Online Appendix

Persecution and Escape: Professional Networks and High-Skilled Emigration from Nazi Germany

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This Online Appendix presents further details on historic background, data collection, construction of variables, identification strategy, and additional results.

- Appendix A gives further details on Richard Courant's involvement in helping mathematicians in his network to find positions abroad.
- Appendix B explains how we constructed detailed biographies.
- Appendix C provides a detailed explanation of the dismissals.
- Appendix D discusses our IV strategy and the validity of the exclusion restriction.
- Appendix E introduces the data we use to construct our measures of family and community networks.
- Appendix F presents robustness checks that further support the analysis in the main text.

A Further Details on Courant's Involvement

As outlined in the main text, Richard Courant was instrumental in helping mathematicians in his networks (see Figure 2). Table A1 gives further details on his involvement by means of quotes from the letters he wrote in support of his former colleagues.

Table A1: Richard Courant's Involvement in Securing Faculty Positions

	Involvement	**Quotes from letters**
Fritz John	University of Cambridge	In his letter of support Courant recommended him "in the strongest possible way" and argued that John combined "extraordinary gifts of the receptive kind with real originality and tenacity." (Source: Shields 2015, p. 54)
	University of Kentucky	"He worried the most about the future of former students. Since March he had fretted over the case of Fritz John, whose grant from the Academic Assistance Council in England was going to expire in June, leaving him and his ailing young wife virtually destitute." Courant again managed to help his former assistant from Göttingen, yielding an unexpected appointment at the University of Kentucky. (Source: Reid 1996, p. 154)
	NYU	[H]e gained Fritz John as a regular member of the NYU faculty. (Source: Reid 1996, p. 255)
Emil Artin	University of Notre Dame	Courant was involved in securing a temporary position at the University of Notre Dame for Emil Artin. He even picked up Artin and his family from the pier after the arrival in the United States. (Source: Reich 2011, pp. 158)
Herbert Busemann	Institute for Advanced Study (Princeton)	Richard Courant wrote 1935 from New York to Busemann, who was temporarily in Copenhagen: "In order to be accepted here it is very advantageous not to be forced—as a Jewish immigrant—to accept a position at any cost, but to act instead as an independent human being, to adapt and wait for a chance." (Source: Siegmund-Schultze 2009, p. 93)
Hans Lewy	Brown University	In the course of his travels Courant did not forget that he was looking for places for Neugebauer and Lewy. (Source: Reid 1996, p. 136)
Ernst Hellinger	Northwestern University	[Courant contacted the Emergency Committee and wrote letters to colleagues such as Nobel Laureate Otto Stern.] From his letter to Stern: "Dear Stern: I hope you are informed about Hellinger's situation." (Source: Schmidt-Böcking et al., eds 2018, p. 214)

Table A1: Richard Courant's Involvement in Securing Faculty Positions

	Involvement	Quotes from letters
Gábor Szegö	George Washington University	Courant was also contacted by W.E. Tisdale, the Rockefeller Foundation officer in Paris, regarding Gábor Szegö who had been an "ordinary Professor of Mathematics in Konigsberg." Tisdale asked Courant to rate Szegö with regards to other mathematicians. Courant about Szegö in Königsberg: „I can imagine, that especially at a place like Konisberg (sic), he and his family will [be] very isolated and unhappy." Courant then gave Tisdale an assessment of Szego's stature as a mathematician, noting he was an "excellent lecturer," a "very successful and tasteful scientist and writer," and although not in the first class group with Weyl, Siegel, Artin, Hardy or Littlewood, did rank among Polya and Hopf, and above Kneser, Rademacher, and Reidemeister. (Source: Shields 2015, p. 57)
Erich Rothe	William Penn College	Courant was also contacted as a referee for other displaced German scholars. In April 1934, Walter Adams, serving as the General Secretary of the Academic Assistance Council, requested a reference and advice on how best to help Dr. E. Rothe of Breslau. Courant's reply to Adams was favorable in terms of Rothe's ability and education, pointing to his "good research work" on partial differential equations. (Source: Shields 2015, p. 57)
Kurt Friedrichs	NYU	Courant wrote letters about Friedrichs's presence in the United States to everyone he knew who was interested in the development of applied mathematics. He emphasized the two years that Friedrichs had spent at the aerodynamics institute in Aachen and presented him as "a mathematician in the style of C. Runge." He was in fact so active on Friedrichs's behalf that even Hans Lewy began to be afraid that his efforts to place Friedrichs might jeopardize his own position at NYU. (Source: Reid 1996, p. 196)

B Further Details on Data Construction

B.1 Further Details on the Roster of Dismissed Jewish Academics

We construct a roster of all dismissed Jewish academics across all academic disciplines from a large number of primary and secondary sources.

List of Displaced German Scholars One of the main sources is the *List of Displaced German Scholars* (*LDS*) which was published in 1936 and updated in 1937. We focus on the 1,129 Jewish academics who held an academic position in Germany at the beginning of 1933.[33]

For various reasons, some dismissed academics did not appear on the *LDS*. For instance, if they had died before the *LDS* was compiled in 1936, they had been too old when the list was compiled, they were forgotten by the editors, and so on.

Additional Sources To obtain a complete picture of all dismissals of individuals of Jewish origin, we augment and cross-check the roster with additional data from 60 university-specific studies and 16 subject-specific studies on the expulsion of Jewish academics from Nazi Germany. The sources are as follows:

Table B1: University-Specific Sources on Dismissed Jewish Academics

University	**Source**
General	Grüttner and Kinas (2007); Gerstengarbe (1994)
University of Aachen	Graf et al. (2007)
Technical University of Berlin	Universitätsarchiv der TU Berlin (2019); Baganz (2013)
University of Berlin	Kinas (2018); Tenorth et al. (2012); Fischer et al. (1994)
University of Bonn	Forsbach (2014); Höpfner (1999); Schmoeckel (2004); Becker, ed (2008)
Technical University of Braunschweig	Szabó (2000)
Technical University of Breslau	Kranich (2018)
University of Breslau	Kranich (2018)
Technical University of Dresden	Pommerin et al. (2003); Petschel (2003)
Medizinische Akademie Düsseldorf	Esch (1997)
University of Frankfurt	Kinas (2018); Epple et al. (2016)
University of Freiburg	Martin (1995)
University of Gießen	Chroust (1994); Oehler-Klein (2007)
University of Göttingen	Becker et al. (1998); Szabó (2000)
University of Greifswald	Kinas (2018); Eberle (2016)
University of Halle	Archiv der Martin-Luther-Universität Halle-Wittenberg (2023); Kinas (2018); Stengel (2016)
University of Hamburg	Universitätsarchiv Hamburg (2017); Krause et al. (1991); Nicolaysen (1983)

[33]Overall, the LDS lists 1,403 dismissed individuals, who had already obtained their PhD and were employed at a German university or research institute in January 1933. Of these, 274 academics were dismissed because they were married to an individual of Jewish origin, or for purely political reasons. To focus on Jewish academics, we exclude these individuals which leaves us with 1,129 academics of Jewish origin from the LDS.

Technical University of Hannover	Szabó (2000); Jung (2013)
Tierärztliche Hochschule Hannover	Szabó (2000)
University of Heidelberg	Drüll (1986, 2009); Eckart et al. (2006); Mußgnug (1988); Schultes (2010)
University of Jena	Hendel et al. (2007)
Technical University of Karlsruhe	Hoepke (2007); Seidl (2009)
University of Kiel	Abteilung für Regionalgeschichte des Historischen Seminars and Rechenzentrum der CAU - Abteilung Wissenschaftliches Rechnen und Forschungsdaten (2023); Uhlig (1991); Cornelißen and Mish (2009)
University of Köln	Golczewski (1988)
University of Königsberg	Tilitzki (2013, 2014)
University of Leipzig	von Hehl (2011); Lambrecht (2006)
Handelshochschule Mannheim	Bollmus (1973)
University of Marburg	Nagel and Sieg (2000)
Technical University of Munich	Herrmann and Nerdinger (2018)
University of Munich	Böhm (1995)
University of Münster	Happ and Jüttemann (2018)
University of Rostock	Hartwig (2019); Buddrus and Fritzlar (2007)
Technical University Stuttgart	Becker and Nagel (2018)
University of Tübingen	Wiesing (2010)
University of Würzburg	Benkert (2005)
Kaiser-Wilhelm-Institut	Rürup and Schüring (2008); Steinhauser et al. (2011); Beyler (2004, 2006); Schüring (2006)

Table B2: Subject-Specific Sources on Dismissed Jewish Academics

Subject	**Source**
Art History	Wendland (1998)
Chemistry	Deichmann (1999, 2001); Maier (2015)
Economics	Hagemann and Krohn (2014)
Geography – Geology	Hoppe and Hoppe (2018)
Mathematics	Siegmund-Schultze (2009)
Medicine	Deutsche Gesellschaft für Kinder- und Jugendmedizin e.V. (2023); Institut für Geschichte der Medizin und Ethik in der Medizin, Charité, Berlin (2013); Möllers (2002)

Musicology	Institut für Historische Musikwissenschaft, Universität Hamburg (2023)
Philology	Leibniz-Zentrum für Literatur- und Kulturforschung, Berlin (2019); Maas (2016)
Physics	Beyerchen (1977)
Psychology	Wolfradt et al. (2017)
Sociology	Wittebur (1991)

We identify 241 additional academics of Jewish origin who were dismissed from German universities but not listed on the LDS. Combining the information from all sources we obtain a roster of 1,370 dismissed Jewish academics.

