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Post-War Economic Miracle**

Patrick A. Puhani

August 2014

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ABSTRACT

Employment Industry and Occupational Continuity in Germany: From the Nazi Regime to the Post-War Economic Miracle^{*}

Using retrospective survey data that covers 1939, 1950, 1960, and 1971, I compare individual-level changes in employment industry and occupational status in Germany from the beginning of World War II to the post-war reconstruction era dubbed the Economic Miracle (*Wirtschaftswunder*). This comparison reveals that, with only a few exceptions, labor allocation developments remained relatively stable even in the face of huge political and macroeconomic change.

JEL Classification: N34, J01

Keywords: employment, evolution, regime change, revolution, Germany, Arab Spring, Iraq

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1 Introduction

After every major regime change, be it the fall of communism or the Arab Spring, the new regime must decide on the extent to which it should replace major and minor players in both public administration and the private sector. Germany presents a particularly interesting case for studying this phenomenon because after a war that left the country morally and economically devastated, the post-war reconstruction in its western part (the Federal Republic) is generally seen as both a political and economic success. I thus investigate the issue of post-regime changes phenomenon by comparing individual career paths during two historical periods: WWII and the post-war reconstruction era. Specifically, using person-level data from a 1971 retrospective survey, I derive measures of association for employment industry (the worker's sector of employment) and occupational status for the same individuals at the beginning and end of the 1939–1950 decade (which includes WWII) and the 1950–1960 and 1960–1971 post-war decades in democratic West Germany. I then perform a comparative analysis that documents a high degree of continuity in the German labor market before and after World War II; that is, changes in individual careers in the WWII era greatly resemble those in the post-war decades.

Even during WWII, when the Nazi regime restricted personal and economic freedoms considerably or removed them completely, some elements of a market economy still persisted in Germany. The stock exchange, for example, remained open, although the regime froze stock prices at the beginning of 1943 and often “outsourced” state enterprise (including racially or politically motivated expropriations) to private businesses (Aly, 2011). Not that advice was lacking on the benefits of competition (Schmölders, 1942): even after the Soviets had defeated the German Sixth Army at Stalingrad (generally seen as a turning point of WWII), German economist Günter Schmolders (1943) expressed concern about changes in the tax system not sufficiently rewarding entrepreneurial success.

In fact, the German war economy relied heavily on resources (including food and forced labor) drawn from occupied territories (Aly, 2011), meaning that toward the end of the war and during the years immediately following it, economic breakdown occurred. As Hirshleifer (1963) notes, “[t]ransportation had generally stopped, and with it practically all industrial production” (p. 84). Immediately after the war, the German economy still faced price restraints implemented in the pre-war period to address excess money supply, as well as a division into four occupation zones (with trade restrictions between them), loss of territory east of the Oder-Neisse line, a housing and refugee problem, and the temporary cessation of regular foreign trade. Beginning in 1948, however, currency reform, the return of about 1

million remaining prisoners of war from the western Allied powers (Hirshleifer, 1963), and the establishment of support and cooperation between these powers and the new West Germany initiated a period of economic growth that Germans still refer to as the Economic Miracle (*Wirtschaftswunder*).

To put these developments into a macroeconomic perspective, Figure 1 displays the log of GDP for (West) Germany, the UK and the U.S. from 1870 (the year before German unification under Bismarck) until 1989 (the year the Berlin Wall was toppled and one year before German reunification). As the figure shows, all three economies recovered from the two world wars and the Great Depression along a steady growth path, and all were characterized by significant long-term growth. In fact, a projection of pre-1914 growth trends into the future shows that not only for the U.S. but also for Germany, the country that lost both world wars, GDP seems to have caught up to its pre-WWI trend. Yet even beyond this exceptionally high growth rate in the aftermath of WWII, what is probably most remarkable about Germany's Economic Miracle is that the country not only made up for wartime GDP losses but also shot back up to a GDP growth trajectory that could have been expected in 1914. In other words, despite the damage to GDP growth inflicted by WWII, WWI, and the Great Depression (ranked in order of perceived seriousness), the country's economy bounced back almost as though these disasters had never happened (see also Brakman, Garretsen, and Schramm, 2004; Davis and Weinstein 2002; and Miguel and Roland, 2011 on bombing and recovery of Germany, Japan, and Vietnam, respectively).

