaften"*), an annual 4,000-page compendium of balance sheet information for each joint stock company, contains data on assets, capital,

[22] The Online Appendix reproduces the cartoons.

[23] Radio did not play a role in Nazi propaganda before the party came to power in 1933 (Adena et al., 2015). Since most of the vote gains we analyze occurred before March 1933, we abstract from this factor.

[24] From now on, we use the term city and municipality interchangeably, even if many of the observations refer to towns, strictly speaking.

location, and bank connections for 5,610 individual firms. In the aggregate, joint stock firm assets total 3.6 billion Reichsmark (RM), equivalent to 40% of GDP in 1929, or around two-thirds of all non-financial assets.

No data on individual bank loans are available. To establish connections between firms and banks, we use information on the banks that paid out firms' dividends. German companies typically had a strong and long-lasting relationship with a single bank. Their main bank (*"Hausbank"* − house bank), usually the one that had brought them to market, typically owned shares in them, offered them capital market and payment services, supplied them with credit, and often appointed members to their supervisory boards (Fohlin, 2007). Investors could collect dividends at bank branches (so-called *"Zahlstellen"*). For each company, we record the bank paying dividends prior to the banking crisis. Since German banks lent nationwide in the 1930s (in contrast to the US), we can exploit cross-sectional variation in firms' and cities' pre-crisis exposure to banks to identify the effect of the banking crisis on voting.

To gauge the importance of Danatbank at the city level, we combine two indicators. First, we measure city c's exposure as the share of all assets of firms connected to Danatbank:

$$exposure_c = I_{f,c} \times \sum_f \frac{assets_f}{assets_c} \times Danat\ connection_f, \tag{1}$$

where $I_{f,c}$ indicates whether firm f is located in city c, and $Danat\ connection_f$ is a dummy with value one if a company is connected to Danatbank in 1929; *exposure* ranges from zero to one.

Our second measure is based on Danatbank's branch network in 1929. We specify a dummy $has\ branch_c$ that equals one if Danatbank had at least one branch in city c in 1929. The two measures are complementary: *exposure* captures the importance of Danatbank to local joint stock companies, while *has branch* also captures deposit-taking and lending to smaller firms. In the baseline specification, we combine both measures and use the dummy $danat_c$, which takes value one if a city either had a Danat branch or significant exposure to Danat, defined as above-average exposure.

Our main outcome variables are the change in city income from 1928 to 1934, and the change in the Nazi Party vote share between September 1930 and July 1932. We assemble data on city incomes in 1928 and 1934 from Germany's Statistical Handbooks (*"Statistik des Deutschen Reichs, Neue Folge 1884-1944"*, bulletins 378 and 492).[25] We compute $\Delta income_c$ as the growth rate in city income from 1928 to 1934. Data on city incomes are available for all major German cities.

Voting results by party are calculated as the number of votes at the city level,

[25] The government collected data on city incomes every two years, but because of budget cuts not in 1930. Hence, 1928 and 1934 are the closest available data points around the crisis.

divided by the number of total votes cast (*"Statistik des Deutschen Reichs"*, ICPSR 42). We also collect data on a city's earlier history of anti-Semitism, using the history of pogroms between 1300 and 1929 and support for anti-Semitic parties between 1890 and 1913 as indicators (Voigtländer and Voth, 2012, 2015). To capture the impact of the hyperinflation, we use the vote share of the VRP (*"Volksrechtspartei"*), an association-turned-party of inflation victims (Fritsch, 2007). In addition, we use standard data on city population, the share of blue-collar workers, of Protestants, and of Jews from the Statistical Yearbooks of German Cities (*"Statistisches Jahrbuch deutscher Städte"*) and the 1925 census (Falter and Hänisch, 1990).

Measures of post-1933 persecution from Voigtländer and Voth (2012) are an additional outcome variable; *synagogues* is a dummy that takes the value one if a city's synagogue was damaged or destroyed during the 1938 pogroms (Alicke, 2008); *deportations* is measured as log total deportations from 1933-45 in a city, standardized by its Jewish population (Bundesarchiv); and *letters* refers to four years of letters submitted to the editor of *Der Stürmer* (a far-right anti-Semitic Nazi newspaper), from 1935 to 1938, scaled by city population. We then take the first principal component across all three measures. Used as our main measure of *persecution*, it explains a sizeable 41% of the sample variance.

Finally, at the firm level, we identify those companies reporting wage bills in 1929 and 1934.[26] For this subset of firms we further collect pre-crisis (1929) balance sheet items on total assets and capital, return on assets, dividends, industry and location. This results in a subsample of 386 companies in 239 cities and 20 industries. Of these, 27 firms are connected to Danatbank and 37 to Dresdner Bank. We define the change in the wage bill ($\Delta wages_f$) as the growth rate from 1929 to 1934. We use the subsample of firms with wage-bill information in Section 5 to further examine the real effects of Danat's failure.

3.2 Descriptive statistics

Our main dataset contains information on 209 major German cities with an aggregate population of nearly 20 million for which are able to collect data on exposure to Danatbank, incomes, and elections. Table 1 presents descriptive statistics. The Nazi Party's vote share increased by 17.2 p.p. on average between 1930 and July 1932. The Communists saw almost no change. Average city income fell by 14.4%. The mean (median) city in our sample had 86,700 (37,500) inhabitants, and 41.7% of the workforce was blue collar. Protestants accounted for 65.7% of the population, while Jews made up 0.9%. In 22% of our cities anti-Semitic parties received votes before

[26] Information is often scarce; filing requirements were minimal. Firms reporting a wage bill in 1929 are often missing in 1934: some had gone bankrupt or merged. Others stopped reporting their wage bill.

1914, while 24.4% engaged in a pogrom at some point prior to 1929.[27]

[Table 1 about here]

A Danat branch existed in 36.4% of cities, and 42.6% of localities boasted a branch of Dresdner Bank. A full 46.4% of cities either had a Danat branch or were home to firms doing business with the bank. On average, Danat-connected firms accounted for 11% of total assets in a city.[28] Figure 3 shows the geographical distribution of Danat-connected cities. Cities with Danat-connected firms or branches (blue dots) span the entire country.

[Figure 3 about here]

Table 2 examines balancedness and presents the results of multivariate regressions with *danat*, *branch*, or *exposure* as the dependent variable. We standardize all independent variables to have mean zero and standard deviation one and estimate regressions without and with province fixed effects. Only population is consistently significant. Because Danatbank had a greater presence in large cities, we control for log population throughout. Danat-exposure is not systematically correlated with the share of blue-collar workers, or with the percentage of Jews. There were no statistically significant differences in the share of Protestants, pre-crisis log income per capita, or the unemployment rate. As Pei et al. (2019) show, another powerful test to detect potential selection in observables is to use the pre-crisis control variables as left-hand side variables in balancing regressions.[29] As we show in the Online Appendix Table OA2, Panel (a), none of the balancing regressions yield a systematic correlation between Danat-exposure and any of the control variables. These results make it unlikely that our findings are explained by selection.

[Table 2 about here]

Were companies connected to Danatbank riskier than those connected to other banks? If so, a declining wage bill or falling incomes could reflect weaker firm fundamentals, including weaker credit demand. Figure 4, Panel (a) shows that Danatbank- (blue solid line) and Großbanken-borrowers (red dashed line) were almost identical in terms of pre-crisis leverage (defined as liabilities over capital). Firms borrowing

[27] In 11% of cities, there was electoral backing of anti-Semitic parties as well as evidence of earlier pogroms. The correlation between both measures is 0.32.

[28] The correlation between branch and a dummy for above median exposure is 0.32. Average exposure equals 0.07 in cities with no Danat branch, and 0.19 in cities with one.

[29] We estimate following regression: $control_c = \beta\ danat_c + log(assets)_c + \theta_{WK} + \epsilon_c$, where c denotes city. Outcome variables are share blue collar, share protestant, share Jewish, all of 1925, and log income per capita in 1928. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank, province fixed effects are denoted by θ_{WK}.

neither from Danatbank nor any other large bank (black dashed line) had higher average leverage.[30] Thus, firms borrowing from Danat were no riskier before the crisis than other banks' borrowers. As we will show in more detail in Section 5, Danat-connected companies are also not statistically different to Dresdner-connected companies when it comes to other firm characteristics, and differ from companies connected to other banks only in their size.[31]

[Figure 4 about here]

4 Main results

In this section, we demonstrate that, after the banking crisis, support for the Nazi Party grew more in towns and cities exposed to Danatbank than in the rest of Germany. We then show that amplification of pre-existing anti-Semitism is likely one mechanism responsible for the rise: among Danat-exposed cities, the surge in Nazi support was greatest in places with a previous history of anti-Semitism. While bank failures lead to income declines, economic shocks alone are not sufficient to explain radicalization. The failure by Dresdner Bank (not targeted by Nazi propaganda) had the same economic effect – but none on Nazi support.

4.1 Danatbank and voting for the Nazi Party

Figure 1 summarizes our main finding. It plots the distributions of the change in vote shares for the Nazi Party between September 1930 and July 1932 – the last election before the banking crisis, and the first one after it. The Nazis gained votes everywhere, but the distribution is sharply shifted to the right for Danat-exposed cities, where votes for the NSDAP increased by an additional 2.5 p.p. (equal to 15% of the mean vote change and 0.37 sd).

To go beyond the visual evidence, we estimate regressions of the following type:

$$\Delta NSDAP_c = \alpha + \beta\ danat_c + controls_c + \theta_{WK} + \epsilon_c, \tag{2}$$

where $\Delta NSDAP_c$ is the change in support for the NSDAP between September 1930 and one of the three elections after the banking crisis (July 1932, November 1932, March 1933) in city c, $danat_c$ is an indicator of exposure to Danatbank. In our

[30] Regressing 1929 leverage for the full sample of 5,610 firms on a Danat dummy reveals that connected companies had 0.36 p.p. lower leverage (13% of the mean) than those not linked to Danat; the coefficient is significant at the 1% level. When we compare Danat-connected firms to the subset of Großbanken-connected firms (N=1,007), we find that the former had 0.06 p.p. (3% of the mean) lower leverage; the coefficient is insignificant.

[31] Huber (2020) also shows that German firms are similar in their characteristics once conditioned on a sample of large banks.

baseline specifications, we use the dummy $danat_c$ (equal to one if a city has a Danat branch or above-average exposure of joint stock companies to Danat). Alternatively, we use $exposure_c$, based on the average asset-weighted share of firms connected to Danat; or $branch_c$, a dummy for branch presence. $controls_c$ is a vector of pre-crisis city-level controls, including log population, as well as share of Protestants, Jews, and blue-collar workers out of its total population. θ_{WK} is a set of regional fixed effects, absorbing unobservable characteristics at the state/province level.[32] We report robust standard errors in all regressions.

Our baseline results use equation (2) for a cross-section of cities, since our control variables are not time-varying. As we show in Table 2 and Table OA2, our treated and control cities are balanced in terms of pre-crisis covariates. Results are equally strong in a difference-in-differences setting where we include city and time fixed effects (Section 5). There we also show that there are no differential pre-trends across groups.

[Table 5 about here]

Table 5 shows how support for the NSDAP rose markedly more in Danat-exposed cities. In Panel (a) we use dummy *danat* as the independent variable. In column (1), without further controls or fixed effects, Danat presence predicts an increase in the Nazi vote share of 2.4 p.p. Adding city-level controls in column (2) and province fixed effects in column (3) yields larger coefficients. *danat* is significant at the 1% level in both specifications. The most demanding specification in column (3) implies that cities with Danat presence saw an additional rise in the Nazi vote share of 2.9 p.p. (17% of the mean or 0.43 sd). Adding several controls and fixed effects only changes the coefficient on Danat-connections slightly, despite a large increase in R^2 by 55 p.p. This suggests that unobservable factors are unlikely to account for our city-level findings (Altonji et al., 2005; Oster, 2019).[33] Results are similar for later elections (columns 4 and 5). Column (6) uses the average change in the vote share across all three elections after the banking crisis, and again reports large effects.

Panel (b) repeats the estimation in columns (3)-(5) of Panel (a), but uses either exposure (columns 1-3) or branch presence (columns 4-6) as the explanatory variable. For the period 1930-July 1932, there is a large and significant effect of exposure. Moving a city from the 50th to the 90th percentile in terms of exposure implies an increase of Nazi voting by 1.7 p.p. For the period 1930-November 1932, we find a somewhat smaller and insignificant coefficient on exposure – which nonetheless is

[32] Fixed effects account for any potentially confounding effects of austerity, which was implemented at the state level Galofré-Vilà et al. (2017). There are 15 distinct federal states/Prussian provinces in our sample.