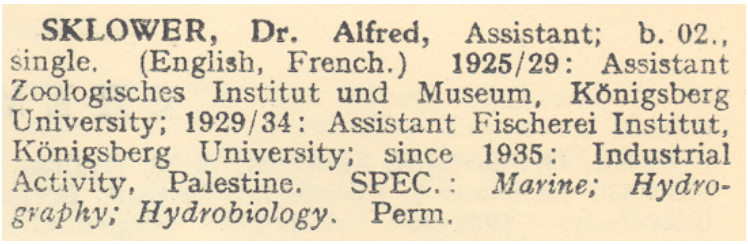
B.2 Further Details on Career Stages

We reconstruct individual biographies covering each year of the academics' career until their death. For this reconstruction, we rely on extensive archival and digital searches. The main sources are the *List of Displaced German Scholars*, the 60 university-specific studies, the 16 subject-specific studies, biographical archives, which are listed in the World Biographical Information System (WBIS) (e.g., Kürschners Deutscher Gelehrten-Kalender, Juden in Preußen, British Biographical Archive, Polskie Archiwum Biograficzne, Archivo Biográfico de España, Portugal e Iberoamérica, and the Indian Biographical Archive), shipping lists, naturalization records, newspaper articles, obituaries, death records, patent documents, and academic publications.

Despite the fact that some of the academics are hard to trace, we manage to obtain almost complete biographical records for each of them. An example of the data collection effort is the record for Alfred Sklower, a marine biologist who was dismissed from the University of Königsberg. His entry in the *List of Displaced Scholars* revealed an industrial activity in Palestine, starting in 1935 but not providing any further detail (see Figure B1). Individuals in the private sector tend to be harder to trace than those staying in academia. We therefore conduct an extensive web search to reconstruct Sklower's fate after 1935. The *Palestine Gazette* of August 6, 1936 revealed that Sklower was elected chairman of the *Palestine Fishing Company* in Haifa. For 1939, we find a publication in the *ICES Journal of Marine Science* confirming his continued presence in Haifa. In a surprising reorientation of his career, the *Palestine Gazette* of June 8, 1944 reported that Sklower received his approbation as a medical doctor in Haifa. In 1947, the *Palestine Gazette* reported that the *Palestine Fishing Company* had been liquidated by Sklower, implying that he only kept his new job as a medical doctor. For 1951, we find a publication on fish-farming and freshwater biology published in the *Archiv für Hydrobiologie* by a certain Alfred Sklower from Lusaka, Northern Rhodesia. While this appears to be an unlikely move, the fact that the author

is listed as Dr. Alfred Sklower *M.D.,* and that the paper is in his field of expertise, strongly indicates that it was the same person. The paper describes that Sklower moved to Northern Rhodesia in May 1949 and stayed until May 1950, when, given extremely difficult conditions, he left the country and provided an address in London. This allows us to find his death record in the United Kingdom, where he died in Holborn (London) in 1960.

Figure B1: Entry of Alfred Sklower on the LDS


SKLOWER, Dr. Alfred, Assistant; b. 02., single. (English, French.) **1925/29:** Assistant Zoologisches Institut und Museum, Königsberg University; **1929/34:** Assistant Fischerei Institut, Königsberg University; since **1935:** Industrial Activity, Palestine. SPEC.: *Marine; Hydrography; Hydrobiology.* Perm.

Notes: The Figure shows the entry for Alfred Sklower on the *List of Displaced German Scholars.* From this entry we reconstruct his career after 1935.

Overall, we record on average 5.3 career stages per academic. To ensure consistency, we collect information as of January 1 for each year. Therefore, when we refer to a year we mean January 1. We keep track of multiple positions if an academic was employed by multiple institutions at the same time. For the four dates that form the core of the empirical analysis (1929-1933, 1935, 1939, and 1945), we are able to obtain exact locations for 1,327 academics, i.e. 97 percent of all 1,370 dismissed academics of Jewish origin.

For each career stage, we collect information on the start and end date as well as information on the position and the exact location. In some cases, academics held multiple positions at the same time. A location usually contains the name of the university or institute where the academic is employed. In some cases, the historical records do not report an employment relationship, but simply the location were the academic lived in a specified period (e.g., lived in London). In those cases we record information on the city of residence and/or the country of residence. We use the information on the start and end date to extract information on all relevant positions of an academic as of January 1 in each given year in our sample. Further, we use the Geolocation API from Google to extract coordinates, the city of the location, and the country of the location.

In some cases, the biographical data do not allow us to determine the exact position as of January 1 in each year (e.g., because a position ended prior to January 1 and the new position started after January 1). To fill these gaps, we impute locations in a time window of plus and minus ten years as follows:

1. If the reported location before and after the gap is identical (e.g., identical university, or identical private sector employer before and after), we impute the gap with the exact location. For example, we have information that an academic started to work at Harvard

University in 1936 (but we have no information on when the employment ended) and we find a paper published in 1939 that also lists Harvard University as the affiliation, we assume that he/she was at Harvard as of January 1 of 1937, 1938, and 1939.

2. If the exact location before and after the gap is different, but the city is identical, we impute the gap with the city. For example, we have information that an academic started to work at Harvard University in 1936 but we find a paper published in 1939 with an affiliation at MIT, we assume that he/she was in Cambridge, MA as of January 1 of 1937, 1938, and 1939 (note: we do not impute the university for the years 1937 and 1938 because it is not clear whether he/she was affiliated at Harvard or MIT – or even a different university).

3. If the city before and after the gap is different, we check if the country before and after the gap is identical. If it is identical, we assume that the academic remained in the same country. E,g. we have information that an academic started to work at Harvard University in 1936 but we find a paper published in 1939 with an affiliation at Ohio State, we assume that he/she was in the United States as of January 1 of 1937, 1938, and 1939 (note: we do not impute the university, or the city, for the years 1937, 1938, and 1939 because it is not clear whether he/she was affiliated at Harvard or Ohio State – or even a different university).

4. If the country before and after the gap is different, we assume that the academic stayed in a country until we observe him/her in a different country.[34]

B.3 Data on Academic Reputation

As part of our data collection effort, we collect information on all entries of the Jewish academics in different biographical archives, as reported in the World Biographical Information System (WBIS). We use this information to proxy for academic reputation. For each academic *i* our measure counts the number of entries in biographical compendia that were published before 1933.

Table B3 shows the most reputed German Jewish academics for six selected disciplines: mathematics (Panel A), physics (Panel B), philosophy (Panel C), biochemistry (Panel D), philology (Panel E), and chemistry (Panel F).

[34]Because the imputation may artificially delay measured emigration, the imputation could affect the dependent variable *Emigrated by 1939* and the explanatory variable *Early Émigré*. We check the robustness of our results to this imputation by changing the emigration status to 1 for the few academics where we imputed that they had remained in Germany until January 1, 1935 and January 1, 1939. In this sample, the results remain almost unchanged (the coefficient on $\#\ Early\ Émigré\ Colleagues\ (Pre\text{-}1933\ Network)_{-i}$ is 0.054 with a standard error of 0.015.

Table B3: Academics With the Highest Reputation

Name	Number of Pre-1933 Sources	Name	Number of Pre-1933 Sources	Year of Nobel Prize
Panel A – Mathematics		Panel B – Physics		
Edmund Landau	6	Albert Einstein	11	1921
Leon Lichtenstein	6	Leo Graetz	10	
Arthur Korn	5	Emil Cohn	6	
Felix Bernstein	4	Max Born	5	1954
Alfred Pringsheim	4	Rudolf Ladenburg	4	
Alfred Loewy	4	Alfred Byk	4	
Paul Epstein	4	James Franck	3	1925
Theodor von Karman	3	Gustav Hertz	3	1925
Felix Hausdorff	3	Erwin Finlay-Freundlich	3	
Otto Szasz	3	Emil Less	3	
Eugen Würzburger	3	Eugene Wigner	2	1963
Richard von Mises	2	Franz Simon	2	
John von Neumann	2	Harry Dember	2	
Issai Schur	2	Paul Hertz	2	
Richard Courant	2	Marcello Pirani	2	
Panel C – Philosophy		Panel D – Biochemistry		
Theodor Lessing	10	Carl Neuburg	5	
Max Dessoir	9	Otto Warburg	4	1931
Ernst Cassirer	5	Heinrich Bechhold	4	
Emil Utitz	5	Felix Ehrlich	4	
Julius Guttmann	4	Carl Oppenheimer	3	
Jonas Cohn	4	Fritz Laquer	2	
Ernst Bresslau	4	Hans Krebs	1	1953
Richard Hönigswald	3	Eduard Strauss	1	
Isaak Heinemann	2	Rudolf Schönheimer	1	
Moritz Geiger	2	Erwin Chargaff	1	

Table B3: Academics With the Highest Reputation

Name	Number of Pre-1933 Sources	Name	Number of Pre-1933 Sources	Year of Nobel Prize
Siegfried Marck	2	Hans Pringsheim	1	
Arthur Liebert	2	Max Lemberg	1	
Günther Jacoby	2	Georg Ettisch	1	
Theodor Adorno	1	Ernst Chain	0	1945
Richard Kroner	1	Ernst Wertheimer	0	
Panel E – Philology		Chemistry		
Victor Klemperer	5	Fritz Haber	7	1919
Franz Babinger	4	Kasimir Fajans	5	
Georg Witkowski	3	George de Hevesy	4	1943
Julius Pokorny	3	Victor Goldschmidt	4	
Richard Samuel	3	Emanuel Goldberg	4	
Max Herrmann	3	Willy Marckwald	4	
Otto Bremer	3	Friedrich Paneth	4	
Leo Spitzer	2	Peter Rona	4	
Eugen Mittwoch	2	Julius von Braun	4	
Eduard Norden	2	Karl Herrmann	4	
Walter Berendsohn	2	Herbert Freundlich	3	
Salomon Birnbaum	2	Georg Bredig	3	
Max Freiherr von Waldberg	2	Reginald Herzog	3	
Gotthold Weil	1	Isidor Traube	3	
Harry Torcyner	1	Rudolf Ehrenberg	3	

Notes: The Table lists the top 15 academics with the highest academic reputation in mathematics, physics, philosophy, biochemistry, philology, and chemistry. We measure academic reputation according to the appearance in biographical compendia (see Appendix B.3 for details). We rank academics based on the number of entries in pre-1933 biographical compendia. In case of ties in the number of pre-1933 biographical compendia, we rank the academics based on their appearance in all biographical compendia, even those that appeared after 1933. The latter variable is not reported.