What, then, can account for the Economic Miracle? First, as Hirshleifer (1963) points out, the destruction of productive physical capital was lower than suggested by pictures of destroyed inner cities: post-war industrial capacity was actually only 20 percent below its pre-war level. Second, as both Hirshleifer (1963) and Waldinger (2012) stress, even in the face of the housing crisis and loss of life, the human capital brought to West Germany by the survivors, including the 8–10 million German refugees from Eastern Europe (Ritschl, 2005, p.152), was more important than physical capital. That is, despite Nazi destruction of life and human capital—begun even before the war with, for example, the racially or politically motivated expulsion of talent from the universities (Waldinger, 2010)—and the war's own toll on human capital through reduced education for specific birth cohorts (Ichino and Winter-Ebmer, 2004), human capital played a major role in the recovery. Most particularly, as shown in this note, for the cohorts less affected by active military service, the years between 1939 and 1950 are marked by a large degree of individual-level continuity in terms of employment industry and occupational status.

2 Data and Cohorts

Unfortunately, individual data from the pre-WWII period in Germany were lost when the census punch cards were destroyed. However, the 1971 West German Labor Force Survey (*Mikrozensus*) asks retrospective questions on employment industry and occupational status during 1939, 1950, 1960, and 1971¹ that enable the tracking of individual employment industry and occupational status dynamics for over 30 years. The purpose of this note, therefore, is to draw on this person-level data to document individuals' employment industry and occupational status just before and shortly after WWII (i.e., from 1939 to 1950) and compare it to that in two decades of comparatively high economic and political stability (i.e., 1950–1960 and 1960–1971). To control for younger cohorts whose lives and careers were massively perturbed (if not lost) during the war, the comparison focuses on birth cohorts who already had some work experience at the outbreak of war and were thus less affected by the draft. That is, even though age groups 18 to 45 were subject to conscription and heavily recruited early in the war (Absolon, 1960, p. 153), men older than 30 found it easier to obtain “indispensable” (*unabkömmlich*) status (e.g., as war industry workers, administrators, and in some cases, even as celebrities), which allowed them to continue in their civil jobs.² For these men, this status was granted for at least 3 months and had to be actively renounced by the recruitment office, whereas for younger men, the maximum “indispensable” period was only 3 months (Absolon, 1960, p. 142).³

Table 1 defines the four birth cohort groups used in this analysis and shows their respective ages in the observation years 1939 to 1971. Correspondence between the groups is generated by the age range observed for each pair of two birth cohort groups. For example, Group 1, born between 1900 and 1904, transits from being between 35 and 39 years old to being between 46 and 50 years old between 1939 and 1950, while Group 3, born between 1910 and 1914, experiences (almost) these exact ages a decade later, between 1950 and 1960. Likewise, Group 2, born between 1905 and 1909, is aged between 30 and 34 (41 and 45) in

¹ The data source is documented in <http://www.gesis.org/missy/missy-home/auswahl-datensatz/mz-zusatzerhebung-1971/>

² In October 1944, conscription into the National Militia (*Volkssturm*) was extended to age groups 16 to 60 (source: <http://de.wikipedia.org/wiki/Volkssturm>).

³ Absolon (1960) does not stipulate which share of the male population was able to obtain “indispensable” status. However, Absolon (1960) reports that as of November 7 1943 (after the battle of Stalingrad), the German army had deployed 7,228,300 people at a front length of 15,250 km in Europe. Compare that to a population of 79,375,281 reported in the census of 1939 (which included Austria and parts of Czechoslovakia; source: http://de.wikipedia.org/wiki/Liste_der_Volkszählungen_in_Deutschland).

1939 (1950) and between 41 and 45 (51 and 55) in 1950 (1960), while Group 4, born between 1915 and 1919, experiences these age ranges a decade later, in 1950 (1960) and 1960 (1971), respectively.

Using these correspondences, I am able to compare the employment industry and occupational status structures of same age (30- to 55-year-old) German cohorts who experienced very different economic environments during the main years of their working lives. Classifying these cohorts by employment industry and occupational status is particularly helpful in that the categories remain constant for all years of measurement (i.e., are the same in 1939 as in 1971). Nonetheless, although good for cross-sectional comparison, the categories do not separately identify occupations in the respective eras, such as service in the army or full-time activity in Nazi organizations (e.g., the defense industry is subsumed under “Administration, Defense, Social Insurance”).

