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Discrimination, Managers, and Firm Performance

Evidence from "Aryanizations" in Nazi Germany

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Large-scale increases in discrimination can lead to dismissals of highly qualified business leaders and managers. Discriminatory expulsions of individuals holding important positions in the economy have occurred repeatedly, both historically and in modern times. Recent political developments have renewed interest in the economic effects of this type of discrimination. For instance, the U.S. travel ban on citizens of seven Muslim-majority countries has raised fears among large corporations that increasing discrimination will leave them unable to retain talent.

Discriminatory dismissals are, of course, extremely hurtful to targeted individuals. But there is little evidence on whether such discrimination can cause large and persistent economic losses for firms and the economy, beyond hurting the welfare of the discriminated individuals.

In our work, we analyze arguably the most horrendous episode of discrimination in human history, the treatment of Jews in Nazi Germany. We examine how the removal of senior managers of Jewish origin, caused by the rise of anti-Semitism in Nazi Germany, affected large German firms. After the Nazis gained power on January 30, 1933, discrimination against Jews quickly became commonplace in Germany. By 1938, individuals with Jewish ancestry had effectively been excluded from the economy.

Using newly collected data, we show that firms that had employed managers of Jewish origin were unable to replace them adequately. Stock prices, dividends, and returns on assets of these firms declined after 1933, relative to unaffected firms, and did not recover for at least 10 years, the end of our sample period. Stock prices only fell for firms that lost highly qualified managers with specific characteristics, including

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university education and connections to other firms. A back-of- the-envelope calculation suggests that expelling managers of Jewish origin reduced the overall market valuation of firms listed in Berlin by 1.8 percent of German gross national product. This sizable decrease shows that individual managers have large effects on firm performance and that a discriminatory ideology can lead to direct economic losses.

Before the rise of the Nazis, managers of Jewish origin played a key role in the German economy and were assimilated into the German economic elite. They worked in all types of firms, including some of the largest German firms that were not associated with Judaism in any way (for example, Allianz, BMW, Daimler-Benz, Siemens & Halske, and IG Farben). After the Nazis gained power, anti-Semitism surged across the whole economy and German firms began to dismiss managers of Jewish origin. Deutsche Bank, for example, forced CEO Oscar Wassermann and executive Theodor Frank to resign from their positions by June 1, 1933. The dismissals targeted a range of individuals, including Christians who had just one Jewish grandparent. Firms that happened to employ managers of Jewish origin lost a significant fraction of their senior managers because of anti-Semitic discrimination. Other firms did not have any managers of Jewish origin and therefore remained unscathed.

To carry out our analysis, we collect the names and characteristics of individuals holding around 30,000 senior management positions in 655 German firms listed on the Berlin Stock Exchange. We also digitize more than 240,000 daily stock prices from a historical publication series by the Berlin Stock Exchange, as well as data on dividends and returns on assets from historical volumes of *Handbuch der deutschen Aktiengesellschaften*. We consult various historical sources to identify which managers were of Jewish origin.

While the fraction of Jews among the German population in the early 1930s was only 0.8 percent, our new data show that 15.8 percent of senior management positions in listed firms were held by individuals of Jewish origin in 1932 (which, for simplicity, we call Jewish). Jewish managers had exceptional characteristics compared with other managers in 1932. For example, Jewish managers were more experienced, educated, and connected (by holding positions in multiple firms). After the Nazis gained power, the share of Jewish managers plunged sharply in 1933 (by about a third) and dropped to practically zero by 1938.

We present four main sets of results. First, we show that the expulsion of Jewish managers left behind managers with different characteristics at firms that had employed a higher fraction of Jewish managers in 1932. The number of managers with firm-specific tenure, general managerial experience, university education, and connections to other firms fell significantly relative to firms that had employed fewer Jewish managers in 1932. The effects persisted until at least 1938, the end of our sample period on manager characteristics.

Second, we show that the loss of Jewish managers reduced firms' stock prices. After the Nazis came to power, the stock price of the average firm that had employed Jewish managers in 1932 (where 22 percent of managers had been of Jewish origin) declined by 10.3 log points relative to a firm without Jewish managers in 1932. These declines persisted until the end of the stock price sample period in 1943, 10 years after the Nazis had gained power. These results also remain after controlling for firms' connections to the Nazi Party; after controlling for firm size, age, and industry; and after analyzing only firms that had employed at least one Jewish manager in 1932.