B.4 Data on Journal Publications

We use an algorithm developed by Iaria et al. (2022) to merge papers from the Web of Science (WoS) to academics in scientific disciplines: mathematics, physics, chemistry, biochemistry, bi-

ology, and medicine. Iaria et al. (2022) use a machine-learning classifier on the basis of paper titles to assign a unique scientific discipline to each paper. This allows us to classify papers that were published in a general science journal (e.g., *Nature* or *Science*) into a unique discipline (e.g., medicine or physics). We then merge papers published in the 5 year period before January 1, 1933 to the Jewish academics in our data. The merge uses the following sequential steps:

1. Merge on: i) full last name, ii) full first name, iii) subject

After this step, we store all matched papers and remove them from the database of potential matches and only consider the remaining papers for the following merge steps. Because many papers in the WoS database only list initials of authors we proceed with two additional merge steps:

2. Merge on: i) full last name, ii) all initials, iii) subject

3. Merge on: i) full last name, ii) first initial, iii) subject

Because the WoS and our academic data do not necessarily report the same number of initials (or because scientists do not necessarily list all their initials when they publish). We verify the matches from merge step 3 as follows. We drop merges where the initials indicate that the paper does not belong to the scientist. In particular, we remove the following merges:

a) The number of initials $N(i)$ of academic i and the number of initials $N(p)$ of matched paper p are the same $N(i) = N(p)$, but the initials differ, e.g., a scientist with initials *A.A.* should not be merged to a paper with initials *A.B.*

b) The number of initials $N(i)$ and the number of initials $N(p)$ are not the same $N(i) \neq N(p)$ and the Levenshtein distance between the two sets of initials is smaller than the difference in the length of the initials, e.g., a scientist with initials *A.B.* is merged to a paper with initials *A.B.C.* or *A.C.B.* but not to papers with initials *A.C.D.* or *A.D.C.*[35]

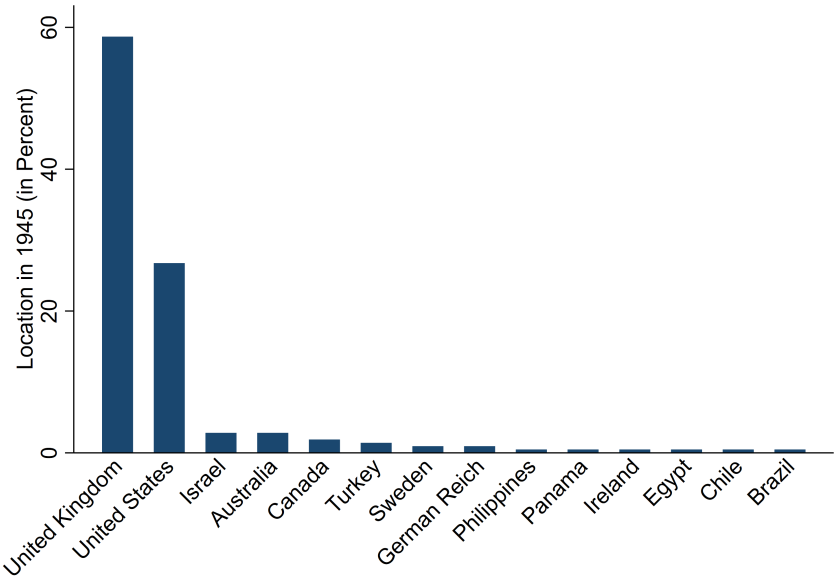
B.5 Further Details on Fate after 1933

B.5.1 Emigration to the United States via the United Kingdom

While the United Kingdom was a prime destination in the years 1934-1945, for many German Jewish academics, it was not their ultimate destination. As Figure B2 shows, more than a quarter of German Jewish academics who had emigrated to the United Kingdom by 1934 ultimately settled in the United States, with others settling in Israel, Australia, Canada, etc.

[35]Levenshtein distances measure the minimum number of insertions, deletions, or substitutions that are necessary to make two strings identical.

Figure B2: Destination Country in 1945 for Early Émigrés to the UK



Notes: The Figure shows the 1945 destination for early émigrés who had emigrated to the United Kingdom by 1935.

B.5.2 Comparison of Emigration Rates with Emigration in the General Jewish Population

Benz (1988) reports absolute numbers of émigrés from the German Jewish population by year from 1933 onwards. In some years he only reports ranges. We take the midpoint of the ranges, sum the number of émigrés until the relevant year, and divide them by 523,000 (the approximate number of Jews who lived in Germany before the Nazis assumed power, Museum 2020).

C Dismissals

C.1 Further Details on the Legal Basis for Dismissals

C.1.1 Early Dismissals 1933-1934

Law for the Restoration of the Professional Civil Service, April 7, 1933 As outlined in the main text, the *Law for the Restoration of the Professional Civil Service* ("Gesetz zur Wiederherstellung des Berufsbeamtentums") was used to dismiss Jewish academics starting as early as 1933. As German university professors were civil servants the Law directly applied to them. Via additional ordinances the Law was also applied to other university academics who were not civil

servants (see Reichsministerium des Innern 1933, as reprinted in Hentschel 1996, p. 47).[36] The main parts of the Law read as follows:

> Paragraph 2: Officials who have entered into the civil service since the 9th of November, 1918, without the educational background requisite or usual for their career or who lack other qualifications, are to be dismissed from the service.
>
> Paragraph 3: Civil servants who are not of Aryan descent are to be placed in retirement. [...] This does not apply to officials who had already been in the service since the 1st of August, 1914, or who had fought in the World War at the front for the German Reich or for its allies, or whose fathers or sons had been casualties in the World War.
>
> Paragraph 4: Civil servants who, based on their previous political activities, cannot guarantee that they have always unreservedly supported the national state, can be dismissed from service.
>
> Paragraph 6: To simplify administration, civil servants may be placed in retirement...
>
> (Quoted from Hentschel 1996, pp. 22)

All of these paragraphs were applied by the Nazi government to dismiss Jewish academics.[37]

Paragraph 2 of the Law was used to dismiss party members of leftist or liberal parties, e.g., all members of the Communist Party.[38] Because German academia was politically relatively conservative, only 0.2 percent of early dismissals of Jewish academics occurred because of paragraph 2 (Figure C2).

As described in the main text, the infamous paragraph 3 directly targeted academics of Jewish descent and provided the legal basis for the majority of dismissals of academics of Jewish origin.

[36]The data on dismissed academics include all ordinary (full) professors who held a chair for a certain sub-field and were all civil servants, different types of extraordinary professors who could either have the status of a civil servant *(beamteter Extraordinarius)* or not have the status of a civil servant *(nichtbeamteter Extraordinarius*). At the lower level of university teachers were *Privatdozenten* (first university position that gave academics the right to give lectures). They did not have permanent civil servant positions. The data also include lecturers and assistant researchers who had already obtained their PhD and were allowed to teach smaller classes but had not yet obtained the right to give lectures. For some purposes we distinguish between "senior academics" (everyone who was at least Privatdozent and therefore had the right to give lectures), and "junior academics," who did not have the right to give lectures. "Junior academics" were virtually all dismissed in 1933. Because they were not civil servants, their contract could be terminated without delay.

[37]While dismissals under any paragraph meant that the academics lost their university position, the exact dismissal paragraph had implications for their pension rights. Those dismissed under paragraph 2 did not receive a pension. Those dismissed under paragraph 3 received a pension, if they had been a civil servant for at least ten years. Those dismissed under paragraph 4 also received a pension, if they had been a civil servant for at least ten years, but after three months their pension was cut by 25% (Kinas 2018, p. 42). Those dismissed under paragraph 6 received a pension according to the pre-Nazi era pension rights.

[38]As explained in Hentschel (1996): "The Weimar Republic was proclaimed on Nov. 9, 1918 in Berlin. This provision gives the false impression that many official appointments made during the Weimar period had been entirely politically motivated."

Paragraph 4 targeted "politically unreliable" individuals in the eyes of the Nazi regime, e.g., people who openly supported Social Democrat or Liberal views. Paragraph 4 was stricter than paragraph 3 because it did not allow for exemptions. As the proportion of left-wing individuals among academics was low, only 5.1 percent of early dismissals of Jewish academics occurred because of paragraph 4 (Figure C2).