[33] In the Online Appendix, we further show that our results are robust to excluding individual cities or regions. Further, *danat* significantly affects NSDAP vote shares when we run regression equation (2) separately in the cross-section of cities sorted by terciles of the unemployment rate in 1931 (D'Acunto et al., 2019).

not statistically different from the one reported in column (1). For the period 1930-March 1933, the coefficient is again significant and somewhat larger. For the *branch* dummy in columns (4)-(6) the results are similar to those in Panel (a): NSDAP vote shares climbed by an additional 1.8 to 2.5 p.p. in cities with a Danat branch. Overall, Table 5 provides evidence that support for the Nazi Party rose in Danat-cities after the banking crisis of July 1931.

Did voters in cities affected by Danat's collapse already turn toward the Nazi party before Danatbank's failure? We test for pre-trends in Figure 2, Panel (a), which plots coefficients for the dummy *danat* in regression equation (2) for each federal election between 1924 and 1933, relative to results in the 1930 election. Coefficient estimates are statistically and economically insignificant for all polls prior to the banking crisis, but positive and highly significant thereafter. Here – and in the analogous difference-in-difference analysis in Section 5 – there is no evidence of pre-trends.

[Figure 2 about here]

4.2 The economic vs. cultural channel

How did the banking crisis boost support for the Nazi Party? There are two plausible channels. First, Danat's default led to economic misery, which could have translated into greater Nazi backing. Second, scapegoating Jews (and the hated Weimar political and economic "system" allegedly dominated by Jews) for the economic depression was a key element of Nazi propaganda. The ability to point to real misery – arguably exacerbated by the collapse of a Jewish-led bank – may have enhanced the credibility and appeal of this misguided message. We first examine the "economic" channel, and then investigate the "cultural" channel.

Economic factors. Column (1) in Table 6, Panel (a) indicates that in municipalities with a Danat presence incomes fell by 6.5% more than in those that did not have one. When we control for province fixed effects, the effect remains significant at the 5% level and increases in magnitude to 7.8% (column 2). This is a dramatic difference: the Danat-induced drop in incomes represents 54% of the mean income decline of 14.4% over the period 1928 to 1934, or 0.44 sd.[34] Income declines went hand-in-hand with greater electoral support for the Nazi Party. Columns (3)-(6) suggest that, for every standard deviation drop in income, Nazi voting surged by an extra 0.7 p.p. from 1930-July 1932 (column 3), by 0.9 p.p. for 1930-November

[34]Unfortunately, there is no high frequency data on economic outcomes. Instead, we examine long differences – the change in city-level incomes between 1928 and 1934 (published at the beginning of the year, i.e. capturing the difference between late 1927, the peak of the economic cycle in Germany, and late 1933, slightly after the very bottom). Despite the potential measurement error created by using data further from the event we examine, we find strong real effects of the banking crisis.

1932 (columns 4), and by 1 p.p. for 1930-March 1933 (column 5). Using the average change across all elections provides similar results in column (6). The majority of papers on the rise of the Nazi Party rely on unemployment data and has found little evidence of immiserization as a major driving force. Based on new data, we provide the first evidence that falling incomes increased support for the Nazi movement.

[Table 6 about here]

The banking crisis was not the only reason why incomes decreased during the Great Depression. Lower incomes in general could produce radical voting. In Panel (b) we first show that income declines, predicted by exposure to Danat, are associated with markedly more Nazi voting in July 1932 (column 1). Second, we include both predicted income and actual income changes in our voting regression in column (2). Predicted income has a much greater effect on voting, despite the fact that income and predicted income have a similar mean and dispersion. While income declines led to radical voting, those induced by financial collapse had a much more pronounced effect.

This analysis is performed in the spirit of traditional intermediation analysis. We report the formal version of the Sobel-Goodman test for intermediation in column (3). It suggests that the effect of the banking crisis on voting is mediated by income only to a limited extent (compare Panel (a) in Table 5, column 3). In other words, financial distress mattered not only because of the income declines it brought, but in its own right.[35] There are, however, important conceptual challenges with the standard Sobel-Goodman approach (Dippel et al., 2016; Acharya et al., 2016).[36] To sidestep them, we also employ the Acharya et al. (2016) method in column (4), which purges the effect of *danat* on Nazi voting from the impact of associated income changes using sequential g-estimation. Again, the direct effect of Danat exposure never declines by more than one-tenth of the baseline estimate and remains highly significant. Columns (5)-(6) show the Acharya et al. (2016) results for other elections, with similar results.

Table 6, Panels (a) and (b) hence suggest that, while the economic repercussions of the banking crisis were severe, the crisis itself had electoral effects above and beyond the direct economic impact. As we argue in the following section, the banking crisis allowed the Nazis to blame the Jewish population for the depression.

Anti-Semitism, Nazi voting, and the banking crisis. Anti-Semitism had deep historical roots in some German cities, but not others (Voigtländer and Voth,

[35] Income changes are arguably less well-measured than exposure to Danat. Any resulting bias would attenuate the effects of income.

[36] Table OA6 provides results for an improved version of the SG test.

2012). We split our sample into cities with above- and below-average historical anti-Semitism, using two indicators – voting for anti-Semitic parties from 1890-1914 and instances of pogroms from the Black Death to 1929.

[Figure 5 about here]

Figure 5 illustrates differences in voting behavior across the two groups of cities. In Panels (a) and (b), we stratify by voting for anti-Semitic parties during the Imperial period. Where these fringe parties won no votes (Panel a), Danat presence was only associated with a small increase in Nazi voting, compared with locations without a Danat presence. Where there was already support for anti-Semitic parties in the Imperial period, the upward shift as a result of Danat presence was much greater (Panel b), with a difference in the modes of over 6 p.p. The same pattern is visible when we stratify by historical pogroms (Panels c and d). Again, in places without pogroms, Danat exposure had a small effect (Panel c). Where there was a history of pogroms (Panel d), the upward shift is more than twice as large.

Table 7 generalizes the analysis for cities with or without a history of anti-Semitism. Panel (a) reports results when we stratify by anti-Semitic party support (where low support means that the parties either fielded no candidates, or received no votes). In cities with no such support, Danat presence increased Nazi voting by 1.9 p.p. between 1930 and July 1932 (column 1), significant at the 10% level. In cities with support for anti-Semitic parties, Danat presence is associated with a much greater rise in the average increase in Nazi voting of 6 p.p. and is highly significant. The difference is similarly large for the November 1932 election (2.3 vs 5.5 p.p., columns 3 and 4), and the March 1933 election (1.9 vs 4.2 p.p., columns 5 and 6).

[Table 7 about here]

Panel (b) compares cities with and without a history of pogroms. Where no historical pogroms occurred (column 1), having a Danat branch or Danat-connected firm was associated with a relative increase in Nazi voting of 1.8 p.p. (significant at the 10% level). Where pogroms had taken place previously, the rise was 5.5 p.p. for the period 1930-July 1932, significant at the 1% level. Again, results are similar for other elections in columns (3)-(6).[37]

In combination, the evidence in Panels (a) and (b) suggests that local exposure to Danatbank increased support for the Nazi Party across Germany, but pre-existing anti-Semitic attitudes exacerbated the effect. In places with a history of anti-Semitism, Danat presence led to a surge in Nazi voting.

[37] Table 10 shows that the differential effects by historical anti-Semitism are robust to using a difference-in-differences estimation (Panel a) or coarsened exact matching weights (Panel b).

Danat vs. Dresdner. We argue that soaring support for the Nazis in Danat-cities resulted from an anti-Jewish message. To further isolate the cultural component in the wake of the banking crisis, we compare the effects of Danatbank's and Dresdner Bank's failure. Danat was headed by a prominent Jewish banker, Jakob Goldschmidt, as Nazi propaganda repeatedly emphasized. Nazi propaganda borrowed heavily from the guiding principles of commercial advertising, focusing on simplified message repeated time and again (Bracher, 1955). Figure OA2 in the Online Appendix shows that mentions of Goldschmidt in German-language texts spiked during and after the banking crisis. His name is mentioned much more frequently in the corpus of German-language texts, compared with the the names of leading managers of Dresdner Bank. While Dresdner Bank – like most German banks – had numerous Jews occupying leading positions, it was not singled out as a cause of the financial crisis to the same extent.[38] By contrasting the economic and electoral effects of exposure to Danatbank, as compared to those with Dresdner Bank, we can gain further insight into the importance of anti-Semitism and propaganda in driving electoral gains for the Nazi party.

In Table 7, Panel (c), columns (1) and (2) show that the economic effects of Danat's and Dresdner's failure are statistically indistinguishable. Both lead to a significant fall in incomes. The same is not true of electoral consequences. Columns (3)-(5) show that the presence of Dresdner-exposed firms or a Dresdner Bank branch added no votes to the Nazi Party in July 1932 or November 1932, and only had a small positive impact in March 1933. When we use both Dresdner and Danat in our estimation, the coefficient on Dresdner remains insignificant for all elections (columns 6-8). At the same time, the coefficient on Danat remains highly significant and large in economic magnitude. As we demonstrate in the Online Appendix, the effect of Dresdner Bank's local presence had only a small effect on NSDAP votes in areas with or without historical anti-Semitism.

The failure of Germany's second- and third-largest bank had severe and near-identical economic effects – but only the collapse of Danatbank boosted the Nazi's electoral fortunes. While the economic channel matters for radicalization – declining incomes led directly to greater Nazi backing – our results suggest that cultural factors are key to understanding the post-banking crisis surge in Nazi Party support. The scapegoating of Jews, in combination with deep-seated anti-Semitism, contributed markedly to the political radicalization that followed the banking crisis.

Persecution after 1933. Did the banking crisis directly affect relations between Jews and gentiles? To answer this question, we look at the persecution of Jews once the Nazis were in power. Table 8 shows that anti-Semitic actions and violence were

[38] Dresdner Bank replaced its CEO Henry Nathan (who was Jewish) in 1931 with Carl Goetz.

more frequent in locations affected by Danatbank's failure. Columns (1)-(3) include city-level controls, columns (4)-(6) add province fixed effects. Across specifications, cities with Danat presence saw a sizeable increase in anti-Semitic actions and violence. In columns (1) and (4) we use *danat*; results are similar when we use *exposure* (columns 2 and 5), or the *branch* dummy (columns 3 and 6) separately, and whether we include province fixed effects in addition to city controls (columns 4-6). Except for column (3), coefficients are always statistically significant. The result in column (4) implies that having any exposure to Danat increased anti-Semitic violence by around 0.27 standard deviations. Our measure of persecution cannot do justice to the atrocities committed by the Nazi regime. It does, however, suggest that anti-Semitic sentiment triggered by the banking crisis had repercussions long after Danat's failure. Voters were not only radicalized at the ballot box; they were also radicalized in their actions.

[Table 8 about here]

5 Additional results and robustness

In this section we present firm-level evidence on the real effects of Danat's failure and perform several robustness checks for our city-level results.

5.1 Firm-level analysis

In Section 4 we showed that incomes declined more in cities where Danat's presence was stronger. But aggregate data does not allow us to control for potential confounding factors at the city or industry level. To substantiate the real effects of Danat's collapse, we analyze firm-level data. For a subset of 386 out of our 5,610 joint stock companies, information on company wage bills in 1929 and 1934 is available. In Figure 4, Panel (b) we show that the subset of companies reporting their wage bill is similar in terms of assets to the full sample: the distribution of log(assets) for the sample of enterprises that report their wage bill in 1929 (386 observations) largely overlaps with that for the universe of joint stock companies in 1929 (5,610 observations). The difference in means is insignificant. This suggests that our subsample of companies with wage bill information resembles − in size − the average joint stock company. Table 3 presents summary statistics for our firm-level variables. As of 1929, the average firm was 30 years old and relatively large, reflecting the fact that our sample covers joint stock companies.

[Table 3 about here]

Is our sample of wage-bill enterprises balanced on observables? Table 4 reports regressions with a dummy for being Danat-connected as the dependent variable. Total assets are larger at firms connected to Danat, but there are no major differences in terms of age, return on assets, leverage, and capital-to-labor ratio (wage bill over assets). The overall pattern is similar if we include industry fixed effects (column 2) and city fixed effects (column 3).[39] When we compare Danat-connected companies with Dresdner-connected ones only (columns 4 and 5), all coefficients are insignificant.[40] All in all, Danat-connected companies are not statistically different to Dresdner-connected companies, and differ from companies connected to other banks only in their size. We confirm this pattern in the Online Appendix Table OA2, Panel (b), in which we test for selection effects by using our pre-crisis firm controls as dependent variables (Pei et al., 2019). Importantly, no evidence suggests that Danat-connected companies had higher leverage before the crisis. As Panel (a) in Figure 4 shows, companies borrowing from Danat had lower leverage than those borrowing from other large or smaller banks (see also Section 3).