3 Employment Industry and Occupational Status: Nazi Germany versus the Pre-Oil Crisis Post-War Period

Figures 2 and 3 show the distributions of employment industry and occupational status for the age groups 35–40 and 46–50 between 1939 and 1960 (birth cohort Groups 1 and 3) and the age groups 41–45 and 51–56 between 1950 and 1971 (birth cohort Groups 2 and 4). They thus clearly illustrate the distributional changes for prime-aged workers of different birth cohorts within about a 10-year period, beginning immediately before WWII and ending in 1950, 5 years after the war. The other decades considered, 1950–1960 and 1960–1971 represent post-war reconstruction up to the first oil crisis.

It is immediately obvious from Figure 2 that nothing spectacular happened to the employment industry distributions for the defined birth cohort groups between 1939 and 1950, although manufacturing employment declined slightly between 1939 (WWII) and 1950 (early reconstruction). According to a difference-in-differences estimate, however, this decline, from 35 to 34 percent for birth cohort Group 1, equals only about 2 percentage points. Moreover, during subsequent decades (i.e., for birth cohort Groups 2 to 4), it increased by about the same amount (one percentage point). This pattern is mirrored by a similar change in the share of construction employment, which was positive between 1939

and 1950 but negative in the subsequent decades. Given the dramatic events in Europe during WWII, these changes in employment structure seem small.⁴

One interesting observation that supports the claim of considerable continuity is the constant share of employment in the “Administration, Defense, Social Insurance” category, which shows virtually no decrease between 1939 and 1950. This finding suggests that, with a few exceptions at the top (and apart from cohort turnover), the personnel of the administration of the Third Reich were still in place in 1950.⁵ It is also significant that these data refer to the *same* individuals asked about their jobs in 1939 and 1950. In fact, between 1950 and 1960, employment in this sector expanded because of a build-up of the welfare state and, to a lesser extent for the cohorts considered here, the re-creation in 1955 of a West German army.

The employment distributions by occupational status (see Figure 3) also reflect the comparative smoothness of changes in the German labor market from 1939 to 1971: not one element of the 1939–1950 period stands out as having a particularly high level of change. One notable feature is the discernible increase (2 percentage points) in the share of non-farming self-employed workers in contrast to the roughly equivalent decrease in the share of workers with regular apprenticeships. A similar development is observable for birth cohort Group 2 during the 1950–1960 period, although the increase in non-farming self-employment is not quite as pronounced.

To represent the relations between employment industry (and occupational status) at the beginning and end of each decade, I use two alternative measures of association (Agresti, 1984, p. 23f.; Freund and Wilson, 1997, p. 578): Pearson’s contingency coefficient

$$P = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

and Cramér’s V

$$V = \sqrt{\frac{\chi^2}{n(k-1)}}$$

⁴ Another development, the comparatively strong decline in agriculture, seems to be a long-term trend because it is observed for the entire 1939–1971 period.

⁵ For example, Ludwig Erhard, who is regarded as the architect of the post-war Economic Miracle, was already working on post-war economic planning at the end of 1942 (Ritschl, 2005; http://de.wikipedia.org/wiki/Ludwig_Erhard).

where χ^2 is the χ^2 -statistic of the χ^2 independence test and only valid if the number of expected observations in each cell is at least 5. To ensure this latter, I reduce the number of employment industry/occupational status categories from 15 to 10.

Tables 2 and 3 report the measures of association for employment industry and occupational status, respectively. Table A1 (Table A2) in the Appendix shows the distributions of employment industry in 1950 (1960) given employment industry in 1939 (1950). The measures of association in Tables 2 and 3 are based on the corresponding *absolute numbers* in the cells of cross tables like Tables A1 and A2. Here only men are included in the samples, but the results for men and women combined are almost numerically identical, as shown in Tables A3 and A4 in the Appendix. I consider all workers first (the left panels of the tables) before restricting the sample to German refugee workers, defined as persons who lived in Central and Eastern Europe, including Eastern Germany, in 1939 (the right panels of the tables). Although the Pearson's contingency coefficient is generally larger than Cramér's V, the empirical results from both associational measures point to a similarly large degree of stability for both employment industry and occupational status for all birth cohorts in all three decades: 1939 to 1950, which covers WWII, 1950 to 1960, the first decade of the Economic Miracle, and 1960 to 1971, the last decade before the oil crises began. Nor does the Pearson's contingency coefficient vary much between variables, time periods, or birth cohorts, falling always between 0.91 and 0.93. Cramér's V, on the other hand, is more variable, but it too fails to show a lower degree of association in German workers' employment industry and occupational status between the 1939–1950 period and later periods (1950–1960 or 1960–1971). Such a lower association would be expected if the war had in fact altered careers in the German labor market considerably. Instead, although somewhat smaller for the 1939–1950 period (the period covering WWII and early reconstruction) than for the post-war periods, Cramér's V is still of similar magnitude (0.76 versus 0.83, 0.78, and 0.80 in the shaded fields of Table 3, for example). For German refugee workers, who by definition left their 1939 residence, the measures of association are generally smaller, especially during the period covering WWII (1939-1950), but also for the post-war periods (0.61 versus 0.71, 0.68, and 0.78 in the shaded fields of Table 3, for example). Although it may be unsurprising that refugee German workers exhibit lower measures of association than the average German worker, it is interesting to see that they remain more mobile even in the post-war periods. This finding echoes similar results for Finnish workers who left the territory that was transferred from Finland's to the Soviet Union's rule after WWII (Sarvimäki, Uusitalo, and Jäntti, 2009).