Finally, paragraph 6 was the most unspecific paragraph and paved the way for more arbitrary dismissals but its use came at a considerable cost for the university: the position (e.g., the professorship) of the dismissed individual was irrevocably forfeited. Overall, about 7.5 percent of early dismissals of Jewish academics occurred because of paragraph 6 (Figure C2).

Dismissals under paragraphs 2-4 had to be completed until the summer of 1934. Dismissals under paragraph 6 could be carried out until 1937 (Kinas 2018, pp. 36). See Kinas (2018, pp. 35) for a detailed description of dismissals according to the *Law for the Restoration of the Professional Civil Service*.

To implement the *Civil Service Law,* the Nazi government required all academics to submit a questionnaire detailing their ancestry to the Ministry of Education of each state. As religious affiliation of the parents was included in birth registers it was easy to verify the religious affiliation of grandparents. The Law was uniformly applied and left no room for local interpretations.

Among senior academics (professor, associate professor, honorary professor, and *Privatdozent*) who were dismissed early, about 82 percent were dismissed under paragraph 3. The majority of dismissals on the basis of paragraph 3 were completed by the fall of 1933. However, a small number of cases dragged on because some Jewish academics tried to provide evidence that they qualified for one of the exemptions or that they should be classified as "Aryan." We therefore use dismissal in 1933 and 1934 as early dismissals in our identification strategy.

C.1.2 Late Dismissals: After 1935

The Jewish academics who fell under the exemption clauses of paragraph 3 of the *Civil Service Law* could remain in office until 1935. Most of them lost their position after 1935. The main law to dismiss Jewish academics after 1935 was the *Reich Citizenship Law* of September 15, 1935, which formed part of the so-called *Nuremberg Laws*. Furthermore, some additional laws were used to dismiss a small number of Jewish academics in this second phase of dismissals.

Reich Citizenship Law, September 15, 1935 The infamous *Reich Citizenship Law* ("Reichsbürgergesetz" – RBG) formed part of the so-called *Nuremberg Laws* that were passed in September 1935. The *RBG* revoked the citizenship status of all German Jews[39] and therefore provided the legal basis for further dismissals. The first implementation decree of the *RBG* imposed that only citizens could become civil servants and as a consequence ordered that Jewish civil servants

[39]The Nazis defined Jews as individuals with at least three Jewish grandparents or alternatively as individuals with two Jewish grandparents who were practicing Jews or married to Jews.

had to retire by December 31, 1935. In a second implementation decree the Law was expanded to all academics, independent of whether they were civil servants.

Law on the Retirement and Transfer of Professors as a Result of the Reorganization of the German System of Higher Education, January 21, 1935 The *Law on the Retirement and Transfer of Professors as a Result of the Reorganization of the German System of Higher Education* ("Gesetz über die Entpflichtung und Versetzung von Hochschullehrern aus Anlass des Neuaufbaus des Hochschulwesens" – GEVH) was passed in January 1935. It specified that professors had to retire at the end of the semester they turned 65. It further specified that emeriti faculty were not allowed to continue to teach, unless the rector of the university gave special permission to do so. The Law enabled universities to dismiss their Jewish emeriti who were previously exempted from the *Law for the Restoration of the Professional Civil Service*. It was applied for a few dismissals in 1935 until the *Reich Citizenship Law* was passed.

Reichshabilitationsordnung (RHO), December 13, 1934 The first Reichshabilitationsordnung (*RHO*) from 1934 separated the habilitation and the *venia legendi* (the right to teach at universities). Up to then, the habilitation immediately granted the right to teach at universities and was conferred by a university. The new regulations downgraded the habilitation to a purely academic degree granted by the university. From now on, the Reich Ministry of Science, Education, and Culture was in charge of granting the right to teach. Furthermore, the ministry could revoke the *venia legendi* "in the interest of the university" due to paragraph 18 RHO. Up to 1939, the *RHO* was used to dismiss Jewish academics from their positions as Privatdozent and their positions as associate professors in case they were not employed as civil servants (Kinas 2018, p. 45) and had been exempted from dismissal under the *Civil Service Law*.[40] In our sample, the *RHO* was applied f

ew dismissals in 1935 before the *Reich Citizenship Law* was passed and for a few post-1935 dismissals that targeted academics with at most two Jewish grandparents who were exempt from the *Civil Service Law* and not affected by the *RBG*.

C.1.3 Overview of Legal Basis of Dismissals for Jewish Academics in Germany

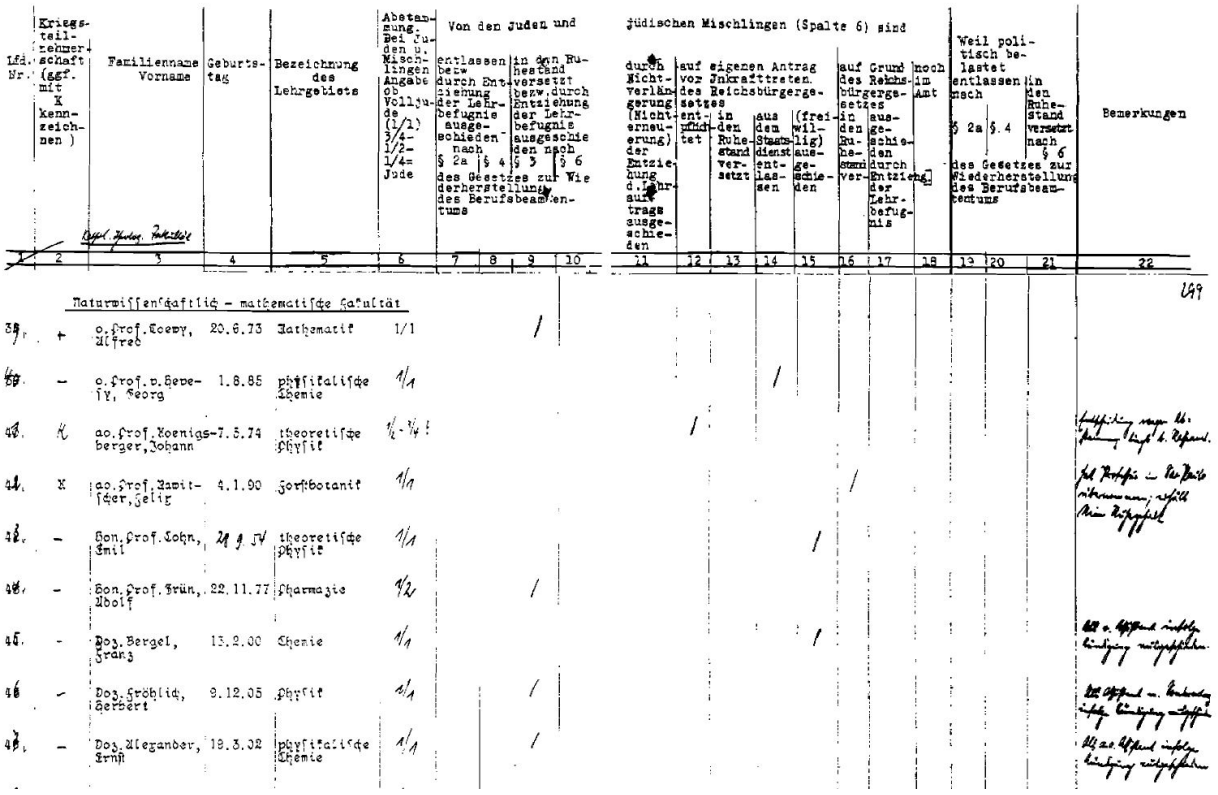
Among senior academics, more than 80 percent of *early dismissals* occurred on the basis of paragraph 3 of the *Civil Service Law*, followed by paragraphs 6 and 4 of the same law (Figure C2, panel b). Of the late dismissals, more than 80 percent occurred on the basis of the *Reich Citizenship Law* (Figure C2, panel c).

[40]There were two types of associate professors: associate professors employed as civil servants (beamtete außerordentliche Professoren) and associate professors not employed as civil servants (nichtbeamtete außerordentliche Professoren).

C.2 Data on Dismissal Paragraphs

As described in the main text, we obtain data on exact dismissal paragraphs from a number of primary and secondary sources. Figure C1 shows an example of a primary source from the University of Freiburg. The page shows a number of academics who were dismissed on the basis of paragraph 3 of the *Law for the Restoration of the Professional Civil Service*, and a number of dismissals who left the university in the wake of the *Reich Citizenship Law* in 1935.

Figure C1: Example Data Source Dismissal paragraphs Freiburg



Notes: The Figure shows a sample page of the official list of dismissed Jewish academics that the University of Freiburg sent to the authorities. It is re-printed in Martin (1995, p. 33).

