## **ECONOMIC FINDING**

## Discrimination, Managers, and Firm Performance: Evidence from "Aryanizations" in Nazi Germany

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Review of Nazi-era German data reveal the negative effects of discrimination against highly qualified managers, who often drive firm performance. Such discrimination results in significant economic losses and portends negative effects for current discriminatory policies.

Using newly collected data of arguably the most horrendous episode of discrimination in human history, the treatment of Jews in Nazi Germany, the authors examined how the removal of senior managers of Jewish origin, caused by the rise of antisemitism in Nazi Germany, affected large German firms. In doing so, they provide insights into the question of how individual managers can affect firm performance, an issue that has long vexed researchers.

The authors collected the names and characteristics of individuals holding around 30,000 senior management positions in 655 German firms listed on the Berlin Stock Exchange, as well as data on stock prices, dividends, and returns on assets. While the fraction of Jews among the German population in the early 1930s was only 0.8%, the authors' data show that 15.8% of senior management positions in listed firms were held by individuals of Jewish origin in 1932 (whom the authors term "Jewish managers"). Jewish managers had exceptional characteristics compared to 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.

This research revealed four main results:

 The expulsion of Jewish managers changed the characteristics of managers 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 the authors' sample period on manager characteristics.
- 2. 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% 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, ten years after the Nazis had gained power.

Figure 1 · Stock Price Changes 1933-1938

0.7

O.5

No Jewish Managers Fraction of Jewish Managers > Median Fraction of Jewish Managers > Median

Notes: The figure shows the average log stock price change between January 1933 (before the Nazis came to power) and July 1938 (when virtually no Jewish managers remained in German firms). We plot the average stock price change for three groups of firms: firms without Jewish managers in 1932; firms where the fraction of Jewish managers in 1932 was positive but below the median; and firms where the fraction of Jewish managers in 1932 was above the median. The stock market generally trended upward from 1933 to 1938. But stock prices increased less for firms that had employed a higher fraction of Jewish managers in 1932.



- 3. Losing Jewish managers lowered the aggregate market valuation of firms listed in Berlin by 1.8% of German GNP. This calculation indicates that highly qualified managers are of first-order importance to aggregate outcomes and that discriminatory dismissals can cause serious economic losses.
- 4. After 1933, dividends fell by approximately 7.5% for the average firm with Jewish managers in 1932 (which lost 22% of its managers). Also, 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.

These findings offer lessons for today. The US travel ban on citizens of seven Muslim-majority countries, for example, or the persecution of Turkish businessmen who follow the cleric Fethullah Gülen, could lead to a loss of talent. Further, the authors note a post-Brexit survey in 2017 revealing that 12% of continental Europeans who make between £100,001 (\$130,000) and £200,000 a year planned to leave the United Kingdom. Bottom line: The authors warn that such an exodus, and similar outflows of talented managers, could have meaningful economic consequences.