4 Conclusions

The overall finding of relatively stable employment by industry and occupational status despite the WWII experience is interesting both historically and for its relevance to today's revolutions or military interventions. Historically, the observation that most German workers retained the same employment industry and occupational status before and after the war, with any changes differing little from corresponding dynamics during peace time, can help explain the Economic Miracle (*Wirtschaftswunder*) in post-war Germany. It also complements other studies that stress elements of continuity in Germany despite the war, including Hirshleifer (1963), who emphasizes that only about 20 percent of industrial capacity was destroyed, and Ritschl (2005), who identifies elements of continuity in the regulatory economic framework of the mid-1930s and post-war period in Germany.

The finding is also relevant for the political and military interventions currently occurring in other countries, especially in light of frequent allusions (e.g., during the Iraq war) to Germany as a role model that transited from dictatorship to a democratic market economy. It should be borne in mind, however, that this seemingly enormous political transition occurred with a high degree of continuity not only in the allocation of labor but also along other dimensions, such as laws pertaining to the economy. Hence, recent and future regimes, such as those generated by the Arab Spring, might want to consider carefully which parts of their economy and administration to build from scratch and which (select elements) to exchange.

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Table 1: Birth Cohort Groups by Age

Birth Year	Age 1939	Age 1950	Age 1960	Age 1971	Birth Cohort Group
1900	39	50	60	71	1
1901	38	49	59	70	1
1902	37	48	58	69	1
1903	36	47	57	68	1
1904	35	46	56	67	1
1905	34	45	55	66	2
1906	33	44	54	65	2
1907	32	43	53	64	2
1908	31	42	52	63	2
1909	30	41	51	62	3
1910	29	40	50	61	3
1911	28	39	49	60	3
1912	27	38	48	59	3
1913	26	37	47	58	3
1914	25	36	46	57	3
1915	24	35	45	56	4
1916	23	34	44	55	4
1917	22	33	43	54	4
1918	21	32	42	53	4
1919	20	31	41	52	4

Note: The shadings in the tables highlight the age correspondences between birth cohort groups 1 and 3 and 2 and 4, respectively.

Table 2: Measures of Association: Employment Industry–Men

Age Group/ Time Period	All Workers			German Refugee Workers		
	1939- 1950	1950- 1960	1960- 1971	1939- 1950	1950- 1960	1960- 1971
<i>Pearson's Contingency Index</i>						
Birth Cohort Group 1 (Born 1900/04)	0.92			0.88		
Birth Cohort Group 2 (Born 1905/09)	0.91	0.92		0.88	0.91	
Birth Cohort Group 3 (Born 1910/14)		0.92			0.91	
Birth Cohort Group 4 (Born 1915/19)		0.91	0.91		0.90	0.90
<i>Cramér's V</i>						
Birth Cohort Group 1 (Born 1900/04)	0.78			0.61		
Birth Cohort Group 2 (Born 1905/09)	0.73	0.83		0.61	0.73	
Birth Cohort Group 3 (Born 1910/14)		0.81			0.73	
Birth Cohort Group 4 (Born 1915/19)		0.76	0.73		0.68	0.70

Note: Measures of Association are calculated based on cross tabulations of employment industry for the same persons at the start and end years of the corresponding time interval. For all workers, sample sizes vary from 8,886 to 13,888, for German refugee workers, sample sizes vary from 2,158 to 3,210.