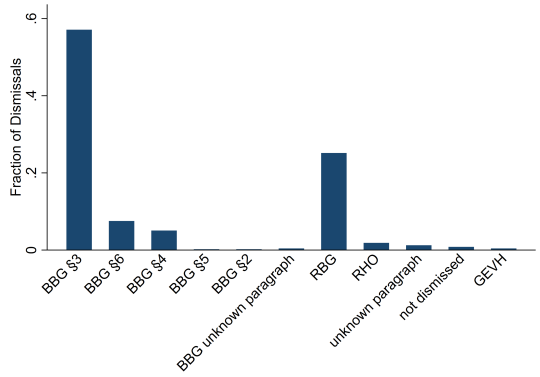
C.3 Dismissal Paragraphs and Dismissal Years of Jewish Academics

C.3.1 Dismissal Paragraphs

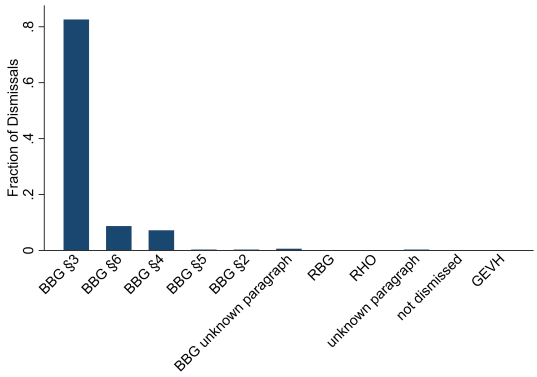
Dismissals of German Jewish academics followed specific national laws and were thus not an arbitrary act at the local level. Figure C2 shows the paragraphs that formed the basis of dismissals of senior German Jewish academics, for all dismissed academics (Sub-Figure C2a), and separately for early dismissals (Sub-Figure C2b) and late dismissals (Sub-Figure C2c).

Figure C2: Dismissal Paragraphs

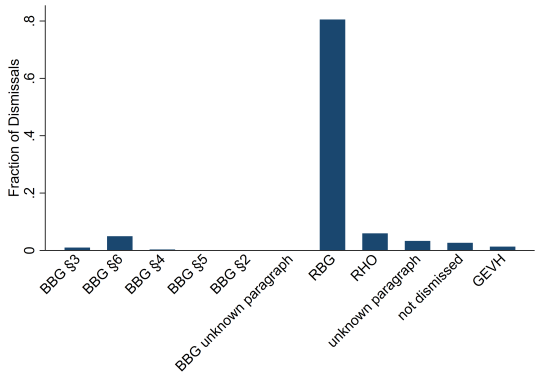
(a) All Dismissals



(b) Early Dismissals



(c) Late Dismissals

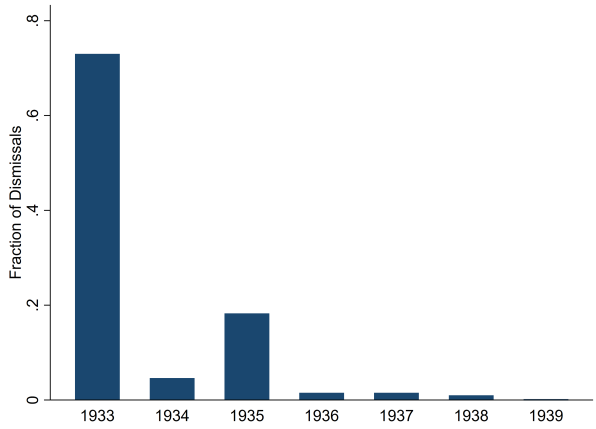


Notes: The Figure shows dismissal paragraphs for senior academics (professor, associate professor, honorary professor, and *Privatdozent*). Dismissals occurred on the basis of *Law for the Restoration of the Professional Civil Service* (BBG), the *Reich Citizenship Law* (RBG), the *Reichshabilitationsordnung* (RHO), and the *Law on the Retirement and Transfer of Professors as a Result of the Reorganization of the German System of Higher Education* (GEVH). Early dismissals are those that occurred in 1933 and 1934. Late dismissals are those that occured in 1935 or later. Appendix C.1 provides further details on the laws. The contracts of junior academics were all terminated in 1933 without officially referring to the laws that applied to senior academics.

C.3.2 Dismissal Years

Jewish academics in Weimar Germany were dismissed on the basis of the *Law for the Restoration of the Professional Civil Service*. Figure C3 shows the dismissal years. More than two thirds of academics were dismissed early, in 1933 or 1934, with all other Jewish academics dismissed in 1935, or subsequent years.

Figure C3: Dismissal Years



Notes: The Figure shows dismissal years of Jewish academics.

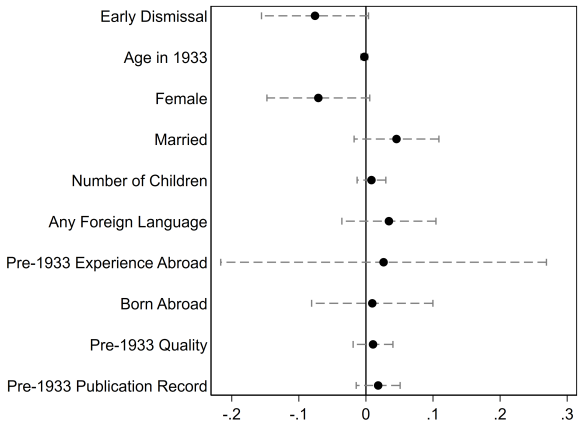
D Further Details on IV Strategy

D.1 Discussion of Exclusion Restriction

D.1.1 Correlations of Academic *i*'s Characteristics with Number of Dismissed Colleagues

We address potential concerns that the number of colleagues dismissed early, our IV for the number of early émigré colleagues, is correlated with academic i's characteristics. Figure D1 shows that most characteristics of academic i were uncorrelated with the number of colleagues from his pre-1933 professional network who were dismissed early. The only significant coefficient is academic i's gender; the 48 women in the data have slightly fewer ties to colleagues dismissed early. The Figure alleviates concerns that academics with certain characteristics have more dismissals in their own academic network, propelling them to emigrate independently of the number of early émigré colleagues.

Figure D1: Correlations of Academic i's Characteristics with Number of Dismissed Colleagues



Notes: The Figure shows coefficients and 95% confidence intervals of regressions with alternative dependent variables (e.g., Early Dismissal of academic *i*) as indicated in the figure and the explanatory variable # Colleagues Dismissed Early (Pre-1933 Network). To control for sorting of academics with certain characteristics into certain departments, the regressions additionally control for the city × subject employment history. To ease readability, we scale age by a factor of ten.

D.1.2 Results for Senior Academics

Jews could retain their position if a) they had been a civil servant since August 1, 1914, or b) if they had fought at the front in WWI, or c) if they had lost a father or son in the war. The exemptions applied to about a third of senior Jewish academics in service in 1933. The rules governing early dismissals meant that older academics who could have served in the German or Austro-Hungarian military were more likely to be exempted.

We therefore show results in a sample of senior academics (academics with an academic rank of *Privatdozent* or higher) who could all possibly have qualified for the exemptions. In this sample, estimates are larger and remain highly significant (Table D1, columns 1-2). We further restrict the sample to academics who were born in the German Reich or Austria-Hungary and, hence, to academics who could have served in the military of a Central Power. In this sample, estimates are larger and remain highly significant (Table D1, columns 1-2). The effect of ties to early émigré colleagues are stronger than in the full sample, presumably because senior academics were more settled and less keen to emigrate than junior academics.

Table D1: Professional Networks and Emigration – Senior Academics

	(1)	(2)	(3)	(4)
Sample:	Senior Academics		Senior Academics Born in Countries of Central Powers	
	OLS	IV	OLS	IV
Dep. Variable:	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.138***	0.126***	0.153***	0.134**
	(0.037)	(0.041)	(0.052)	(0.055)
Early Émigré	0.389***	0.279*	0.405***	0.259*
	(0.039)	(0.148)	(0.042)	(0.133)
Baseline Controls	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes
Number of Observations	921	921	849	849
R^2	0.684		0.691	
Kleibergen-Paap rk Wald F-statistic		30.922		30.045
Mean of Dep. Variable	0.666	0.666	0.656	0.656

Notes: In columns 1-2, the sample includes only senior academics. In columns 3-4, the sample includes only senior academics who were born in the German Reich or Austria-Hungary.
The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The main explanatory variable is the number of early émigré colleagues from the pre-1933 network. Another important explanatory variable is academic *i*'s own early émigré status. In columns 2 and 4 we instrument these variables with the number of early dismissed colleagues from the pre-1933 network and with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

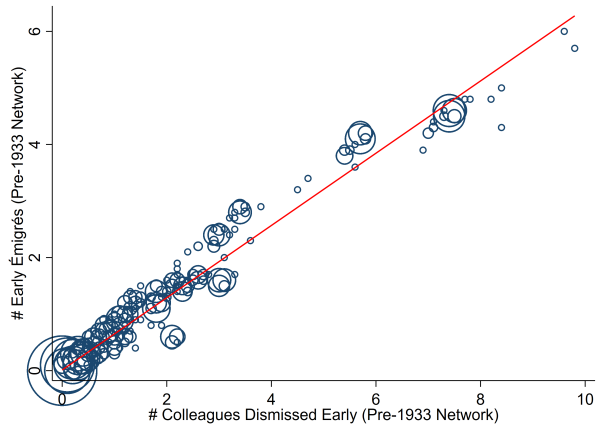
D.2 First Stage Relationship

D.2.1 Graphical Exposition of First Stage Relationship

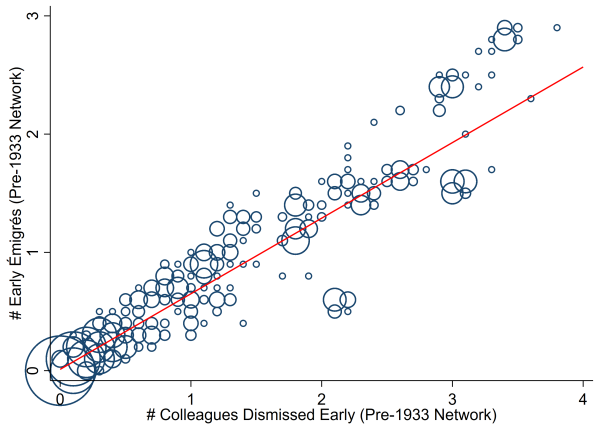
We use early dismissal of colleagues as an instrument for the number of colleagues that are early émigrés. Figure D2 shows the strength of the relationship between the number of colleagues who were dismissed early (x-axis) and the number of early émigré colleagues (y-axis). Note that both axes show the number of colleagues divided by 10, in line with the scaling in our regression tables. Sub-figure D2a shows the relationship for the whole sample, whereas D2b zooms in on smaller networks: those where fewer than 40 colleagues were dismissed early. The second Figure indicates that there is substantial variation in the number of colleagues dismissed early and the number of early émigré colleagues across the network size distribution. Nonetheless, the relationship is very strong all along the axis, giving rise to a strong first stage.