[Table 4 about here]

The wage bill of the average firm in our sample declined by 19.5%. By how much more did that of Danat-connected companies decrease? We estimate the following regression:

$$\Delta wage\ bill_f = \alpha + \beta\ Danat\ connection_f + controls_f + \theta_i + \nu_c + \epsilon_f, \qquad (3)$$

where $\Delta wage\ bill_f$ is the change in company f's wage bill between 1929 and 1934, $Danat\ connection_f$ is a dummy variable equal to one if a firm was connected to Danat in 1929 and zero otherwise, and $controls_f$ are pre-crisis company controls (log total assets, age, return on assets, leverage, and capital-labor ratio). To account for the fact that shocks to firms within the same city may be correlated, we cluster standard errors at the city level. Danat-connected enterprises could be subject to other unobservable shocks beyond reduced lending by their main bank. We therefore include industry (θ_i) and city (ν_c) fixed effects to control for shocks that affect all firms within the same industry or city.

Table 9, column (1) shows that firms with Danat connections reduced their total wage bill by 26.9% more than firms not connected to Danat. The coefficient is significant at the 1% level. In column (2), we add pre-crisis firm controls and find a

[39] Adding fixed effects leads to a drop in observations, since not all industries and cities have more than one firm.

[40] We cannot include industry and city fixed effects, as the number of observations would become too small.

highly significant negative coefficient of -21.3%. To control for unobservable industry-level shocks, column (3) adds dummies for 20 distinct industries. The coefficient on Danat remains significant at the 1% level and similar in terms of sign and size to columns (1) and (2), despite the fact that R^2 quadruples.[41]

[Table 9 about here]

In columns (4)-(5) we further add city fixed effects to control for unobservable shocks to firms within the same city. We first replicate the specification in column (3) for the sample of cities with more than one firm in column (4), which results in 194 observations. The coefficient remains identical in size and is significant at the 5% level. In column (5), we add city fixed effects. Essentially, we are now comparing Danat-connected firms to other firms in the same city and industry. Despite the demanding fixed effects estimation, the coefficient remains significant and does not change in sign or size relative to column (4), while R^2 increases from 0.12 to 0.42. The fact that controlling for observable pre-crisis firm characteristics and unobservable shocks at the industry and city levels does not affect our coefficients in a statistically or economically meaningful way (despite a large increase in R^2) suggests that unobservable differences are unlikely to be a major concern (Altonji et al., 2005; Oster, 2019). This is in line with the pattern of city-level results.

Columns (6) and (7) replicate column (3) with firm-level controls and industry fixed effects, but use additional explanatory variables. Column (6) uses connection dummies for both Danat and Dresdner as explanatory variables. Danat and Dresdner both had a negative and significant effect on firms' wage bills, but the effect of Danat is somewhat larger in magnitude. Column (7) addresses the concern that Danat potentially acquired a selection of risky borrowers during its rapid expansion before 1929 (although we find no such evidence in terms of pre-crisis leverage). We use the dummy *Danat connection (old)* that equals one for the 19 firms already associated with Danat in 1923 (the earliest year before Danat's rapid expansion for which we have data on bank-firm connections). We further include *Danat connection (new)* that equals one if a company was connected to Danat in 1929 but not in 1923 (14 firms). The coefficients on both dummies are negative, significant, and slightly larger for *old* firms, relative to our baseline results in column (3). This means that Danat's new clients, recruited in the 1920s, were no more fragile than old ones. In other words, column (7) provides further evidence that our results are not biased by Danat's selection of firms after its merger.

Our firm-level regressions show that the failures of Danat and Dresdner led to a sharp contraction in connected companies' wages/salaries and/or head counts – a result that is strong and robust even when we compare firms in the same city and

[41] We lose two observations since two industries have only one firm.

industry. In line with our city-level results, we find no evidence that pre-existing differences in borrowers explain the negative effect of Danat's failure on incomes.

5.2 Difference-in-differences and coarsened exact matching

Our baseline analysis examines changes in Nazi vote shares in 1932 and 1933, relative to 1930. Here, we exploit the full set of federal election results from 1924 to 1933 in a difference-in-differences (DiD) framework:

$$\begin{aligned} \%NS_{c,t} = \beta_1\ danat_c + \beta_2\ post\ 1931m7_t + \beta_3\ (danat_c \times post\ 1931m7_t) \\ + (controls_c \times post\ 1931m7_t) + \theta_c + \tau_t + \epsilon_{c,t}, \end{aligned} \tag{4}$$

where c denotes city and t election dates. The dependent variable is the NSDAP vote share in city c and election t.[42] $danat_c$ is a dummy with value one if a city has above-average exposure to or a branch of Danatbank. $post\ 1931m7$ is a dummy with value one for the three elections after Danatbanks' failure in July 1931 and zero for elections before July 1931. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925, interacted with dummy $post\ 1931m7$. θ_c denote city fixed effects, τ_t election date fixed effects. Standard errors are clustered at the city level.

Column (1) in Table 10, Panel (a), shows a positive and significant coefficient on the interaction term: cities exposed to Danatbank see a stronger increase in vote shares of the NSDAP. Once we add time-varying fixed effects at the regional level in column (2), the coefficient remains highly significant and increases in magnitude: Danat-exposed cities see a relative increase in the percent of votes cast for the NSDAP of 2.3 p.p. (0.14 sd). Column (3) further adds a dummy for the presence of Dresdner Bank, interacted with the post-crisis dummy, to the regression. Dresdner has an economically and statistically insignificant effect on support for the Nazi party.

[Table 10 about here]

Columns (4) and (5) split the sample into cities where an anti-Semitic party did not enter the election or received a zero vote share in 1900 (no AS), vs. areas in which it received a positive vote share (yes AS). Columns (6) and (7) split the sample into cities that had no pogrom between 1349 and 1920 (no pog) and those that had a pogrom between 1349 and 1920 (had pog). Similar to our findings in Table 7, the positive effect of Danat presence on support for the Nazi party is exacerbated if a city has a history of anti-Semitic violence.

[42] Since the Nazis were officially banned in 1924, we use combined vote totals for two surrogate parties – the German Völkisch Freedom Party (DVFP) and the National Socialist Freedom Movement (NSFP). The NSFP competed with a near-identical Nazi agenda and many overlapping candidates. The DVFP offered joint lists with the NSFP.

Voters in cities affected by Danat's collapse may have been turning toward the Nazis even before the banking crisis. To this end, we estimate regression equation (4), but interact *danat* with dummies for each individual election date. The omitted category is the last election before the banking crisis in 1930. Figure 2, Panel (b), plots coefficient estimates with 90% confidence intervals and shows that there were no differential pre-trends. Coefficient estimates are statistically and economically insignificant for all polls prior to the banking crisis, but positive and highly significant thereafter – confirming the cross-sectional results in Panel (a). Danat-exposed cities hence show no differential trend in support for the NSDAP prior to the bank's failure.

Table 2 shows a high degree of balance in covariates, but some differences in observables between cities with and without Danat presence could persist. To further address any potential imbalances, we use coarsened exact matching (CEM), which creates matches between the treatment and control group based on a set of covariates. Covariates are coarsened to maximize balance of the matched dataset and to ensure that most treated observations have a match in the control group. The resulting estimates can then be treated as causal (Iacus et al., 2012). We match on the log of 1925 population, as well as the share of Protestants, Jews, and blue-collar workers. With these parameters, the CEM algorithm creates 63 treated and 88 untreated matches. For 52 observations there is no match. Overall, CEM matching results in a substantial increase in balance.[43]

Table 10, Panel (b), reports results from regressions equation (2) using the CEM weights. The dependent variable is the 1930 to 7/1932 change in the NSDAP vote share. Column (1) with city controls shows a economically and statistically significant positive effect of dummy *danat* on support for the Nazi party. The addition of province fixed effects in column (2) does not materially affect the coefficient of interest. Column (3) shows that local presence of Dresdner Bank has an insignificant and small effect on support for the Nazi party. Finally, columns (4)-(5) and (6)-(7) split the sample into cities without and with a history of anti-Semitic violence (based on vote shares for an anti-Semitic party or the occurrence of pogroms). The positive effect of Danat presence on support for the Nazi party is economically larger if a city has a history of anti-Semitic violence.

Taken together, the results in Table 10 confirm our main findings: support for the Nazis surged in cities exposed to Danatbank, but not in cities exposed to Dresdner Bank. The increase in NSDAP vote shares is larger if a city had a history of anti-Semitic violence.

[43]For every variable except the share of Jews, we create five strata. Because the share of Jews is low and their distribution is heavily skewed, we only create two strata. The multivariate L1 statistic, which summarizes the extent to which the distributions of treated and control groups overlap for each variable, declines significantly. For example, the difference in means for the share of Protestants declines by 88%; for log population by almost 95%.

5.3 Further robustness

Table 11, Panel (a), further investigates potential differences in support for the NSDAP prior to the banking crisis across treated and control cities in the cross-sectional regression equation (2). We find no statistically or economically meaningful effect of Danat exposure on the level or change in NSDAP votes prior to 1931 (see also Figure 2). Columns (1)-(3) use the percentage of votes cast for the NSDAP or its predecessor parties in federal elections in 1924, 1928, or 1930 as the dependent variable.[44] The coefficient on *danat* is small in magnitude, negative, and significant only in column (2). When we use changes in NSDAP vote shares for the periods 1924-28 and 1928-30 as dependent variables in columns (4) and (5), we find statistically and economically insignificant negative effects of *danat*. If anything, exposed cities tended to vote less for parties on the radical right before the banking crisis. Finally, column (6) displays our main result in this reduced sample: *danat* had a highly significant and positive effect on the 1930 to July 1932 change in the NSDAP vote share.

[Table 11 about here]

The Nazi Party was not the only extremist party in Weimar Germany. The Communist Party (KPD) also agitated in favor of overthrowing the established order. While the KPD also sought to exploit the financial crisis, it did not engage in anti-Jewish propaganda. If the financial crisis acted as a catalyst for anti-Semitic sentiment, then the Communist Party should not have benefited from it to the same extent – even in cities exposed to failing banks. Panel (b), columns (1)-(3) show that Danat exposure had no meaningful effect on the change in the Communist vote share in any election after the banking crisis. In other words, while the banking crisis boosted support for right-wing extremists that scapegoated Jews, no such effect is discernible for left-wing extremists. This finding accords with Funke et al. (2016), who show that banking crises tend to increase support for right- but not left-wing parties. Columns (4)-(6) further investigate any potential pre-crisis differences in economic activity. Cities with Danat presence exhibit no statistically significant differences in unemployment rates in 1930 (immediately before the banking crisis) in column (4), log income per capita in 1928 in column (5), nor the change in the unemployment rate from 1930 to 1931 (the year prior to the banking crisis) in column (6).

Finally, Panel (c) examines competing explanations and alternative channels, and shows that none of them reduces the size or significance of the effect of *danat* on Nazi voting. In columns (1)-(2) we examine if memories of the hyperinflation are a possible confounding factor. We use votes for the *Volksrechtspartei (VRP)*, a party

[44] For consistency, we restrict the sample to the 167 cities for which data exists in every election.

that sought a revaluation of (old) Marks, as an indicator of suffering. In column (1) areas that gave the VRP more votes did not support the Nazis more after the onset of the banking crisis. Moreover, adding the VRP vote share in column (2) does not affect the coefficient on *danat*. Declining international trade after 1929 may be another confounder. Columns (3) and (4) construct a measure of city-level exposure to export industries (based on the sum over the pre-crisis share of firm assets in industry i, interacted with the aggregate change in exports in industry i). We find that, while export exposure has a positive, insignificant effect on support for the Nazi party, it does not modify the coefficient on *danat*.

Our results could also reflect general anti-finance sentiment. To examine this possibility, we include the (historical 1882) share of Jews in the financial sector, or overall employment in finance (D'Acunto et al., 2019), as additional controls. Danat presence remains significant (see columns 5 and 6). Danat emerged from a takeover of Darmstädter Bank by the Nationalbank in 1921. Danat's regional expansions began only thereafter. Column (7) replaces *danat* with a dummy which takes the value of one if Danatbank's predecessor banks had a branch in a city in 1920, and zero otherwise. Danat's branch network in 1920 predicts a similar effect on Nazi voting (1.7 p.p.) as its branch network in 1930 (1.8 p.p., see Table 5, Panel (b), column 4).

In the Online Appendix, we further show that our results are robust to excluding individual cities or regions. We further find that *danat* significantly affects NSDAP vote shares when we run regression equation (2) separately in the cross-section of cities sorted by terciles of the unemployment rate in 1931. The significance of our results also cannot be attributed to either spatial correlation or general anti-finance sentiment.