Source: Mikrozensus 1971; retrospective person-level data; male workers only; own calculations.

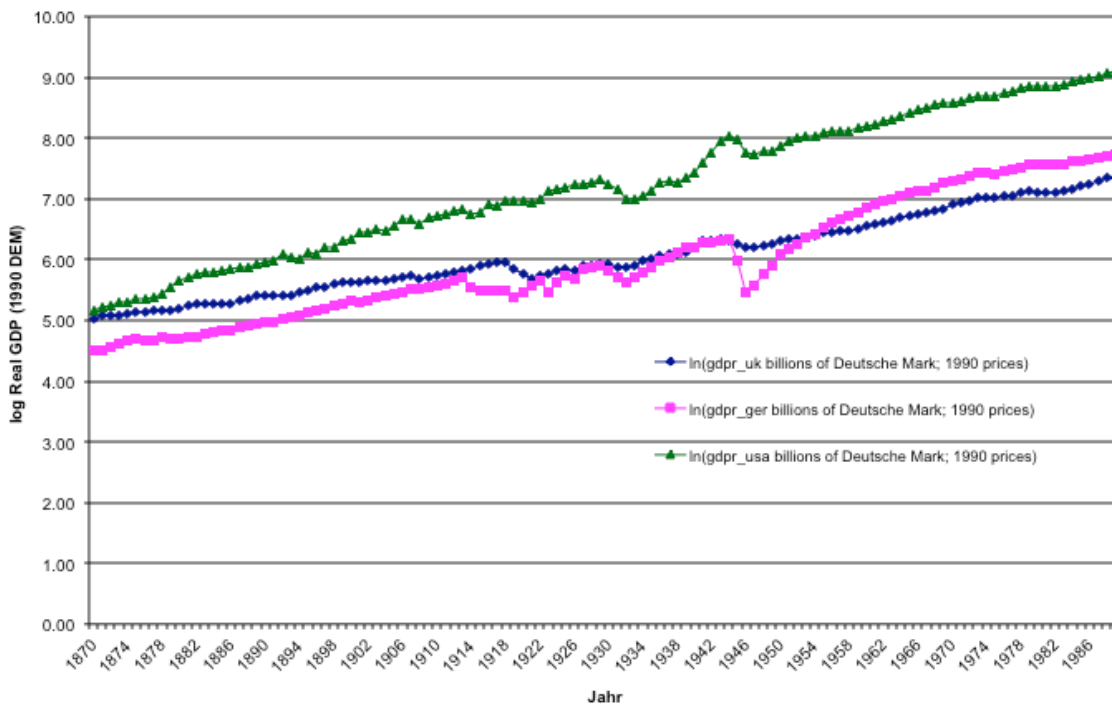
Table 3: Measures of Association: Occupational Status–Men

Age Group/ Time Period	All Workers			German Refugee Workers		
	1939- 1950	1950- 1960	1960- 1971	1939- 1950	1950- 1960	1960- 1971
<i>Pearson's Contingency Index</i>						
Birth Cohort Group 1 (Born 1900/04)	0.92			0.88		
Birth Cohort Group 2 (Born 1905/09)	0.91	0.93		0.86	0.91	
Birth Cohort Group 3 (Born 1910/14)		0.92			0.90	
Birth Cohort Group 4 (Born 1915/19)		0.91	0.92		0.89	0.92
<i>Cramér's V</i>						
Birth Cohort Group 1 (Born 1900/04)	0.76			0.61		
Birth Cohort Group 2 (Born 1905/09)	0.72	0.83		0.57	0.71	
Birth Cohort Group 3 (Born 1910/14)		0.78			0.68	
Birth Cohort Group 4 (Born 1915/19)		0.72	0.80		0.64	0.78

Note: Measures of Association are calculated based on cross tabulations of occupational status for the same persons at the start and end years of the corresponding time interval. For all workers, sample sizes vary from 8,699 to 13,706, for German refugee workers, sample sizes vary from 2,145 to 3,194.