We proceed to investigate whether stock prices fell because firms lost managers with specific characteristics. The results indicate that stock prices only declined for firms that fulfilled at least one of two criteria: first, firms where the Jewish managers were responsible for a large share of university-educated managers (in particular, managers with graduate education); and second, firms where the Jewish managers were responsible for a large share of connections to other firms. Stock prices did not fall for firms where the Jewish managers were responsible for only a large share of experienced managers. This is an important finding. It implies that not all firms with a higher fraction of Jewish managers in 1932 experienced lower stock prices after 1933. Hence, it is unlikely that other shocks to firms with Jewish managers in 1932 explain the declines in stock prices. Rather, the findings strengthen the view that particular managerial characteristics are important for firm performance.

We explore managerial characteristics in more detail. We find that managers with graduate education in social sciences mattered in all industries, while managers with graduate STEM (science, technology, engineering, and mathematics) education mattered only in STEM-related industries. Managers with direct connections to other

firms (both to banks and nonbanks) were key for firm performance, while higher-order, indirect connections mattered less. Moreover, we find that share prices declined not only if a firm lost its most senior managers (who were akin to a modern CEO) but also if it lost other senior managers. This suggests that managers beyond the CEO can have large effects on firm performance.

To examine the validity of the results, we explore whether the declines in stock prices were caused by the removal of Jewish managers or by the general increase in anti-Semitism after 1933. We find a similar effect of losing Jewish managers in a sample of firms favored by the Nazi government. This suggests that repression by the Nazi government does not explain the effect of losing Jewish managers.

To further explore potential government repression, we identify firms that were perceived as Jewish and targeted by anti-Semitic measures. We also identify firms that had large Jewish shareholders. The effect of losing Jewish managers remains unchanged when we control for effects on Jewish-predominant firms and firms with Jewish shareholders.

Furthermore, stock prices of firms perceived as Jewish fell only after 1935 and recovered by 1943, once all formerly Jewish firms had been taken over by non-Jews. The contrasting evolution of stock prices suggests that the effect of losing Jewish managers was not driven by forces that hit Jewish-predominant firms but by forces specifically associated with the loss of Jewish managers.

In additional tests, we find that the effect of losing Jewish managers is stable when we control for losses of lower-ranked Jewish employees or anti-Semitic retail boycotts. Moreover, the effect was not driven by firms with greater exposure to various Nazi rearmament and infrastructure programs, firms with international activities, or firms hit by idiosyncratic demand shocks after 1933. Taken together, all these tests confirm that other correlated shocks cannot explain the underperformance of firms that lost Jewish managers.

In the third set of results, we estimate the overall economic cost of losing Jewish managers for firms listed in Berlin. A back-of-the-envelope calculation suggests that losing Jewish managers lowered the aggregate market valuation of these firms by 1.8 percent of German gross national product. The calculation assumes that removing the Jewish managers had negligible spillover effects on firms that had not employed any Jewish managers in 1932. We test for such spillovers within regions and industries and find statistically insignificant and negative spillover effects. The calculation indicates that highly qualified managers are of first-order importance to aggregate outcomes and that discriminatory dismissals can cause serious economic losses.

In the fourth set of results, we analyze the effects of losing Jewish managers on two additional measures of firm performance: dividends and returns on assets. We find that after 1933, dividends fell by approximately 7.5 percent for the average firm with Jewish managers in 1932 (which lost 22 percent of its managers). We also find that after 1933, the average firm that had employed Jewish managers in 1932 experienced a decline in its return on assets by 4.1 percentage points. These results indicate that the loss of Jewish managers not only reduced market valuations but also led to real losses in firm efficiency and profitability.

NOTE

This research brief is based on Kilian Huber, Volker Lindenthal, and Fabian Waldinger, “Discrimination, Managers, and Firm Performance: Evidence from ‘Aryanizations’ in Nazi Germany,” NBER Working Paper no. 28766, May 2021, http://www.nber.org/papers/w28766.