In conclusion, there were no differential pre-trends across cities with and without Danat presence in terms of voting or economic fundamentals; nor did the radical left benefit from Danat's failure. We also find no evidence that memories of the hyperinflation, declining exports, or specific regions explain the effect of Danat on NSDAP vote shares.[45]

6 Conclusion

Financial crises have real economic effects. Firms connected to troubled banks experience a credit crunch. In turn, the credit contraction can lead to a fall in investment

[45] In the Online Appendix we exclude cities located at the border with Austria, whose banking crisis erupted in May 1931; the region around Bremen that was directly affected by the fall of Nordwolle, which could have had significant effects on the local economy; cities surrounding Darmstadt, where Danatbank was originally headquartered; and the Ruhr region, where a large share of German economic activity was concentrated. None of these modifications affects the coefficient on *danat*.

and employment, creating an economic downturn (Gertler and Gilchrist, 2018). What has been missing from the literature on the "real effects" of financial crises is a clear link between financial distress and political cataclysm. While several studies have documented cross-country patterns suggesting a link between financial distress and political radicalization, our study is the first to establish such a link during one key historical episode – the Nazis' rise to power – while shedding light on the underlying mechanism.

First, the German banking crisis – like other financial crises – was followed by a sharp economic decline. Incomes in towns and cities exposed to failing banks fell more than they did elsewhere; firms connected to failing lenders reduced their payrolls more drastically than those linked to other banks.

Second, the collapse of Danatbank – the bank at the heart of Germany's 1931 banking crisis – had a major effect on Nazi voting. In the aftermath of the banking crisis, the Nazi Party became the single-largest political force. The cross-section of electoral gains shows that Danat's crisis was instrumental for this rise: where firms had exposure to Danat or where the stricken bank operated branches, backing for the Hitler movement surged. The banking crisis may well have expanded support for the Nazi Party countrywide, as the Nazi press argued. Our empirical strategy uncovers only the additional effect of cross-sectional differences in local exposure, abstracting from the overall effect of the nationwide shock. Economic distress was one of the pathways through which the financial crisis boosted the Nazi Party's electoral fortunes. Where income declines resulted from Danat's failure, Nazi support jumped; where it declined due to other factors, the effect was muted.

Third, we highlight an important synergy between economic and cultural factors. The surge in Nazi voting was more pronounced in towns and cities with a long history of anti-Semitism: there, Danat presence added 6 p.p. to the Nazi party's electoral gains after 1930 – a sizeable increase relative to a mean of 17.3 p.p. from 1930 to July 1932. In other words, Nazi propagandists had more success in (wrongly) blaming economic misery on Jewish "high finance" where historical anti-Semitism had prepared the ground. Comparing Danatbank and Dresdner Bank further underlines the role of cultural factors. Nazi propaganda singled out Danat as the culprit for the financial crisis, and blamed the bank's failure on its prominent Jewish chairman, Jakob Goldschmidt. While the economic impact of the two bank failures was almost identical, only exposure to Danat had a significant effect on Nazi voting.

The financial collapse of 1931 thus lent seeming plausibility to a key Nazi hate narrative, helping to bring a large part of the German middle class round to the party's world view. Our paper demonstrates how financial distress can lead to extremist voting when accompanied by a confluence of cultural and economic factors.

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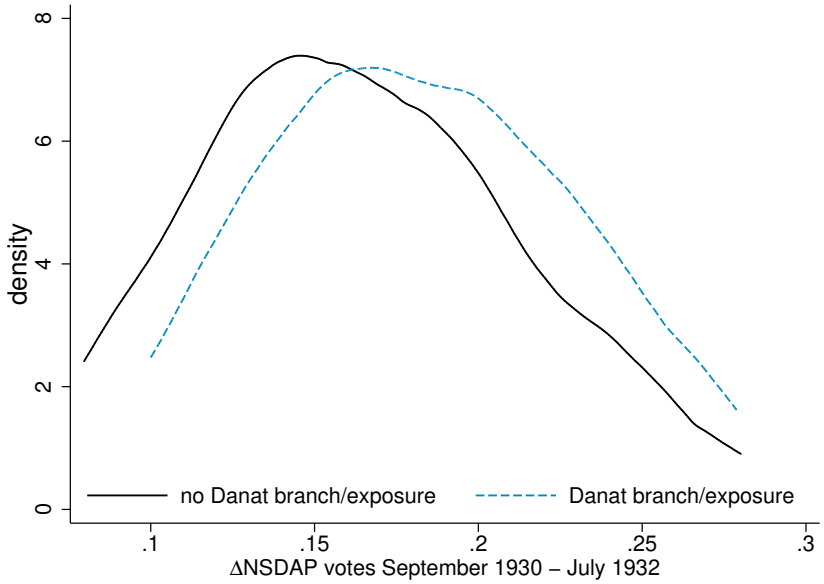
Tables and Figures

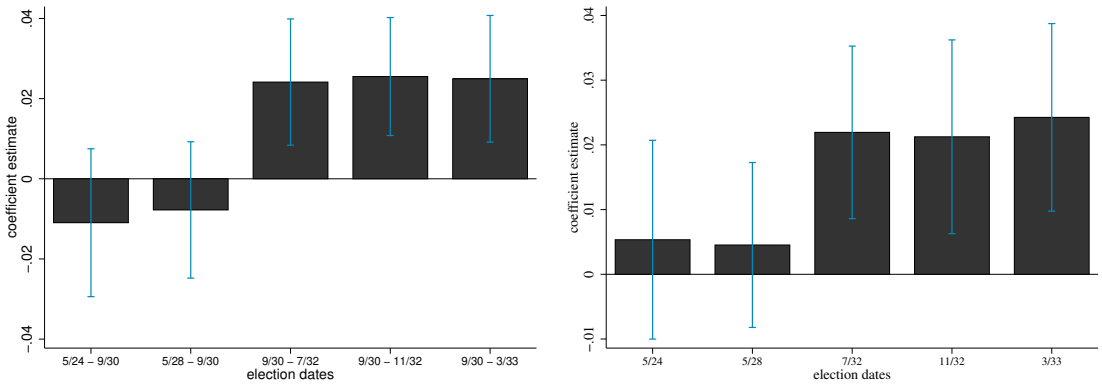
Figure 1: **The banking crisis and Nazi voting: 1930-1932/7**



This figure shows a density plot of the September 1930 to July 1932 change in the NSDAP vote share, for municipalities with and without presence of Danat (defined as either having a Danat branch or being home to companies with above-average exposure to Danat). The change in NSDAP vote share is conditional on city-level controls. Exposure is based on the universe of joint stock companies ($n = 5,610$).

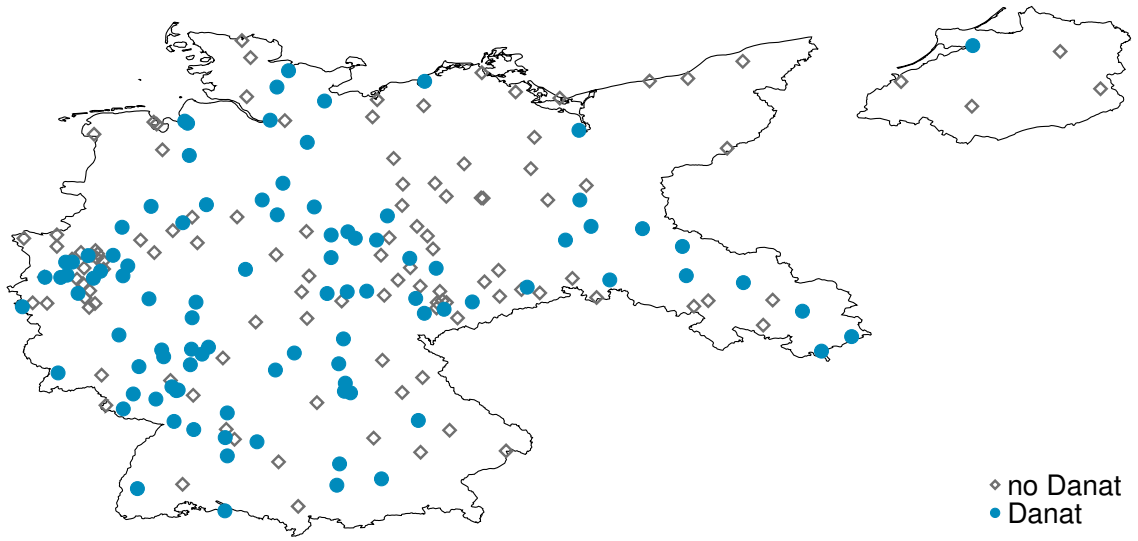
Figure 2: **Pre-trends**

(a) Cross-section (b) Difference-in-Difference



Panel (a) shows the coefficient and 90% confidence interval for regression equation (2), where we use the change in NSDAP vote shares for different federal elections (covering 1924, 28, 7/32, 11/32, and 33) relative to the 1930 results as outcome variables. Panel (b) plots coefficients and 90% confidence intervals for regression equation $NS_{c,t} = \sum_{t=1924m5}^{T=1933m3} \beta_t danat_c + \beta_2 post1931m7_t + \beta_3(danat_c \times post1931m7_t) + (controls_c \times post1931m7_t) + \theta_c + \tau_t + \epsilon_{c,t}$, where c denotes city and t time. The dependent variable is the NSDAP vote share in each election, where the election in 9/30 is the omitted category. $danat_c$ is a dummy with value one if a city has above-average exposure to or a branch of Danatbank. $post1931m7$ is a dummy with value one for the three elections after July 1931 and zero for elections before July 1931. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925, interacted with dummy $post1931m7$.

Figure 3: **Danatbank – Geographic distribution**

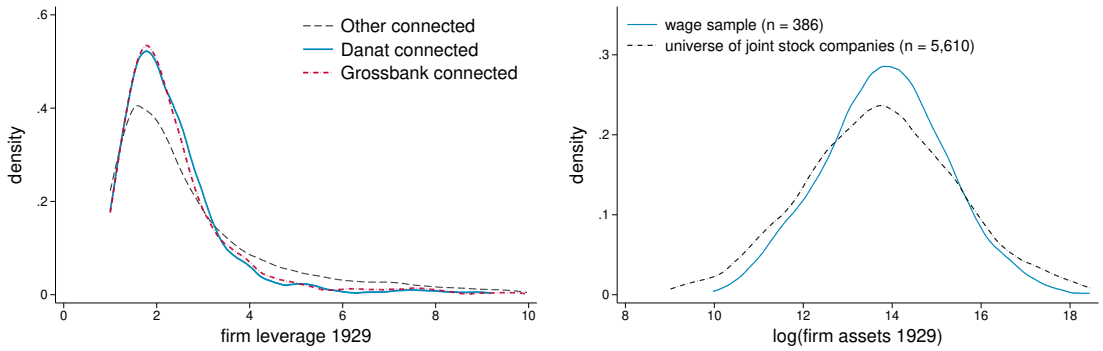


This figure shows a map of 1930 Germany. Blue solid dots indicate towns and cities with presence of Danat (defined as either having a Danat branch or being home to companies with above-average exposure to Danat). Grey diamonds are cities without presence of Danat. Exposure is based on the universe of joint stock companies ($n = 5,610$).

Figure 4: **Firm pre-crisis leverage and size**

(a) Pre-crisis leverage

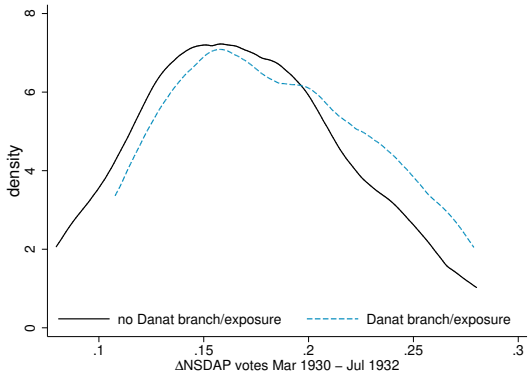
(b) Assets by sample



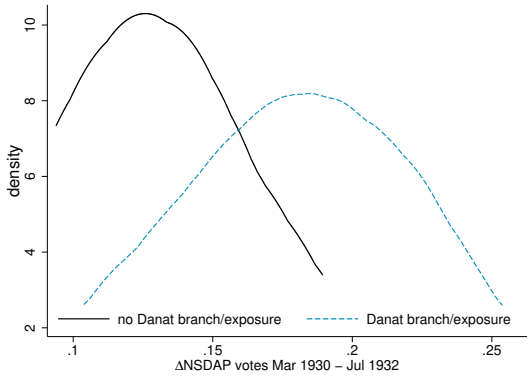
Panel (a) shows firm leverage for all joint stock companies not connected to any of the four great banks (black line), firms connected to Danatbank (blue line), and firms connected to other great banks (red line). Panel (b) shows the distribution of log assets for the wage bill sample of firms (blue line), as well as for all joint stock companies in 1929 (black line).