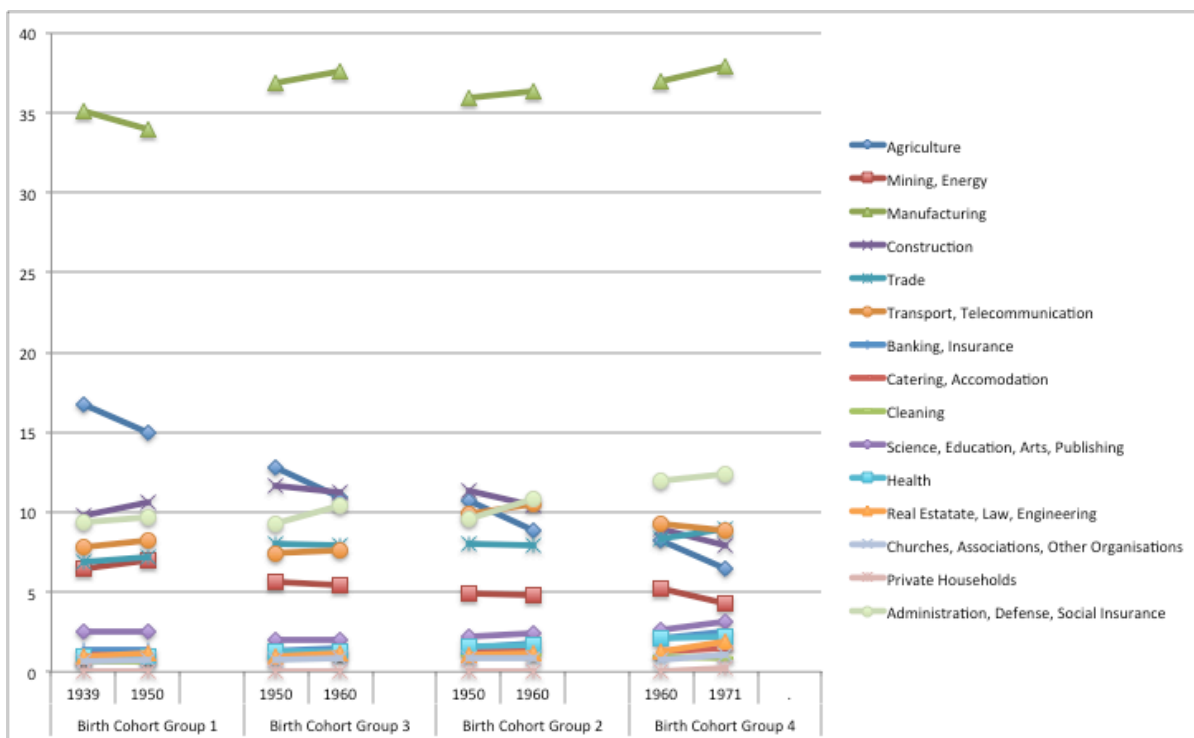
Source: Mikrozensus 1971; retrospective person-level data; male workers only; own calculations.

Figure 1: Logarithm of Real GDP of Germany, the United Kingdom, and the United States



Source: <http://www.fgn.unisg.ch/eurmacro/macrodta/datamtrx.html>, now <http://www.eurmacro.unisg.ch/macrodta/datamtrx.html>; retrieved in 2004.

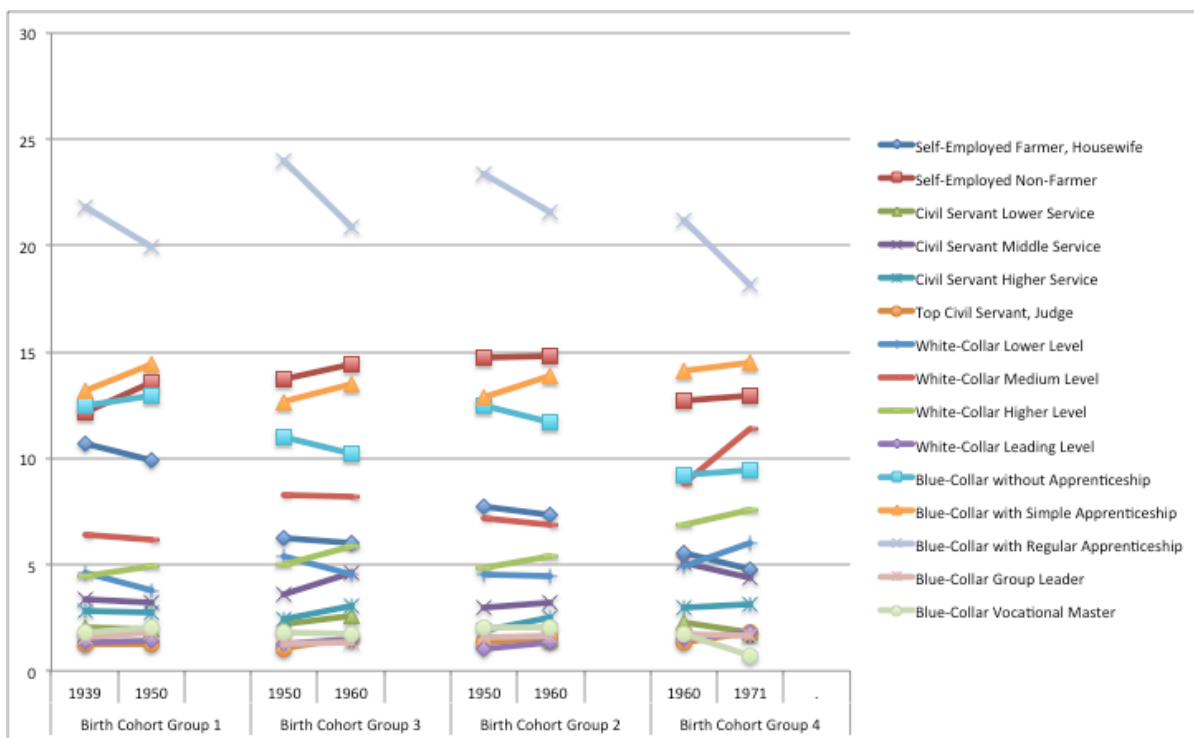
Figure 2: Distributions of Employment Industry across Time by Age Group