Figure D2: First Stage Relationship

(a) All Networks



(b) Smaller Networks



Notes: Panel a shows the first-stage relationship for the full dataset. Panel b zooms into the subsample of academics for whom the number of early dismissals among the pre-1933 network was smaller than 40. Note, networks are scaled by dividing the network size by 10. This scaling makes regression coefficients easier to read. The circles are weighted by the number of observations.

D.2.2 Additional First Stage Results for Specifications Reported in Tables 3, 5, 6, 7, and 8

Table D2 displays first stage results when controlling for an academic's quality (columns 1-4) and when splitting the sample by early émigré status (columns 5-6). In columns 1-2, we control for indicators for whether academic i ranked in the 51-80th, 81-90th, or 91-100th percentile of the subject-level distribution of pre-1933 academic reputation, as measured by the number of entries in pre-1933 bibliographical compendia. In columns 3-4, we control for indicators for whether academic i ranked in the 51-80th, 81-90th, or 91-100th percentile of the pre-1933 subject-level publication distribution. In columns 5-6, we split the sample into early émigrés (column 5) and non early émigrés (column 6).

Table D3 shows first stage results for the IV results in columns (2) and (4) of Table 5. The strength of the first stage relationships is equally strong as for our main IV regression results.

Table D6 shows first stage results for the IV results in columns (2), (4), (6), and (8) of Table 8.

Table D2: Additional First Stage Results for Specifications Reported in Table 3

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
	First Stages for Column (3)		First Stages for Column (4)		First Stage for Column (6)	First Stage for Column (7)
Dep. Variable:	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	# Early Émigré Colleagues (Pre-1933 Network)
# Colleagues Dismissed Early (Pre-1933 Network)	0.620***	-0.010	0.620***	-0.009	0.642***	0.598***
	(0.017)	(0.031)	(0.016)	(0.030)	(0.025)	(0.027)
Early Dismissal	0.036***	0.283***	0.035***	0.283***		
	(0.004)	(0.024)	(0.004)	(0.029)		
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes	Yes	Yes
Pre-1933 Quality	Yes	Yes				
Pre-1933 Publication Record			Yes	Yes		
Sample:	Full Sample	Full Sample	Full Sample	Full Sample	Emigrated by 1935	Not-Emigrated by 1935
Number of Observations	1327	1327	1327	1327	693	634
R^2	0.998	0.515	0.998	0.510	0.999	0.999
F-statistic (excluded instruments)	856.196	69.954	894.799	49.314	662.192	505.732
Kleibergen-Paap rk Wald F-statistic	66.773		48.522			
Mean of Dep. Variable	1.121	0.522	1.121	0.522	1.162	1.075

Notes: The Table reports first stage regressions. In columns 1-4, the sample includes all academics. In columns 5, the sample includes academics who had emigrated by January 1, 1935. In column 6, the sample includes only academics who had not emigrated by January 1, 1935.
The dependent variable in columns 1, 3, 5, and 6 is equal to the number of early émigré colleagues from the pre-1933 network. The dependent variable in columns 2 and 4 is an indicator that equals 1 if academic *i* him/herself was an early émigré.
The first instrument is the number of early dismissed colleagues among the pre-1933 network.
In columns 1-4, the second instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.
In columns 1-2, we control for indicators for whether academic *i* ranked in the 51-80th, 81-90th, or 91-100th percentile of the subject-level distribution of pre-1933 academic reputation, as measured by the number of entries in pre-1933 bibliographical compendia.
In columns 3-4, we control for indicators for whether academic *i* ranked in the 51-80th, 81-90th, or 91-100th percentile of the pre-1933 subject-level publication distribution.
For a small number of academics, information on some control variables (family status, language proficiency, place of birth, academic reputation, and publications) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

Table D3: First Stage Results for Specifications Reported in Table 5

	(1)	(2)	(3)	(4)	(5)	(6)
	First Stages for Column (2)			First Stages for Column (4)		
Dep. Variable:	# Early Émigré Colleagues (Pre-1933 Network – More Recent Colleagues)	# Early Émigré Colleagues (Pre-1933 Network – Less Recent Colleagues)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network – Same Department)	# Early Émigré Colleagues (Pre-1933 Network – Same City and Subject Different Department)	Early Émigré
# Colleagues Dismissed Early (Pre-1933 Network – More Recent Colleagues)	0.640***	-0.014	-0.059			
	(0.027)	(0.020)	(0.093)			
# Colleagues Dismissed Early (Pre-1933 Network – Less Recent Colleagues)	0.022	0.620***	-0.011			
	(0.016)	(0.021)	(0.037)			
# Colleagues Dismissed Early (Pre-1933 Network – Same Department)				0.618***	0.015**	-0.040
				(0.019)	(0.006)	(0.045)
# Colleagues Dismissed Early (Pre-1933 Network – Same City and Subject, Different Department)				0.029**	0.589***	-0.007
				(0.014)	(0.008)	(0.031)
Early Dismissal	0.042***	0.001	0.278***	0.032***	0.005	0.279***
	(0.009)	(0.004)	(0.024)	(0.007)	(0.006)	(0.026)
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1327	1327	1327	1327	1327	1327
R^2	0.996	0.983	0.510	0.989	0.990	0.510
F-statistic (excluded instruments)	199.354	324.130	44.770	3202.286	10411.570	43.081
Kleibergen-Paap rk Wald F-statistic		38.360			35.913	
Mean of Dep. Variable	1.016	0.122	0.522	0.681	0.440	0.522

Notes: The Table reports first stage regressions. The dependent variables are defined as follows: In column 1, it is the number of early émigré colleagues from the pre-1933 network who overlapped with academic *i* on January 1, 1933. In column 2, it is the number of early émigré colleagues from the pre-1933 network who overlapped with academic *i* between January 1, 1929 and January 1, 1932, but not thereafter. In columns 3 and 6, it is an indicator that equals 1 if academic *i* him/herself was an early émigré. In column 4, it is the number of early émigré colleagues from the pre-1933 network from the same institution and subject. In column 5, it is the number of early émigré colleagues from the pre-1933 network from other institutions in the same city and subject.
In columns 1-3, the first instrument is the number of early dismissed colleagues among the pre-1933 network who overlapped with academic *i* on January 1, 1933. The second instrument is the number of early dismissed colleagues among the pre-1933 network who overlapped with academic *i* between January 1, 1929 and January 1, 1932, but not thereafter. The third instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.
In columns 4-6, the first instrument is the number of early dismissed colleagues among the pre-1933 network from the same institution and subject. The second instrument is the number of early dismissed colleagues among the pre-1933 network from other institutions in the same city and subject. The third instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

Table D4: First Stage Results for Specifications Reported in Table 6

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	First Stages for Column (2)			First Stages for Column (4)			First Stages for Column (6)			
Dep. Variable:	# Early Émigré Colleagues (Pre-1933 Network) × Natural Sciences and Medicine	# Early Émigré Colleagues (Pre-1933 Network) × Social Sciences and Humanities	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network) × Fields with Long Gestation	# Early Émigré Colleagues (Pre-1933 Network) × Fields with Short Gestation	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	# Early Émigré Colleagues (Pre-1933 Network) × Positive Surprise in Reputation	# Early Émigré Colleagues (Pre-1933 Network) × Negative Surprise in Reputation	Early Émigré
# Colleagues Dismissed Early (Pre-1933 Network) × Natural Sciences and Medicine	0.605***	0.001	-0.000							
	(0.015)	(0.001)	(0.030)							
# Colleagues Dismissed Early (Pre-1933 Network) × Social Sciences and Humanities	0.004	0.732***	-0.090							
	(0.007)	(0.019)	(0.110)							
# Colleagues Dismissed Early (Pre-1933 Network) × Fields with Long Gestation				0.792***	0.001	-0.048				
				(0.020)	(0.011)	(0.134)				
# Colleagues Dismissed Early (Pre-1933 Network) × Fields with Short Gestation				0.000	0.605***	-0.007				
				(0.001)	(0.014)	(0.028)				
# Colleagues Dismissed Early (Pre-1933 Network)							0.625***	-0.027	-0.006	-0.025
							(0.018)	(0.019)	(0.004)	(0.033)
# Colleagues Dismissed Early (Pre-1933 Network) × Positive Surprise in Reputation							-0.009**	0.620***	-0.000	0.022*
							(0.004)	(0.005)	(0.002)	(0.012)
# Colleagues Dismissed Early (Pre-1933 Network) × Negative Surprise in Reputation							-0.002	-0.003*	0.653***	0.006
							(0.002)	(0.002)	(0.009)	(0.014)
Early Dismissal	0.024***	0.013***	0.282***	0.011***	0.025***	0.283***	0.036***	0.005	-0.001	0.282***
	(0.003)	(0.004)	(0.025)	(0.004)	(0.004)	(0.026)	(0.004)	(0.010)	(0.007)	(0.026)
Academic Rank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1327	1327	1327	1327	1327	1327	1327	1327	1327	1327
R^2	0.999	0.997	0.509	0.997	0.999	0.509	0.998	0.989	0.983	0.511
F-statistic (excluded instruments)	687.970	661.974	68.492	893.684	707.289	44.616	603.052	5197.432	4446.731	31.614
Kleibergen-Paap rk Wald F-statistic		36.240			35.725			30.082		
Mean of Dep. Variable	0.885	0.235	0.522	0.200	0.920	0.522	1.121	0.196	0.150	0.522

Notes: The Table reports first stage regressions. The dependent variables are defined as follows: In column 1, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in natural sciences or medicine. In column 2, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in social sciences or humanities. In columns 3, 6, and 10, it is an indicator that equals 1 if academic *i* him/herself was an early émigré. In column 4, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in a field with long gestation. In column 5, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in a field with short gestation. In column 7, it is the number of early émigré colleagues from the pre-1933 network. In column 8, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s research reputation surpringly improved after 1933. In column 9, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i*'s research reputation surpringly deteriorated after 1933.