Figure 5: **Nazi votes and Danatbank – historical anti-Semitism**

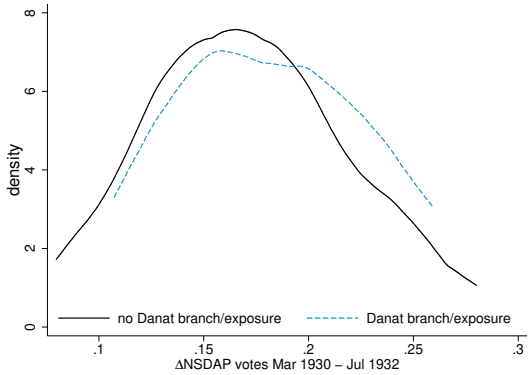
(a) No votes for anti-Semitic party, pre-1914



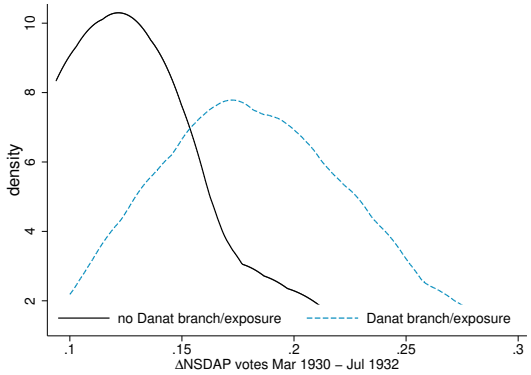
(b) Votes for anti-Semitic party, pre-1914



(c) Had no historical pogrom



(d) Had historical pogrom



This figure shows a density plot of the September 1930 to July 1932 change in the NSDAP vote share, for municipalities with and without presence of Danat (defined as either having a Danat branch or being home to companies with above-average exposure to Danat). The change in NSDAP vote share is conditional on city-level controls. Exposure is based on the universe of joint stock companies ($n = 5,610$). The sample is split by two indicators of historical anti-Semitism – votes for anti-Semitic parties (Panels a and b), and historical pogroms (Panels c and d). For Panels (a) and (b), the sample is split into cities where an anti-Semitic party did not enter the election or received a zero vote share around 1900, vs. areas in which it received a positive vote share. For Panels (c) and (d), the sample is split into cities that had no pogrom between 1349 and 1920, and those that had a pogrom between 1349 and 1920.

Table 1: **Descriptive statistics – City level**

Variable	Obs	Mean	Std. Dev.	P25	P50	P75
danat	209	.464	.5	0	0	1
exposure	209	.114	.213	0	0	.127
branch	209	.364	.482	0	0	1
dresdner	209	.426	.496	0	0	1
Δ NSDAP votes 1930-7/32	196	.172	.067	.139	.175	.218
Δ NSDAP votes 1930-11/32	194	.128	.062	.091	.13	.167
Δ NSDAP votes 1930-33	204	.222	.056	.186	.22	.262
persecution	191	0	1	-.588	.124	.694
Δ KPD 30-7/32	195	.012	.026	-.002	.013	.027
Δ income	193	-.144	.179	-.229	-.142	-.074
Δ income (predicted by danat)	193	-.144	.087	-.2	-.15	-.085
population (in 1,000s)	209	86.672	128.421	25.633	37.52	78.859
share blue collar	209	.417	.095	.349	.412	.481
share Jewish	209	.009	.008	.003	.006	.012
share Protestant	209	.657	.294	.481	.787	.894
anti-Semitic party presence	209	.22	.415	0	0	0
historical pogrom	209	.244	.431	0	0	0

Table 2: **Balancedness – City level**

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	danat		branch		exposure	
log(population)	0.212***	0.244***	0.257***	0.284***	0.042**	0.047***
	(0.028)	(0.029)	(0.027)	(0.028)	(0.016)	(0.016)
share blue collar	-0.050	-0.043	0.015	0.022	-0.038**	-0.041**
	(0.036)	(0.036)	(0.030)	(0.032)	(0.017)	(0.017)
share Jewish	0.092**	0.019	0.109***	0.037	0.014	-0.001
	(0.040)	(0.045)	(0.039)	(0.044)	(0.012)	(0.017)
share Protestant	0.014	0.072	-0.003	0.065	-0.017	-0.026
	(0.028)	(0.048)	(0.027)	(0.044)	(0.014)	(0.025)
log(income p.c. 1928)	0.051	0.055	0.030	0.040	0.029	0.030
	(0.034)	(0.037)	(0.024)	(0.027)	(0.018)	(0.020)
unemployment-rate 1930	0.032	0.046	-0.011	-0.009	0.010	0.013
	(0.036)	(0.032)	(0.026)	(0.024)	(0.010)	(0.012)
Observations	197	197	197	197	197	197
R-squared	0.288	0.390	0.398	0.467	0.114	0.184
Province FE	-	✓	-	✓	-	✓

Table 1 shows summary statistics for main city-level variables. For variable definitions, see Table OA1. Table 2 reports results for the following regression equation: $y_c = controls_c + \theta_{WK} + \epsilon_c$, where c denotes city. y_c is dummy *danat* with value one if a city has above-average exposure or a branch of Danatbank, a dummy for *branch*, or asset-weighted *exposure*. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925, and log income per capita in 1928 and the unemployment rate in 1930. *exposure* is based on the universe of joint stock companies ($n = 5,610$). Columns 2, 4, and 6 include province fixed effects θ_{WK}. In Table 2, all explanatory variables are normalized to mean zero and standard deviation one. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: **Descriptive statistics – Firm level**

Variable	Obs	Mean	Std. Dev.	P25	P50	P75
Δ wage bill	386	-.195	.761	-.645	-.391	-.062
Danat connection	386	.07	.255	0	0	0
Dresdner connection	386	.096	.295	0	0	0
Grossbank connection	386	.207	.406	0	0	0
age	386	29.813	28.298	11	18	43
log assets	386	13.844	1.396	12.987	13.824	14.77
leverage	386	3.298	4.654	1.679	2.182	2.997
return on assets	386	.041	.129	0	.031	.062
wage bill/assets	386	.344	.504	.108	.237	.412

Table 4: **Balancedness – Firm level**

	(1)	(2)	(3)	(4)	(5)
dep. var.:	Danat connection				
	All			DD sample	
age	0.000	-0.000	-0.002*	-0.001	-0.000
	(0.000)	(0.001)	(0.001)	(0.002)	(0.002)
log assets	0.045***	0.049***	0.069***	0.081	0.018
	(0.010)	(0.010)	(0.017)	(0.053)	(0.063)
return on assets	0.039	-0.049	-0.011	-0.087	-1.100
	(0.100)	(0.102)	(0.190)	(0.792)	(1.007)
leverage	-0.004	-0.003	-0.001	0.042	0.040
	(0.003)	(0.003)	(0.006)	(0.079)	(0.087)
wage bill/assets	-0.004	0.005	0.016	-0.178	0.103
	(0.026)	(0.026)	(0.043)	(0.267)	(0.325)
Observations	386	386	194	59	59
R-squared	0.066	0.146	0.465	0.074	0.337
Industry FE	-	✓	✓	-	✓
City FE	-	-	✓	-	-

Table 3 shows summary statistics for main firm-level variables. For variable definitions, see Table OA1. Table 4 reports results for the following regression equation: $Danat\ connection_f = controls_f + \theta_i + \gamma_c + \epsilon_f$, where f denotes firm. Controls include firm age, log assets, return on assets, leverage, and capital-labor ratio, all as of 1929. $Danat\ connection_f$ is a dummy with value one if a firm is connected to Danatbank. Industry fixed effects θ_i includes a set of 20 industry fixed effects; city fixed effects γ_c require at least two firms per city. *DDsample* in columns (4) and (5) of Table 4 restricts the sample to firms with a connection either to Danatbank or Dresdner Bank. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: **Danat and Nazi voting**

Panel (a): Exposure or has branch

dep. var.:	(1)	(2)	(3)	(4)	(5)	(6)
	Δ NS 30-7/32			Δ NS 30-11/32	Δ NS 30-3/33	Δ NS (avg)
danat	0.024**	0.025***	0.029***	0.029***	0.029***	0.027***
	(0.010)	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)
Observations	196	196	196	194	204	189
R-squared	0.039	0.500	0.585	0.443	0.412	0.491
City Controls	-	✓	✓	✓	✓	✓
Province FE	-	-	✓	✓	✓	✓

Panel (b): Exposure vs. branch

dep. var.:	(1) Δ NS 30-7/32	(2) Δ NS 30-11/32	(3) Δ NS 30-3/33	(4) Δ NS 30-7/32	(5) Δ NS 30-11/32	(6) Δ NS 30-3/33
exposure	0.041***	0.025	0.032**			
	(0.015)	(0.017)	(0.015)			
branch				0.018*	0.022**	0.025**
				(0.009)	(0.010)	(0.010)
Observations	196	194	204	196	194	204
R-squared	0.568	0.414	0.382	0.564	0.424	0.395
City Controls	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓

This table reports results for the following regression equation: $y_c = \beta x_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all as of 1925. Standard errors are robust. x_c is either a dummy *danat* with value one if a city has above-average exposure or a branch of Danatbank; asset-weighted *exposure*; or dummy *branch* with value one if the city had a Danat branch. *exposure* is based on the universe of joint stock companies ($n = 5,610$). All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: **The economic channel**

Panel (a): Income and voting

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ income		Δ NS 30-7/32	Δ NS 30-11/32	Δ NS 30-3/33	Δ NS (avg)
danat	-0.065**	-0.078**				
	(0.031)	(0.032)				
Δ income			-0.041*	-0.048*	-0.059***	-0.043**
			(0.022)	(0.026)	(0.018)	(0.019)
Observations	193	193	182	182	188	177
R-squared	0.164	0.235	0.561	0.418	0.387	0.468
City Controls	✓	✓	✓	✓	✓	✓
Province FE	-	✓	✓	✓	✓	✓

Panel (b): Income and voting – intermediation

	(1)	(2)	(3)	(4)	(5)	(6)
			SG	ABS	ABS	ABS
dep. var.:	Δ NS 30-7/32			$\Delta \widetilde{NS30-7/32}$	$\Delta \widetilde{NS30-11/32}$	$\Delta \widetilde{NS30-3/33}$
Δ income (predicted by danat)	-0.372***	-0.348***				
	(0.104)	(0.106)				
Δ income		-0.030	-0.030			
		(0.022)	(0.022)			
danat			0.027***	0.027***	0.025***	0.028***
			(0.008)	(0.008)	(0.009)	(0.009)
Observations	182	182	182	182	182	188
R-squared	0.583	0.588	0.588	0.588	0.444	0.428
City Controls	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓

This table reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). In Panel (b), $\Delta income$ (*predicted*) is predicted income from a regression on $\Delta income$ on *danat*. Column (3) uses the Sobel-Goodman intermediation test, columns (4)-(6) the Acharya-Blackwell-Sen intermediation test. Outcome variables with a tilde refer to changes in Nazi votes that have been purged from Δ *income*. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: **The cultural channel**

Panel (a): Votes for anti-Semitic (AS) party

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NS 30-7/32		Δ NS 30-11/32		Δ NS 30-3/33	
	no AS	yes AS	no AS	yes AS	no AS	yes AS
danat	0.019*	0.060***	0.023**	0.055***	0.019*	0.042**
	(0.010)	(0.012)	(0.010)	(0.014)	(0.010)	(0.019)
Observations	152	44	150	44	158	46
R-squared	0.467	0.740	0.316	0.580	0.220	0.333
City Controls	✓	✓	✓	✓	✓	✓
Coef. test ($\tilde{\chi}^2$)	7.70		3.90		1.30	

Panel (b): Pogroms

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NS 30-7/32		Δ NS 30-11/32		Δ NS 30-3/33	
	no pog	had pog	no pog	had pog	no pog	had pog
danat	0.018*	0.051***	0.025**	0.040**	0.013	0.054***
	(0.010)	(0.015)	(0.010)	(0.017)	(0.011)	(0.014)
Observations	147	49	147	47	155	49
R-squared	0.473	0.617	0.341	0.349	0.196	0.406
City Controls	✓	✓	✓	✓	✓	✓
Coef. test ($\tilde{\chi}^2$)	3.70		0.57		5.73	

Panel (c): Danat vs. Dresdner

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
dep. var.:	Δ income		Δ NS 30-7/32	Δ NS 30-11/32	Δ NS 30-3/33	Δ NS 30-7/32	Δ NS 30-11/32	Δ NS 30-3/33
danat		-0.065**				0.029***	0.029***	0.028***
		(0.029)				(0.008)	(0.009)	(0.009)
dresdner	-0.070**	-0.069**	0.001	-0.001	0.014	-0.001	-0.002	0.013
	(0.028)	(0.028)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.008)
Observations	193	193	196	194	204	196	194	204
R-squared	0.168	0.191	0.554	0.408	0.380	0.585	0.443	0.421
City Controls	✓	✓	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓

