RESEARCH BRIEF

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

*Based on BFI Working Paper No. 2020-171, "Discrimination, Managers, and Firm Performance: Evidence from 'Aryanizations' in Nazi Germany," by Kilian Huber, Assistant Professor of Economics, Chicago Booth; Volker Lindenthal, Assistant Professor of Economics, University of Munich; and Fabian Waldinger, Professor, University of Munich*

## KEY TAKEAWAYS

- ✓ Researchers have long studied the effect of management on firm performance, but such work is primarily focused on firm structure.
- ✓ This research provides unique insights into the value of individual managers on firm performance.
- ✓ Key managers bring unique business connections and advanced degrees that can benefit a firm.
- ✓ The loss of such managers can negatively impact a firm's profitability, as measured by asset prices and other factors, for many years.

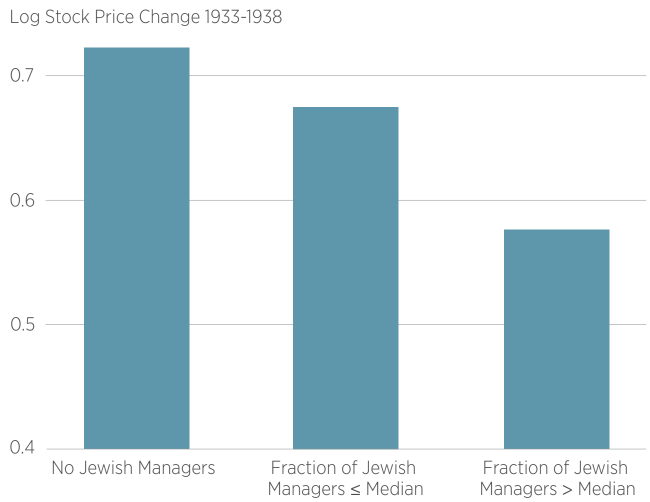
As many readers have likely experienced, the sudden loss of a key manager or executive can have a negative impact on a firm, whatever size. Now imagine a large loss of experienced and knowledgeable managers across a country's economy. In such a case, one might expect aggregated negative effects, with the country suffering measurable negative economic outcomes.

Such large-scale losses in experience are not mere thought experiments but have occurred throughout history as countries discriminated en masse against minority populations. To varying degrees, this issue has resonance today as countries enact bans on certain immigrants. These types of actions are clearly harmful to individuals, but until now there was little evidence as to whether large-scale discrimination does, indeed, harm the broader economy. With their recent paper, "Discrimination, Managers, and Firm Performance: Evidence from 'Aryanizations' in Nazi Germany," Kilian Huber, Volker Lindenthal, and Fabian Waldinger address this gap.

Becker Friedman Institute
FOR ECONOMICS AT UCHICAGO

5757 S. University Ave.
Chicago, IL 60637
Main: 773.702.5599
bfi.uchicago.edu

**Figure 1** • Stock Price Changes 1933-1938




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.

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. These findings go beyond historical explication to offer key insights on current and future discriminatory effects.

## The value of highly skilled managers

It is instructive to broadly review the discrimination within businesses that occurred in Nazi-era Germany to better understand how such personally focused bias can have wide-ranging effects. Before the rise of the Nazis, managers of Jewish origin played a key role in the German economy. The authors cite historical research which shows that Jews in Germany had a greater economic role than in Western industrialized like England, France, or Holland, and most likely in America. These Jewish managers were assimilated into the German economic elite and worked for all types of firms, including such influential companies as Allianz, BMW, Daimler-Benz, Siemens & Halske, and I.G. Farben. With the rise of Nazism came waves of antisemitism that eventually resulted in the massive dismissal of Jewish managers. The dismissals targeted a range of individuals, including Christians who had just one Jewish grandparent, meaning that firms which employed managers of Jewish origin lost a significant fraction of their senior managers.

To conduct their analysis, 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

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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.

Much existing management literature gives prominence to a firm's structure, but this work reveals the importance of individual managers for a firm. The authors' four main results are briefly described here:

1. 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. Digging deeper, the authors find that managers with graduate education in social sciences mattered in all industries, while managers with graduate STEM education mattered only in STEM-related industries. Importantly, managers with direct connections to other firms (both to banks and non-banks) were key for firm performance, while higher-order, indirect connections mattered less. Further, 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.

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.

The authors analyze these and other issues at length in the full paper, including the effects on firms favored by the Nazis, on those firms merely perceived as Jewish, and the effect of discrimination among lower-ranked Jewish employees, among other questions.

## Conclusion

This work stresses the importance of individual managers on firm performance. By employing a unique dataset of pre- and Nazi-era German business, the authors find that discriminating firms were unable to adequately replace the characteristics of dismissed managers; that market valuation, profitability, and efficiency decreased; that these effects were persistent for at least 10 years after dismissal; and that losing managers with connections and relevant university degrees are difficult to replace.

This work provides evidence for Gary S. Becker's theoretical suggestions on the importance of managers on firm profitability. While the authors acknowledge that their analysis of an extreme case of discrimination may not directly apply to more subtle forms of bias, they nonetheless provide quasi-experimental evidence for such a causal relationship. In other words, firm performance may also suffer, for instance, when less drastic instances of discrimination lead to a loss of talent.

What might these "less drastic instances" look like? Recent examples include the US travel ban on citizens of seven Muslim-majority countries or the persecution of Turkish businessmen who follow the cleric Fethullah Gülen. 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.

**CLOSING TAKEAWAY**

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**ABOUT OUR SCHOLAR**

***Kilian Huber***
*Assistant Professor of Economics, Chicago Booth*
chicagobooth.edu/faculty/directory/h/kilian-huber

*Written by David Fettig, BFI Senior Writer and Editor*