Note: The number of observations varies between 9,251 (Birth Cohort Group 4) and 13,888 in Birth Cohort Group 3).

Source: Mikrozensus 1971; own calculations.

Figure 3: Distributions of Occupational Status across Time by Age Group



Note: The number of observations varies between 9,185 (Birth Cohort Group 4 in 1971) and 13,706 in Birth Cohort Group 3).

Source: Mikrozensus 1971; own calculations

Appendix

Table A1: Employment Industry Distribution in 1950 (Column Percentages) by Employment Industry in 1939–Men of Birth Cohort Group 1 (Born in 1900-1904)

	1939	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	All
1 Agriculture	80	1	2	2	4	3	2	1	3	0	1	0	0	0	17	2	15
2 Mining, Energy	1	89	2	2	2	1	0	3	1	1	0	0	0	0	0	1	7
3 Manufacturing	9	5	83	7	7	6	6	6	11	12	6	4	8	4	33	10	34
4 Construction	6	1	3	78	2	2	2	3	1	1	1	2	1	0	0	4	11
5 Trade	1	1	2	1	77	1	5	6	1	2	3	4	1	0	0	4	7
6 Transport, Telecommunication	1	1	2	3	1	85	2	1	1	1	1	2	0	0	0	2	8
7 Banking, Insurance	0	0	0	0	0	1	0	76	1	0	0	0	0	6	0	1	1
8 Catering, Accommodation	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	1	1
9 Cleaning	0	0	0	0	0	0	0	1	1	78	1	1	0	0	0	0	1
10 Science, Education, Arts, Publishing	0	0	1	0	0	0	0	0	1	1	84	1	0	0	0	2	3
11 Health	0	0	0	0	0	1	0	0	0	0	0	87	0	0	0	0	1
12 Real Estate, Law, Engineering	0	0	0	0	0	1	0	1	0	1	0	0	83	0	0	2	1
13 Churches, Associations, Other Organisations	0	0	0	0	0	0	0	0	1	0	1	0	0	82	0	1	1
14 Private Households	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0
15 Administration, Defense, Social Insurance	2	2	4	3	6	3	4	5	3	3	3	1	4	6	0	71	10
Sum of Column Percentages	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: The entries in the table indicate the percentage of workers who worked in industry “row” in 1950 among all workers who worked in industry “column” in 1939. For example, the first entry states that 80 percent of workers who worked in agriculture in 1939 were still working in agriculture in 1950. The table is based on 11,264 observations.

Source: Mikrozensus 1971; retrospective person-level data; male workers only; own calculations.