This table reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \theta_{WK}\epsilon_c$, where c denotes city and WK province. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). Panel (a) splits the sample into cities where an anti-Semitic party did not enter the election or received a zero vote share in 1900 (no AS), vs. areas in which it received a positive vote share (yes AS). Panel (b) splits the sample into cities that had no pogrom between 1349 and 1920 (no pog) and those that had a pogrom between 1349 and 1920 (had pog). In Panel (c), *dresdner* is a dummy with value one if a city has above-average exposure to or a branch of Dresdner. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 8: **Persecution after 1933**

dep.var.:	(1)	(2)	(3)	(4)	(5)	(6)
	persecution					
danat	0.259*			0.266*		
	(0.142)			(0.147)		
exposure		0.743***			0.577**	
		(0.238)			(0.247)	
branch			0.193			0.281*
			(0.154)			(0.154)
Observations	191	191	191	191	191	191
R-squared	0.313	0.323	0.306	0.423	0.424	0.421
City Controls	✓	✓	✓	✓	✓	✓
Province FE	-	-	-	✓	✓	✓

This table reports results for the following regression equation: $persecution_c = \beta x_c + controls_c + \epsilon_c$, where c denotes city. x_c is either a dummy *danat* with value one if a city has above-average exposure or a branch of Danatbank; asset-weighted exposure, *exposure*; or dummy *branch* with value one if the city had a Danat branch. *exposure* is based on the universe of joint stock companies ($n = 5,610$). Controls include log population, share blue collar, share protestant, share Jewish, all as of 1925. Standard errors are robust. Outcome variable *persecution* is the first principal component of three variables – anti-Semitic letters to the editor of Stürmer, destruction of synagogues, and deportations of Jews. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: **The economic channel: firm-level evidence**

dep.var.:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Δ wage bill						
	All			FE sample		All	
Danat connection	-0.269***	-0.213***	-0.236***	-0.229**	-0.227*	-0.257***	
	(0.079)	(0.082)	(0.078)	(0.091)	(0.122)	(0.079)	
Dresdner connection						-0.157**	
						(0.071)	
Danat connection (old)							-0.327***
							(0.101)
Danat connection (new)							-0.216**
							(0.096)
Observations	386	386	384	194	194	384	384
R-squared	0.007	0.019	0.076	0.118	0.415	0.024	0.081
Firm Controls	-	✓	✓	✓	✓	✓	✓
Industry FE	-	-	✓	✓	✓	✓	✓
City FE	-	-	-	-	✓	-	-

Each column reports the results of regression equation (3) with the change in firm-level wage bill as dependent variable. *Danat connection* is a dummy variable with value 1 if a firm is connected to Danatbank; *Dresdner connection* if a firm is connected to Dresdner Bank. *Danat connection (old)* is a dummy with value 1 if a firm was connected to Danatbank in 1923, *Danat connection (new)* is a dummy with value 1 if a firm was not connected to Danatbank in 1923, but in 1929. Firm controls (recorded in 1929) include age, log(assets), leverage, return on assets, and capital-labor ratio. Industry fixed effects capture 20 industries. Standard errors are clustered at the city level. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: **Danat and Nazi voting: Alternative specifications**

Panel (a): Difference-in-differences

dep.var.:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	% votes for NSDAP						
	full sample			no AS	yes AS	no pog	had pog
danat × post 1931m7	0.017**	0.023***	0.023***	0.012	0.045***	0.016*	0.032**
	(0.008)	(0.007)	(0.007)	(0.010)	(0.010)	(0.009)	(0.013)
dresdner × post 1931m7			0.003				
			(0.007)				
Observations	993	993	993	769	224	751	242
R-squared	0.957	0.968	0.968	0.955	0.972	0.958	0.960
City FE	✓	✓	✓	✓	✓	✓	✓
Time FE	✓	WK*T	WK*T	✓	✓	✓	✓
City controls	✓	✓	✓	✓	✓	✓	✓

Panel (b): Coarsened exact matching

dep.var.:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Δ NS 30-7/32						
	full sample			no AS	yes AS	no pog	had pog
danat	0.040***	0.040***	0.041***	0.028**	0.076***	0.033***	0.047**
	(0.009)	(0.009)	(0.009)	(0.012)	(0.011)	(0.011)	(0.018)
dresdner			0.008				
			(0.010)				
Observations	147	147	147	120	27	111	36
R-squared	0.668	0.668	0.670	0.530	0.865	0.567	0.691
City Controls	✓	✓	✓	✓	✓	✓	✓
Province FE	-	✓	✓	-	-	-	-

Panel (a) reports results for the following regression equation: $NS_{c,t} = \beta_1 danat_c + \beta_2 post1931m7_t + \beta_3(danat_c \times post1931m7_t) + controls_c + \alpha_c + \gamma_t + \epsilon_{c,t}$, where c denotes city and t time. The dependent variable is the NSDAP vote share in each federal election (covering 1924, 28, 30, 7/32, 11/32, and 33). $danat_c$ is a dummy with value one if a city has above-average exposure to or a branch of Danatbank. $post1931m7$ is a dummy with value one for the three elections after July 1931 and zero for elections before July 1931. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925, interacted with dummy $post1931m7$. 'WK*T' denotes time-varying fixed effects at the province level. *dresdner* is a dummy with value one if a city has above-average exposure to Dresdner or a branch of Dresdner. Standard errors are clustered at the city level (all results are robust to double-clustering standard errors at the city and province*time level). Columns (4) and (5) in each panel split the sample into cities where an anti-Semitic party did not enter the election or received a zero vote share in 1900 (no AS), vs. areas in which it received a positive vote share (yes AS). Columns (6) and (7) in each panel split the sample into cities that had no pogrom between 1349 and 1920 (no pog) and those that had a pogrom between 1349 and 1920 (had pog). Panel (b) reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. Each regression is weighted with respective coarsened exact matching weights. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table 11: **Pre-trends and alternative factors**

Panel (a): NSDAP party and predecessor parties, 1924-1932

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	NS p.c. Dec 24	NS p.c. May 28	NS p.c. Sep 30	Δ NS 24-28	Δ NS 28-30	Δ NS 30-7/32
danat	-0.000	-0.007*	-0.016	-0.007	-0.009	0.026***
	(0.005)	(0.004)	(0.010)	(0.005)	(0.009)	(0.009)
Observations	167	167	167	167	167	167
R-squared	0.528	0.584	0.417	0.434	0.396	0.552
City Controls	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓

Panel (b): KPD and economic factors

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ KPD 30-7/32	Δ KPD 30-11/32	Δ KPD 30-3/33	u-rate 30	log inc p.c. 28	Δ u-rate 30-31
danat	-0.003	-0.001	0.004	0.022	0.096	-0.000
	(0.004)	(0.004)	(0.004)	(0.020)	(0.074)	(0.002)
Observations	195	195	204	199	207	197
R-squared	0.196	0.192	0.337	0.184	0.210	0.141
City Controls	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓

Panel (c): Alternative explanations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
dep. var.:	Δ NS 30-7/32						
	hyperinflation		exports		anti-finance		1920
danat		0.020**		0.029***	0.027***	0.029***	
		(0.008)		(0.008)	(0.010)	(0.011)	
vote share VRP	0.006	0.006					
	(0.004)	(0.004)					
exports/pop			0.011	0.002			
			(0.031)	(0.027)			
emp. share of Jews in financial sector					0.004	0.005	
					(0.005)	(0.005)	
emp. share of financial sector						-0.004	
						(0.004)	
danat branch 1920							0.017**
							(0.008)
Observations	196	196	196	196	103	103	196
R-squared	0.555	0.585	0.555	0.585	0.558	0.558	0.565
City Controls	✓	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓	✓

This table reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). In Panel (b), KPD denotes "Kommunistische Partei Deutschlands", the German Communist Party; u-rate denote the unemployment rate. In Panel (c), *vote share VRP* denotes the vote share of the "Volksrechtspartei", a party seeking compensation for the victims of Germany's hyperinflation. In columns (3) and (4) *exports/pop* denote city-level exposure to exporting industries. In columns (5) and (6) *emp. share* denotes the employment share of Jews in the financial sector or the overall employment share of the financial sector in each city (Becker et al., 2014). Shares in columns (1)-(2) and (5)-(6) are standardized. Column (7) uses dummy *branch 1920* that takes the value of one if Danatbank's predecessor banks had a branch in a city in 1920, and zero otherwise. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Online Appendix

Table OA1: **Definitions of main variables**

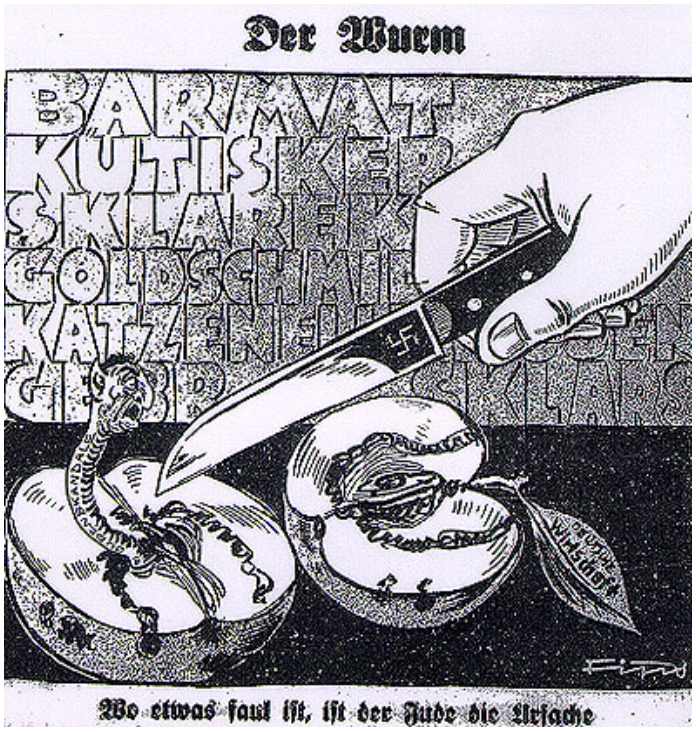
Variable	Definition	Source	Unit
City level			
danat	Dummy that is 1 if city has Danatbank branch or above-mean exposure	Handbook of German Joint Stock Companies	{0,1}
exposure	City exposure to Danatbank (see equation (1))	Handbook of German Joint Stock Companies	[0,1]
branch	Dummy that is 1 if city has Danatbank branch	Danatbank annual report 1929	{0,1}
Δ income	Change in city-level income between 1928 and 1934	Statistik des Deutschen Reiches, Neue Folge, 1884-1944	%
dresdner	Dummy that is 1 if city has Dresdner Bank branch or above-mean exposure	Handbook of German Joint Stock Companies	{0,1}
Δ income (predicted)	Predicted income of a regression of Δ income on *danat*		%
Δ NSDAP 9/30-7/32	Change in vote share for the NSDAP between the elections in September 1930 and July 1932	Statistik des Deutschen Reiches (ICPSR 42)	%
Δ NSDAP 9/30-11/32	Change in vote share for the NSDAP between the elections in September 1930 and November 1932	Statistik des Deutschen Reiches (ICPSR 42)	%
Δ NSDAP 1930-3/33	Change in vote share for the NSDAP between the elections in September 1930 and March 1933	Statistik des Deutschen Reiches (ICPSR 42)	%
Δ KPD 9/30-7/32	Change in vote share for the KPD between the elections in September 1930 and July 1932	Statistik des Deutschen Reiches (ICPSR 42)	%
persecution	First principal component of attacks on synagogues, deportations and letters to Der Stürmer	Voigtländer and Voth (2012)	Standardized
population	City population in 1925	Statistisches Jahrbuch Deutscher Städte	%
log(population)	logarithm of city population in 1925	Statistisches Jahrbuch Deutscher Städte	%
share blue collar	Share of blue collar workers in total city population 1925	Falter and Hänisch (1990)	%
share Jewish	Share of Jewish population in total city population 1925	Falter and Hänisch (1990)	%
share Protestant	Share of Protestants in total city population 1925	Falter and Hänisch (1990)	%
anti-Semitic party presence 1900	Dummy that is 1 if city had a positive vote share for anti-Semitic parties around 1900	Statistische Jahrbücher des dt. Reichsamts für Statistik	{0,1}
historical pogrom	Dummy that is 1 if a city had a pogrom between 1349 and 1920	Germanica Judaica	{0,1}
vote share VRP	Vote share for the Volksrechtspartei in 1928	Statistik des Deutschen Reiches (ICPSR 42)	%
emp. share of Jews in financial sector	Employment share of Jews in the financial sector in 1882	Becker et al. (2014)	%
emp. share of financial sector	Overall employment share in the financial sector in 1882	Becker et al. (2014)	%
Firm level			
Δ wage bill	Change in a firm's total wage bill from 1929 and 1933	Handbook of German Joint Stock Companies	%
Danat connection	Dummy with value 1 if a firm was connected to Danatbank in 1929	Handbook of German Joint Stock Companies	{0,1}
Dresdner connection	Dummy with value 1 if a firm was connected to Dresdner Bank in 1929	Handbook of German Joint Stock Companies	{0,1}
Danat connection (old)	Dummy with value 1 if a firm was connected to Danatbank in 1923	Handbook of German Joint Stock Companies	{0,1}
Danat connection (new)	Dummy with value 1 if a firm was connected to Danatbank in 1929 but not in 1923	Handbook of German Joint Stock Companies	{0,1}
assets	Firm's total assets as of 1929	Handbook of German Joint Stock Companies	Reichsmark
age	Firm's age in years as of 1929	Handbook of German Joint Stock Companies	Years
leverage	Firm's ratio of liabilities over capital as of 1929	Handbook of German Joint Stock Companies	%
return on assets	Firm's ratio of profits over assets as of 1929	Handbook of German Joint Stock Companies	%

This table lists main variables, data sources, and units for the city and firm level. For further details and variable construction, see main text.