In columns 1-3, the first instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in natural sciences or medicine. The second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in social sciences or humanities. The third instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.

In columns 4-6, the first instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in a field with long gestation. The second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s specialization is in a field with short gestation. The third instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.

In columns 7-10, the first instrument is the number of early dismissed colleagues among the pre-1933 network. The second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s research reputation surpringly improved after 1933. The third instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i*'s research reputation surpringly deteriorated after 1933. The fourth instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early. In columns 7-10, we also control for positive surprise in reputation and negative surprise in reputation.

For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.

Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

Table D5: First Stage Results for Specifications Reported in Table 7

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	First Stages for Column (2)			First Stages for Column (4)			First Stages for Column (6)		
Dep. Variable:	# Early Émigré Colleagues (Pre-1933 Network)	# Early Émigré Colleagues (Pre-1933 Network) × International Experience	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	# Early Émigré Colleagues (Pre-1933 Network) × ≤ Age 45	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	# Early Émigré Colleagues (Pre-1933 Network) × ≤ Median Reputation	Early Émigré
# Colleagues Dismissed Early (Pre-1933 Network)	0.619***	0.008	-0.007	0.623***	-0.041*	-0.018	0.620***	-0.038**	-0.004
	(0.016)	(0.010)	(0.032)	(0.017)	(0.022)	(0.031)	(0.016)	(0.018)	(0.033)
# Colleagues Dismissed Early (Pre-1933 Network) × International Experience	0.005*	0.663***	-0.011						
	(0.003)	(0.007)	(0.011)						
# Colleagues Dismissed Early (Pre-1933 Network) × ≤ Age 45				-0.004**	0.638***	0.010			
				(0.001)	(0.003)	(0.006)			
# Colleagues Dismissed Early (Pre-1933 Network) × ≤ Median Quality							0.001	0.656***	-0.011*
							(0.002)	(0.008)	(0.006)
Early Dismissal	0.036***	0.006	0.282***	0.036***	0.022**	0.282***	0.035***	0.038***	0.285***
	(0.004)	(0.009)	(0.027)	(0.004)	(0.009)	(0.026)	(0.004)	(0.012)	(0.025)
Academic Rank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1327	1327	1327	1327	1327	1327	1327	1327	1327
R^2	0.998	0.988	0.509	0.998	0.989	0.509	0.998	0.991	0.510
F-statistic (excluded instruments)	704.766	9401.888	44.096	559.997	20369.575	39.799	617.625	2433.031	57.518
Kleibergen-Paap rk Wald F-statistic		35.801			37.278			44.494	
Mean of Dep. Variable	1.121	0.254	0.522	1.121	0.609	0.522	1.121	0.711	0.522

Notes: The Table reports first stage regressions. The dependent variables are defined as follows: In columns 1, 4, and 7, it is the number of early émigré colleagues from the pre-1933 network. In column 2, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i* had pre-1933 international experience. In columns 3, 6, and 9, it is an indicator that equals 1 if academic *i* him/herself was an early émigré. In column 5, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i* was younger than 46 years old in 1933. In column 8, it is the interaction of the number of early émigré colleagues from the pre-1933 network with an indicator that equals 1 if academic *i* had below median pre-1933 subject-level reputation, as measured by the number of entries in biographical compendia.

The first instrument is the number of early dismissed colleagues among the pre-1933 network. The third instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.

In column 1-3, the second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i* had pre-1933 international experience.

In columns 4-6, the second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i* was younger than 46 years old in 1933.

In columns 7-9, the second instrument is the interaction of the number of early dismissed colleagues among the pre-1933 network with an indicator that equals 1 if academic *i* had below median pre-1933 subject-level reputation, as measured by the number of entries in biographical compendia.

For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.

Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

Table D6: Additional First Stage Results for Specifications Reported in Table 8

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	First Stages for Column (2)		First Stages for Column (4)		First Stages for Column (6)		First Stages for Column (8)	
Dep. Variable:	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré	# Early Émigré Colleagues (Pre-1933 Network)	Early Émigré
# Colleagues Dismissed Early (Pre-1933 Network)	0.620***	-0.011	0.616***	-0.023	0.616***	-0.022	0.616***	-0.019
	(0.016)	(0.033)	(0.018)	(0.035)	(0.018)	(0.035)	(0.018)	(0.036)
Early Dismissal	0.035***	0.285***	0.035***	0.281***	0.034***	0.284***	0.035***	0.282***
	(0.004)	(0.025)	(0.004)	(0.026)	(0.004)	(0.025)	(0.004)	(0.024)
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample:	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Excluding Most Common Last Names	
Number of Observations	1327	1327	1327	1327	1327	1327	1268	1268
R^2	0.998	0.510	0.998	0.509	0.998	0.510	0.998	0.522
F-statistic (excluded instruments)	882.527	64.026	813.587	58.956	812.804	65.545	767.940	74.499
Kleibergen-Paap rk Wald F-statistic	62.637		56.409		62.761		74.073	
Mean of Dep. Variable	1.121	0.522	1.121	0.522	1.121	0.522	1.126	0.523

Notes: The Table reports first stage regressions. In columns 1-6, the sample includes all academics. In columns 7-8, the sample includes only academics with less common last names.
The dependent variable in columns 1, 3, 5, and 7 is equal to the number of early émigré colleagues from the pre-1933 network. The dependent variable in columns 2, 4, 6, and 8 is an indicator that equals 1 if academic *i* him/herself was an early émigré.
The first instrument is the number of early dismissed colleagues among the pre-1933 network. The second instrument is an indicator that equals 1 if academic *i* him/herself was dismissed early.
In columns 1-2 and 5-8, we also control for the number of early émigrés from the pre-1933 family network.
In columns 3-8, we also control for the number of early émigrés from the pre-1933 non-family community network.
For a small number of academics, information on some control variables (family status, language proficiency, place of birth, academic reputation, and publications) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

E Data on Family and Community Networks

Family and community networks are based on data from the *List of Jewish Residents in Germany 1933-1945*, compiled by the German Federal Archive. The list contains a total of 812,520 names of Jewish residents. For 107,172 of them the data report a place of residence and an emigration date. We use these observations to construct distinct measures of family and community networks.

Family Network For our family network measure, we count the number of early émigrés (born within a $\pm$ ten-year-window) with the same last name as academic i that resided in cities where academic i worked between 1929 and 1933. If academic i is an early émigré him/herself, we subtract him/her from the measure. The measure proxies for relatives such as wives or husbands, siblings, and cousins of each academic. The average academic had 0.8 early émigrés in his family network (Table 1), suggesting that non-academics were much less likely to emigrate early than academics.

Community Network For our non-family community network measure, we count the number of early émigrés (born within a $\pm$ ten-year-window) with a different last name as academic i that resided in cities where academic i worked between 1929 and 1933. If academic i is an early émigré him/herself, we subtract him/her from the measure. The average academic had 858.6 early émigrés in his non-family community network (Table 1).

Alternatively, we measure community networks similar to the definition in Buggle et al. 2020. We count the number of early émigrés that were born within a $\pm$ five-year-window in the same city as academic i. For 27 academics without a known place of birth we impute the value for the community network with the median of our sample.

Table E1: Professional Networks and Alternative Community Network Measure

	(1) OLS	(2) IV
Dep. Variable:	Emigrated by 1939	Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.052***	0.048***
	(0.014)	(0.014)
# Early Émigrés (Community Network – City of Birth)	-0.000	-0.000
	(0.000)	(0.000)
Early Émigré	0.342***	0.315**
	(0.031)	(0.143)
Baseline Controls	Yes	Yes
Academic Rank FE	Yes	Yes
Year of Birth FE	Yes	Yes
City × Subject (1929-1933)	Yes	Yes
Number of Observations	1327	1327
R^2	0.649	
Kleibergen-Paap rk Wald F-statistic		60.766
Mean of Dep. Variable	0.741	0.741

Notes: The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The first main explanatory variable is the number of early émigré colleagues from the pre-1933 network. The second main explanatory variable is the number of early émigrés who were born in the same place as academic *i* within a ± five-year-window. Another important explanatory variable is academic *i*'s own early émigré status. In columns 2 we instrument the number of early émigré colleagues from the pre-1933 network with the number of early dismissed colleagues from the pre-1933 network and the emigration status in 1935 with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language prociency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

F Further Robustness Checks

F.1 Addressing Potential Selection from Missing Career Stages

We analyze potential sample selection bias due to missing career stages. As outlined in the main text, we are able to obtain exact locations for the four relevant time periods (1929-1933, 1935, 1939, 1945) for 1,327 of all 1,370 dismissed Jewish academics. This sample forms the core for our analysis. In the following, we show that including the 43 academics with missing data on career stages hardly affects the results.