Table A2: Employment Industry Distribution in 1960 (Column Percentages) by Employment Industry in 1950—Men of Birth Cohort Group 3 (Born in 1910-1914)

	1950	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	All
1 Agriculture	77	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	9
2 Mining, Energy	1	85	1	1	1	0	0	0	0	1	0	0	1	0	0	1	5
3 Manufacturing	10	6	87	12	9	5	3	10	6	6	5	4	6	4	0	7	36
4 Construction	6	2	2	75	2	1	0	0	1	1	1	0	1	0	0	1	10
5 Trade	1	0	3	1	77	1	2	3	1	2	2	2	2	2	0	1	8
6 Transport, Telecommunication	1	1	2	3	2	89	1	1	1	1	1	0	1	2	13	2	10
7 Banking, Insurance	0	0	0	0	2	0	89	1	0	1	0	0	0	0	0	1	2
8 Catering, Accommodation	0	0	0	0	1	0	0	82	1	1	1	0	1	2	0	0	1
9 Cleaning	0	0	0	0	0	0	0	0	86	0	0	0	1	0	0	0	1
10 Science, Education, Arts, Publishing	0	0	0	0	1	0	1	0	0	86	0	2	3	0	1	2	2
11 Health	0	0	0	0	0	0	0	0	0	0	0	89	0	0	13	0	2
12 Real Estate, Law, Engineering	0	0	0	0	0	0	1	0	1	0	0	0	79	1	0	1	1
13 Churches, Associations, Other Organisations	0	0	0	0	0	0	0	0	0	1	1	0	1	87	0	0	1
14 Private Households	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	0	0
15 Administration, Defense, Social Insurance	2	3	3	4	5	2	4	4	4	2	3	4	5	1	13	84	11
Sum of Column Percentages	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: The entries in the table indicate the percentage of workers who worked in industry “row” in 1960 among all workers who worked in industry “column” in 1950. For example, the first entry states that 77 percent of workers who worked in agriculture in 1950 were still working in agriculture in 1960. The table is based on 13,888 observations.

Source: Mikrozensus 1971; retrospective person-level data; male workers only; own calculations.

Table A3: Measures of Association: Employment Industry–Men and Women

Age Group/ Time Period	All Workers			German Refugee Workers		
	1939- 1950	1950- 1960	1960- 1971	1939- 1950	1950- 1960	1960- 1971
<i>Pearson's Contingency Index</i>						
Birth Cohort Group 1 (Born 1900/04)	0.92			0.88		
Birth Cohort Group 2 (Born 1905/09)	0.91	0.93		0.87	0.91	
Birth Cohort Group 3 (Born 1910/14)		0.93			0.91	
Birth Cohort Group 4 (Born 1915/19)		0.92	0.91		0.89	0.90
<i>Cramér's V</i>						
Birth Cohort Group 1 (Born 1900/04)	0.78			0.61		
Birth Cohort Group 2 (Born 1905/09)	0.74	0.84		0.59	0.73	
Birth Cohort Group 3 (Born 1910/14)		0.81			0.71	
Birth Cohort Group 4 (Born 1915/19)		0.76	0.73		0.66	0.68

Note: Measures of Association are calculated based on cross tabulations of employment industry for the same persons at the start and end years of the corresponding time interval. For all workers, sample sizes vary from 13,046 to 19,901, for German refugee workers, sample sizes vary from 3,016 to 4,430.

Source: Mikrozensus 1971; retrospective person-level data; own calculations.

Table A4: Measures of Association: Occupational Status–Men and Women

Age Group/ Time Period	All Workers			German Refugee Workers		
	1939- 1950	1950- 1960	1960- 1971	1939- 1950	1950- 1960	1960- 1971
<i>Pearson's Contingency Index</i>						
Birth Cohort Group 1 (Born 1900/04)	0.92			0.88		
Birth Cohort Group 2 (Born 1905/09)	0.91	0.93		0.87	0.91	
Birth Cohort Group 3 (Born 1910/14)		0.92			0.90	
Birth Cohort Group 4 (Born 1915/19)		0.91	0.92		0.90	0.92
<i>Cramér's V</i>						
Birth Cohort Group 1 (Born 1900/04)	0.78			0.63		
Birth Cohort Group 2 (Born 1905/09)	0.74	0.84		0.60	0.73	
Birth Cohort Group 3 (Born 1910/14)		0.80			0.70	
Birth Cohort Group 4 (Born 1915/19)		0.75	0.81		0.67	0.80

Note: Measures of Association are calculated based on cross tabulations of occupational status for the same persons at the start and end years of the corresponding time interval. For all workers, sample sizes vary from 11,823 to 18,194, for German refugee workers, sample sizes vary from 2,973 to 4,305.

Source: Mikrozensus 1971; retrospective person-level data; own calculations.