Figure OA1: **"Der Stürmer" caricatures**

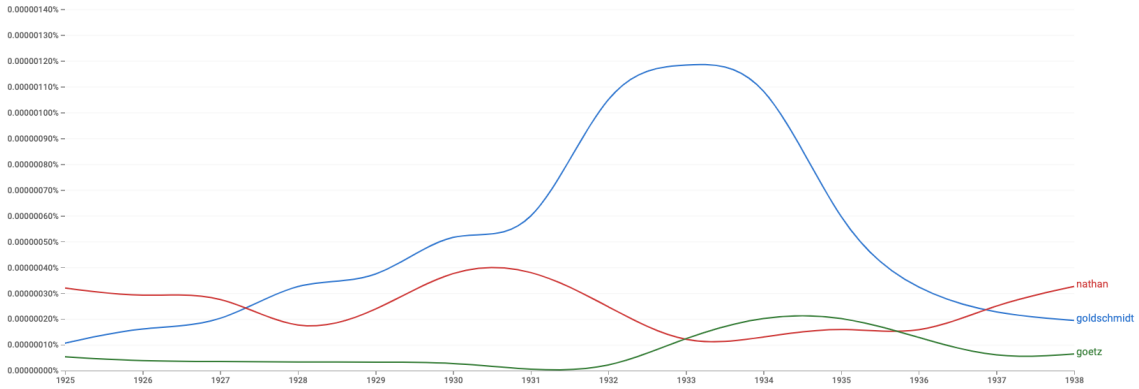
(a) The Jewish Businessman

(b) The worm



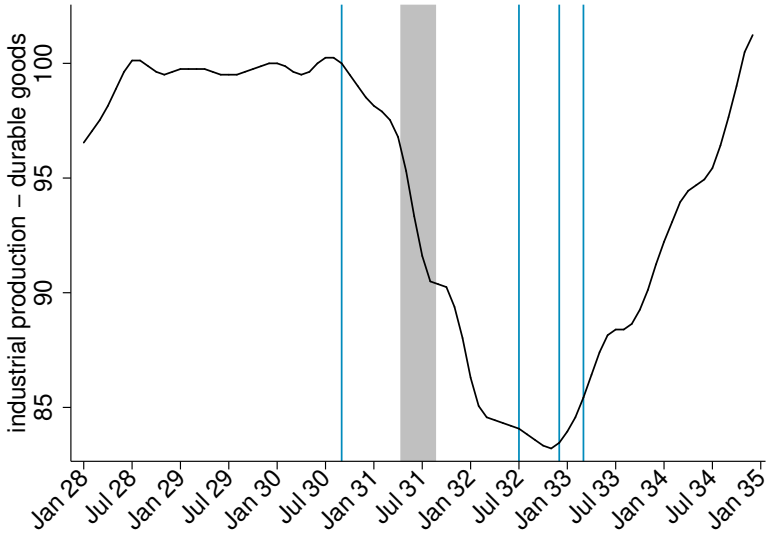
This figures show caricatures from the pro-Nazi newspaper "Der Stürmer", published in the summer of 1931. In panel (a), the caption says "The Jew banker and the German business man", suggesting that Jewish-led banks are to blame for Germany's dire economic situation. In panel (b), the caption says "The worm" and the subcaption states "Where something is rotten, the Jew is the cause". The background lists names of Jewish businessmen and politicians that readers would connect to scandals during the Weimar Republic, with "Goldschmidt" very prominent in the middle of the graph.

Figure OA2: **Goldschmidt in German-language texts**



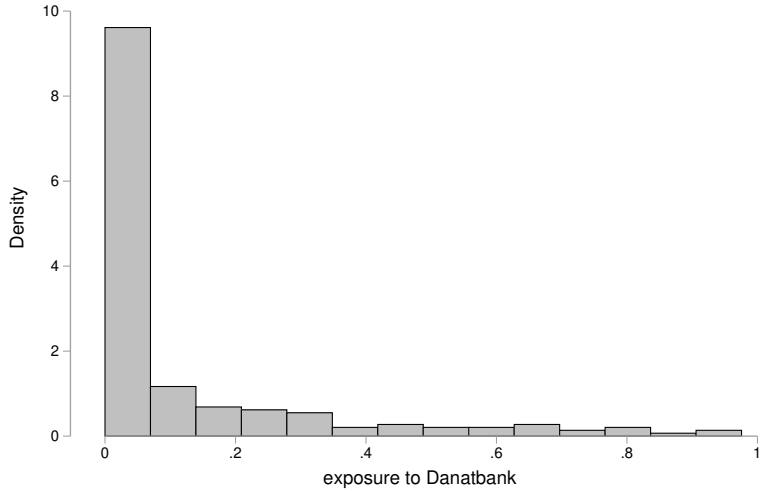
This figure shows mentions of "Goldschmidt" (in blue; Jakob Goldschmidt was the CEO of Danatbank from 1922-1931), "Nathan"(in red; Henry Nathan was the CEO of Dresdner Bank from 1920-1931), and "Goetz"(in green; Carl Goetz was the CEO of Dresdner Bank from 1931-1936), in German-language texts between 1925 and 1938 (source: Google Books Ngram Viewer). While Goldschmidt and Nathan were Jewish, Goetz was not. Interest in Goldschmidt spiked in 1931, the year of the German banking crisis.

Figure OA3: **Industrial production**



This figure shows the monthly index of industrial production of durable consumption goods for Germany (Wagemann 1936). The production index is normalized to 100 in January 1930. The shaded area indicates the period of the 1931 banking crisis, from the beginning of troubles at Austrian Creditanstalt to the merger between Danatbank and Dresdner Bank in the summer of 1932. Blue vertical lines show federal election dates 09/1930, 07/1932, 11/1932, and 03/1933.

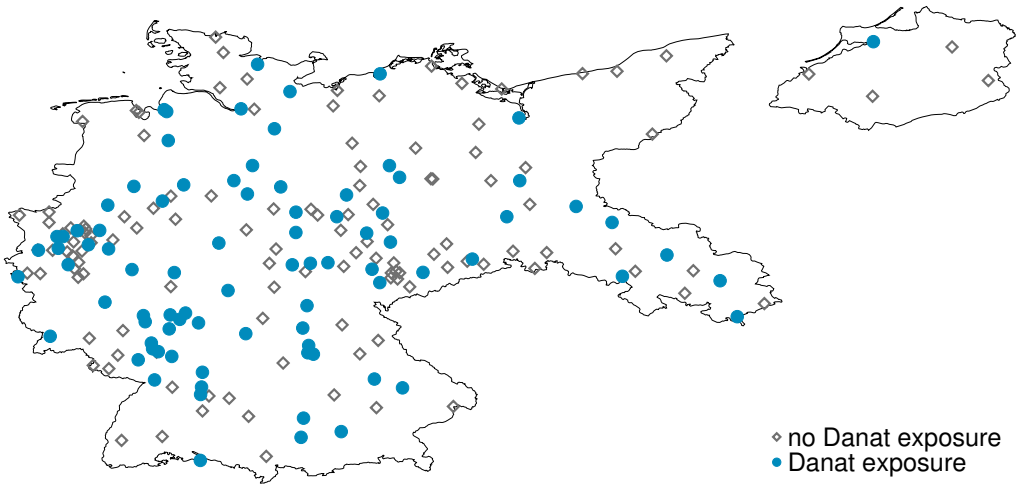
Figure OA4: **Histogram of exposure to Danatbank**



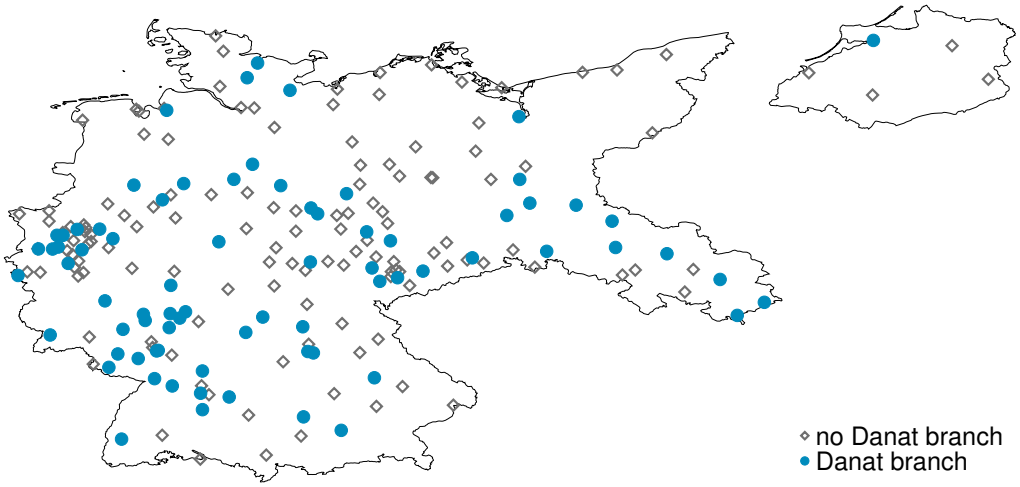
This figure shows the distribution of city *exposure* to Danat-connected firms, based on the universe of joint stock companies ($n = 5610$).

Figure OA5: **Danatbank – Geographic distribution**

(a) Exposure



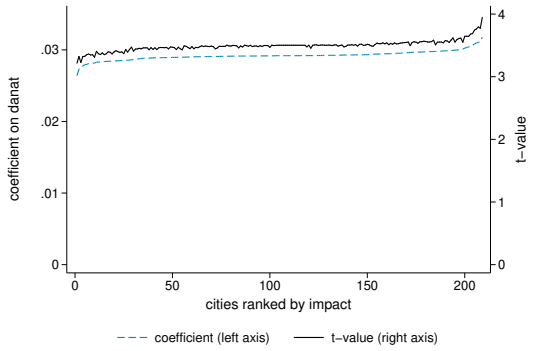
(b) Branches



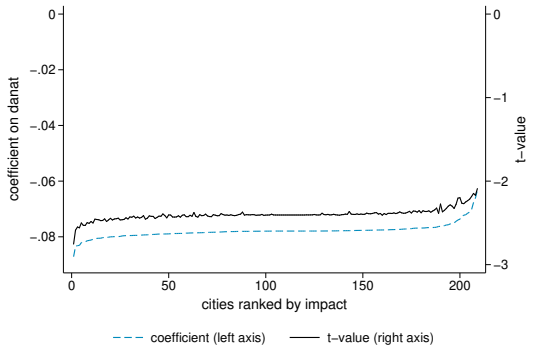
This figure shows a map of 1930 Germany. Blue solid dots denote cities with positive exposure to Danatbank in panel (a) and cities in which Danatbank had a branch in panel (b). Grey diamonds denote cities that had no exposure (panel a) or no branch (panel b).