We show two tests. First, we re-estimate results in an augmented sample of those academics where we have information on exact locations for three relevant time periods: 1929-1933, 1935, and 1939 (but we do not know the location of the academic in 1945). This adds 19 academics to the sample and we can estimate results for 1939 without any imputation. Results remain almost unchanged in this sample (Table F1, columns 1-2).

Second, we add the remaining 24 academics to the sample by imputing the most likely location in 1935 and/or 1939 based on their last known location. Again, the results remain almost unchanged (Table F1, columns 3-4).

Table F1: Professional Networks and Emigration – Robustness on Missing Career Stages

	(1)	(2)	(3)	(4)
	Known Location in 1939		Imputing 1939 Emigration Status with Last Location	
	OLS	IV	OLS	IV
Dep. Variable:	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.052***	0.049***	0.054***	0.050***
	(0.014)	(0.013)	(0.014)	(0.013)
Early Émigré	0.343***	0.317**	0.366***	0.320**
	(0.032)	(0.149)	(0.036)	(0.145)
Baseline Controls	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes
Number of Observations	1346	1346	1370	1370
R^2	0.649		0.645	
Kleibergen-Paap rk Wald F-statistic		40.853		36.965
Mean of Dep. Variable	0.744	0.744	0.734	0.734

Notes: In columns 1-2, we also include 19 additional academics with a known location for 1929-1933, 1935, and 1939, but with missing location in 1945. In columns 3-4, we additionally impute the location in 1935 and/or 1939 for the remaining 24 academics by using their last known location. The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The main explanatory variable is the number of early émigré colleagues from the pre-1933 network. Another important explanatory variable is academic *i*'s own early émigré status. In columns 2 and 4, we instrument these variables with the number of early dismissed colleagues from the pre-1933 network and with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

F.2 Excluding Coauthors

To probe the robustness of our main findings to alternative networks that might be influential, we analyze whether our results are driven by co-author networks. In columns 1-2 of Table F2, the sample includes only academics without coauthors among all Jewish academics. In columns 3-4, the sample includes only academics without coauthors among Jewish colleagues in the same city and subject. Coauthorship is measured with joint publications covered by the *Web of Science.* The findings are remarkable stable to the changes in samples because relatively few Jewish academics had other Jewish academics as coauthors.

Table F2: Professional Networks and Emigration – Excluding Coauthors

	(1)	(2)	(3)	(4)
Sample:	Academics Without Coauthors		Academics Without Coauthors Among Colleagues	
	OLS	IV	OLS	IV
Dep. Variable:	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.061***	0.056**	0.058***	0.052***
	(0.020)	(0.021)	(0.018)	(0.018)
Early Émigré	0.338***	0.375**	0.341***	0.355**
	(0.034)	(0.175)	(0.032)	(0.147)
Baseline Controls	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes
Number of Observations	1231	1231	1272	1272
R^2	0.658		0.655	
Kleibergen-Paap rk Wald F-statistic		42.995		53.153
Mean of Dep. Variable	0.736	0.736	0.737	0.737

Notes: In columns 1-2, the sample includes only academics without coauthors among all Jewish academics. In columns 3-4, the sample includes only academics without coauthors among Jewish colleagues in the same city and subject.
The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The main explanatory variable is the number of early émigré colleagues from the pre-1933 network. Another important explanatory variable is academic *i*'s own early émigré status. In columns 2 and 4 we instrument these variables with the number of early dismissed colleagues from the pre-1933 network and with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

F.3 Only Male Academics

We also address the concern that differences in the size of networks between male and female academics might impact our results. Columns 1-2 of Table F3 show that results are robust to excluding female academics from the sample.

Table F3: Professional Networks and Emigration – Only Male Academics

Sample:	(1) Only Male Academics	(2) Only Male Academics
Dep. Variable:	OLS Emigrated by 1939	IV Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.049***	0.044***
	(0.013)	(0.013)
Early Émigré	0.348***	0.316**
	(0.034)	(0.145)
Baseline Controls	Yes	Yes
Academic Rank FE	Yes	Yes
Year of Birth FE	Yes	Yes
City × Subject (1929-1933)	Yes	Yes
Number of Observations	1279	1279
R^2	0.659	
Kleibergen-Paap rk Wald F-statistic		69.672
Mean of Dep. Variable	0.736	0.736

Notes: The sample includes only male academics.
The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The main explanatory variable is the number of early émigré colleagues from the pre-1933 network. Another important explanatory variable is academic *i*'s own early émigré status. In column 2 we instrument these variables with the number of early dismissed colleagues from the pre-1933 network and with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

F.4 Addressing Potential Selection from Deaths from Other Causes

To avoid sample selection, we assign the place of death as location of academics in the main specification. E.g., if an academic died in Germany in 1938, we set his/her location as of January 1, 1939 to Germany. This implicitly assumes that academics who died in Germany before 1945 would not have emigrated and that academics who had emigrated after 1933 would not have returned to Germany. To study potential sample selection from deaths of other causes (not directly related to Nazi persecution), we impute the emigration status for academics who died of other causes before 1939.[41] The imputation uses the following steps:

[41]By January 1, 1939 7.5 percent of the sample had died of other causes.

1. *Use academics who did not die from other causes to predict migration behavior.* For each academic i who did not die of other causes, we estimate the emigration probability in 1939 based on academic i's emigration status in a previous year, e.g., 1933, 1934, 1935 and so on.

$$\begin{aligned}
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1933}\,Emigrated\,by\,1933_i + \beta_c\,Controls_i + \zeta_{i33} \\
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1934}\,Emigrated\,by\,1934_i + \beta_c\,Controls_i + \zeta_{i34} \\
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1935}\,Emigrated\,by\,1935_i + \beta_c\,Controls_i + \zeta_{i35} \\
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1936}\,Emigrated\,by\,1936_i + \beta_c\,Controls_i + \zeta_{i36} \\
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1937}\,Emigrated\,by\,1937_i + \beta_c\,Controls_i + \zeta_{i37} \\
Emigrated\,by\,1939_i = &\quad \beta_1 + \beta_{1938}\,Emigrated\,by\,1938_i + \beta_c\,Controls_i + \zeta_{i38}
\end{aligned} \tag{F1}$$

2. *Predict emigration probability for academics who died of other causes.* For academic j who died of other causes before 1939, we predict the emigration status in 1939 based on the parameters in equation (F1) using the last year before his death. I.e., for somebody who died of another cause in 1937 we predict his emigration status in 1939 using the estimated parameters from the second to last line in equation (F1).

3. *Transform emigration probability into a binary emigration status.* We then transform the continuous probability into a binary emigration status. We set the emigration status in 1939 equal to one if the emigration probability is larger than 0.5, and equal to zero otherwise.

In columns 3-4 of Table F4, we use this predicted emigration status, and not their location at time of death for the 7.5 percent of academics who had died of other causes.

Table F4: Professional Networks and Emigration – Robustness on Deaths from Other Causes

	(1)	(2)	(3)	(4)
	Excluding Other Deaths		Imputing 1939 Emigration Status for Other Deaths	
	OLS	IV	OLS	IV
Dep. Variable:	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939	Emigrated by 1939
# Early Émigré Colleagues (Pre-1933 Network)	0.055***	0.052***	0.052***	0.050***
	(0.015)	(0.016)	(0.014)	(0.014)
Early Émigré	0.321***	0.360**	0.322***	0.315*
	(0.033)	(0.162)	(0.028)	(0.171)
Baseline Controls	Yes	Yes	Yes	Yes
Academic Rank FE	Yes	Yes	Yes	Yes
Year of Birth FE	Yes	Yes	Yes	Yes
City × Subject (1929-1933)	Yes	Yes	Yes	Yes
Number of Observations	1227	1227	1327	1327
R^2	0.635		0.654	
Kleibergen-Paap rk Wald F-statistic		55.716		56.611
Mean of Dep. Variable	0.772	0.772	0.745	0.745

Notes: In columns 1-2, we drop academics who had died of other causes by January 1, 1939. In columns 3-4, we include all academics. For academics who died of other causes before January 1, 1939 we predict their emigration status as of January 1, 1939.
The dependent variable is an indicator that equals 1 if academic *i* had emigrated by January 1, 1939.
The main explanatory variable is the number of early émigré colleagues from the pre-1933 network. Another important explanatory variable is academic *i*'s own early émigré status. In columns 2 and 4 we instrument these variables with the number of early dismissed colleagues from the pre-1933 network and with an indicator that equals 1 if academic *i* him/herself was dismissed early.
For a small number of academics, information on some control variables (family status, language proficiency, and the place of birth) is missing. The regressions therefore also include unreported indicators for missing information on these variables. We also include fixed effects for each academic rank, year of birth fixed effects, and controls for the city × subject employment history.
Standard errors are clustered at the city level. Significance levels: *** p<0.01, ** p<0.05, and * p<0.1.

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