Figure OA6: **Stability of coefficient**

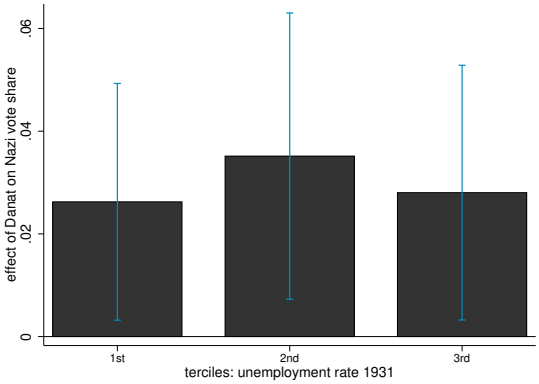
(a) Excluding cities: Nazi votes



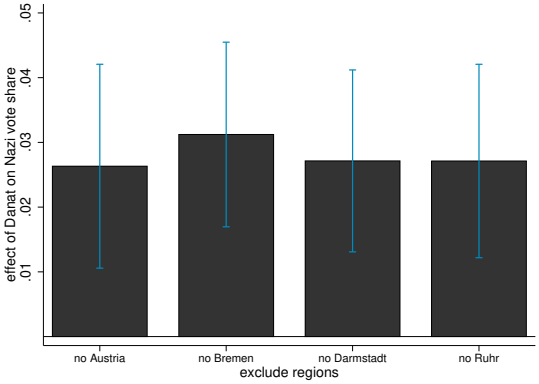
(b) Excluding cities: Income



(c) Initial unemployment rate



(d) Excluding regions



Panels (a) and (b) exclude one observation when estimating the underlying specification and then rank observations by the effect that this observation has on the estimated coefficient. Panel (a) plots coefficient and t-value of coefficient on Danat in regression $\Delta NS30-32/7_c = \beta danat_c + controls_c + \theta_{WK} + \epsilon_c$ on the y-axis, where c denotes city and WK provinces. Dependent variable is change in NSDAP vote share from 1930 to July 1932. Each regression drops one individual city. The x-axis ranks firms according to their impact on the coefficient, from highest to lowest. The blue dashed line denotes coefficient estimates, the black solid line the corresponding t-value. Panel (b) does the same for regressions with the change in income from 1928 to 1934 as dependent variable. Across specifications, excluding cities one-for-one does not materially affect coefficients of interest in terms of sign, size, or significance. Panel (c) shows the coefficient on *danat* in regression equation (2) with $\Delta NSDAP30-32/7$ as dependent variable, estimated separately in the cross-section of cities sorted by terciles of the unemployment rate in 1931. Blue bands denote 90% confidence intervals. Panel (d) shows the coefficient on *danat* in regression equation (2) with $\Delta NSDAP30-32/7$ as dependent variable, estimated separately when we exclude individual regions. Blue bands denote 90% confidence intervals. We exclude cities located at the border with Austria, which saw a banking crisis in May 1931. Further, we exclude the region around Bremen that was directly affected by the fall of Nordwolle, which had significant effects on the local economy. We also exclude cities around Darmstadt, where Danatbank was originally headquartered. Finally, we also exclude the Ruhr region, where a large share of German economic activity was concentrated. An over-representation of firms in that region may limit the economic significance and representativeness of our findings for Germany as a whole.

Table OA2: **Balancedness – Control variables as dependent variable**

Panel (a): City level

dep. var.:	(1) share blue collar	(2) share blue collar	(3) share Jewish	(4) share Jewish	(5) share protestants	(6) share protestants	(7) log inc p.c.	(8) log inc p.c.
danat	-0.266	-0.171	0.487***	0.128	-0.077	0.101	0.072	0.119
	(0.163)	(0.176)	(0.147)	(0.131)	(0.165)	(0.118)	(0.162)	(0.175)
Observations	194	194	194	194	194	194	194	194
R-squared	0.039	0.142	0.215	0.521	0.013	0.615	0.051	0.152
Province FE	-	✓	-	✓	-	✓	-	✓

Panel (b): Firm level

dep. var.:	(1) age	(2) age	(3) age	(4) log(assets)	(5) log(assets)	(6) log(assets)	(7) return on assets	(8) return on assets	(9) return on assets	(10) leverage	(11) leverage	(12) leverage	(13) wage bill/assets	(14) wage bill/assets	(15) wage bill/assets
Danat connection	0.401**	0.221	-0.113	0.964***	0.979***	1.207***	0.150	-0.031	0.047	-0.212	-0.122	0.010	-0.176	-0.158	-0.184
	(0.199)	(0.194)	(0.301)	(0.194)	(0.199)	(0.325)	(0.200)	(0.206)	(0.308)	(0.200)	(0.205)	(0.299)	(0.200)	(0.208)	(0.369)
Observations	386	386	194	386	386	194	386	386	194	386	386	194	386	386	194
R-squared	0.010	0.180	0.401	0.061	0.133	0.334	0.001	0.073	0.260	0.003	0.088	0.408	0.002	0.056	0.210
Industry FE	-	✓	✓	-	✓	✓	-	✓	✓	-	✓	✓	-	✓	✓
City FE	-	-	✓	-	-	✓	-	-	✓	-	-	✓	-	-	✓

Panel (a) tests for the balancedness in covariates at the city level. Following Pei et al. (2019), we report results for the following regression equation: $control_c = \beta danat_c + log(assets)_c + \theta_{WK} + \epsilon_c$, where c denotes city. Outcome variables are share blue collar, share protestant, share Jewish, all of 1925, and log income per capita in 1928. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). Province fixed effects are denoted by θ_{WK}. All explanatory variables are normalized to mean zero and standard deviation one. Panel (b) tests for the balancedness in covariates at the firm level. Following Pei et al. (2019), we report results for the following regression equation: $control_f = \beta Danat\ connection_f + \theta_i + \gamma_c + \epsilon_f$, where f denotes firm. Outcome variables are firm age, log assets, return on assets, leverage, and capital-labor ratio, all as of 1929 $Danat\ connection_f$ is a dummy with value one if a firm is connected to Danatbank. Industry fixed effects θ_i include a set of 20 industry fixed effects; city fixed effects γ_c require at least two firms per city. All explanatory variables are normalized to mean zero and standard deviation one. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table OA3: **Correcting for spatial auto-correlation**

Panel (a): Moran's I for the main variables

Variable	Moran's I	p-value
danat	0.044	0.00
exposure	0.009	0.16
branch	0.21	0.04
Δ NSDAP 1930-7/32	0.155	0.00
Δ NSDAP 1930-11/32	0.102	0.00
Δ NSDAP 1930-3/33	0.077	0.00
Δ income	0.013	0.10

Panel (b): Spatial error correction model

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NSDAP 7/32					Δ income
		no AS	yes AS	no pog	has pog	
danat	0.0242***	0.0176*	0.0608***	0.0160*	0.0518***	-0.0643**
	(2.98)	(1.82)	(5.37)	(1.65)	(3.59)	(-2.13)
N	186	143	43	137	49	192

Panel (c): Spatial correlation with different distances

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NSDAP 7/32			Δ income		
	50km	100km	200km	50km	100km	200km
danat	0.0242***	0.0242***	0.0242***	-0.0644**	-0.0644**	-0.0644**
	(2.98)	(2.94)	(2.85)	(-2.13)	(-2.12)	(-2.06)
N	186	186	186	192	192	192

t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

This table shows the robustness of the main results to spatial autocorrelation. Panel (a) shows Moran's I and the p-value with the null hypothesis of no spatial autocorrelation. Panel (b) reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \epsilon_c$, where c denotes city. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. The error term allows for spatial autocorrelation, where the band is set at 20 kilometers. *danat* is either a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). Panel (c) varies the distance band in the error correction, allowing for distances of 50km, 100km, and 200km. All variables are described in Table OA1. t statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table OA4: **Historical anti-Semitism: Dresdner Bank**

Panel (a): Anti-Semitism 1900

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NS 30-7/32		Δ NS 30-11/32		Δ NS 30-3/33	
	no AS	yes AS	no AS	yes AS	no AS	yes AS
dresdner	0.003	-0.013	0.005	-0.016	0.019*	-0.003
	(0.010)	(0.015)	(0.011)	(0.016)	(0.010)	(0.018)
Observations	152	44	150	44	158	46
R-squared	0.453	0.597	0.293	0.434	0.220	0.229
City Controls	✓	✓	✓	✓	✓	✓

Panel (b): Pogroms

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ NS 30-7/32		Δ NS 30-11/32		Δ NS 30-3/33	
	no pog	had pog	no pog	had pog	no pog	had pog
dresdner	0.002	-0.005	0.002	-0.000	0.018*	0.012
	(0.010)	(0.021)	(0.011)	(0.021)	(0.010)	(0.019)
Observations	147	49	147	47	155	49
R-squared	0.460	0.511	0.311	0.269	0.204	0.203
City Controls	✓	✓	✓	✓	✓	✓

This table reports results for the following regression equation: $y_c = \beta dresdner_c + controls_c + \epsilon_c$, where c denotes city. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. $dresdner_c$ is a dummy with value one if a city has above-average exposure or a branch of Dresdner Bank. Exposure is based on the universe of joint stock companies ($n = 5,610$). Panel (a) splits the sample into cities where an anti-Semitic party did not enter the election or received a zero vote share in 1900 (no AS), vs. areas in which it received a positive vote share (yes AS). Panel (b) splits the sample into cities that had no pogrom between 1349 and 1920 (no pog) and those that had a pogrom between 1349 and 1920 (had pog). All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table OA5: **Danat and income**

	(1)	(2)	(3)	(4)	(5)	(6)
dep. var.:	Δ income 28-34					
danat	-0.065**	-0.078**				
	(0.031)	(0.032)				
exposure			-0.116**	-0.104*		
			(0.056)	(0.055)		
branch					-0.055*	-0.066**
					(0.030)	(0.031)
Observations	193	193	193	193	193	193
R-squared	0.164	0.235	0.155	0.216	0.153	0.223
City Controls	✓	✓	✓	✓	✓	✓
Province FE	-	✓	-	✓	-	✓

This table reports results for the following regression equation: $y_c = \beta x_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. x_c is either a dummy *danat* with value one if a city has above-average exposure or a branch of Danatbank; asset-weighted *exposure*; or dummy *branch* with value one if the city had a Danat branch. *exposure* is based on the universe of joint stock companies ($n = 5,610$). In Panel (c) each regression is weighted with respective coarsened exact matching weights. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.

Table OA6: **Income and predicted income – intermediation analysis**

Panel (a): Intermediation analysis

	(1)	(2)	(3)	(4)	(5)
				SG	
dep. var.:	Δ NS 30-7/32			Δ NS 30-11/32	Δ NS 30-3/33
Δ income (predicted)	-0.372***	-0.348***			
	(0.104)	(0.106)			
Δ income		-0.030	-0.030	-0.030	-0.047**
		(0.022)	(0.022)	(0.020)	(0.022)
danat			0.027***	0.025***	0.028***
			(0.008)	(0.008)	(0.009)
Observations	182	182	182	182	188
R-squared	0.583	0.588	0.588	0.444	0.428
City Controls	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓

Panel (b): Income and predicted income

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Δ NS 30-7/32	Δ NS 30-7/32	Δ NS 30-11/32	Δ NS 30-11/32	Δ NS 30-3/33	Δ NS 30-3/33	Δ NS (avg)	Δ NS (avg)
Δ inc (predicted)	-0.372***	-0.348***	-0.359***	-0.302***	-0.319***	-0.377***	-0.342***	-0.592***
	(0.104)	(0.106)	(0.116)	(0.117)	(0.111)	(0.119)	(0.197)	(0.109)
Δ income		-0.030		-0.038		-0.047**		-0.034*
		(0.022)		(0.026)		(0.020)		(0.019)
Observations	182	182	182	182	188	188	180	177
R-squared	0.583	0.588	0.443	0.444	0.413	0.428	0.499	0.500
City Controls	✓	✓	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓

Panel (c): Mediated effect

Effect	Mean	[95% Conf.	Interval]
ACME	0.00170	-0.00062	0.005496
Direct Effect	0.02132	0.00512	0.03795
Total Effect	0.02302	0.006542	0.03931
% of total effect mediated	0.07494	0.043157	0.240433

This table reports results for the following regression equation: $y_c = \beta danat_c + controls_c + \theta_{WK} + \epsilon_c$, where c denotes city and WK provinces. Controls include log population, share blue collar, share protestant, share Jewish, all of 1925. Standard errors are robust. $danat_c$ is a dummy with value one if a city has above-average exposure or a branch of Danatbank. Exposure is based on the universe of joint stock companies ($n = 5,610$). Panel (a) reports results for regression equation (2). Δ *income (predicted)* is predicted income from a regression on Δ *income* on *danat* and control variables. Columns (3)-(5) present results from a Sobel-Goodman intermediation analysis and show that *danat* has a significant effect on Nazi support when we control for the economic channel through the change in incomes as mediator. The economic channel intermediates only part of the overall effect of *danat* on support for the Nazi party. Panel (b) compares income and predicted income for different elections. Panel (c) reports results for the Imai et al. (2010) mediation test. ACME is the average causal mediation effect. All variables are described in Table OA1. *** p<0.01, ** p<0.05, * p<0.1.