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24 Early retirement for the underprivileged? Using the record-linked SHARE-RV data to evaluate the most recent German pension reform

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- ▶ This paper demonstrates the potential power of linking SHARE survey data with administrative data
 - ▶ Administrative records from the German public pension provider identify those workers who benefit from the new early retirement pathway “retirement with 63” while SHARE data describe their socio-economic and health status
 - ▶ The beneficiaries of the reform are not the underprivileged as claimed by the government – they actually have a higher average net household income
 - ▶ There is no evidence that the beneficiaries are more often ill than non-beneficiaries. In fact, the opposite appears to be the case
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24.1 Introduction

As opposed to most other papers in this “First Results Book”, this paper is not based on international comparisons across the SHARE countries but advertises a special feature of the SHARE data in some countries which SHARE wants to expand in the future, namely record linkage to administrative data. Such data is produced by internal processes, e.g. in social insurances, especially public pension systems. Administrative data carry very precise information on employment and contribution histories. This permits the identification of eligible retirement pathways and the computation of pension claims. In turn, SHARE offers data on socio-demographics not available in administrative data. For retirement analyses, for instance, SHARE obtains information about the household context, rich socio-economic characteristics, education, and very detailed health measures. The resulting record-linked data sets thus combine the best of both data worlds.

As an illustration of the potential power of such record-linked combined data sets this paper analyses the most recent pension reform in Germany, based on the German “SHARE-RV” data which links German SHARE data with the employment and earnings records of the German public pension system. One of the main insights of the economics of aging is that longer life times need to be accompa-

nied by longer working lives in order to keep pension systems sustainable and to maintain living standards for the entire aging economy. Indeed, in most aging countries, reforms have increased the statutory retirement age, closed early retirement pathways, and/or reduced other incentives to retire early (Börsch-Supan 2013). Recently, however, several countries have experienced backlashes to such reforms – among others Germany. In 2014, Germany re-introduced early retirement at age 63 without actuarial adjustments (down from age 65) for workers with 45 years of contributions to the pension system (Deutscher Bundestag 2014). This very popular move by the new government was motivated by the desire to help underprivileged workers who are more likely to be worn out by long work histories, typically in less well-paid and physically demanding jobs.

The subject of this paper is whether the reform achieved this aim. The administrative data are crucial to identify the eligibility for the new early retirement pathway. In turn, SHARE data is needed to assess the health and socio-economic status of eligible workers. Only the combined data set can answer the question whether the eligible workers are indeed underprivileged.

24.2 Retirement pathways in Germany

Since 2007, Germany has three pathways to receiving old-age pensions (in addition to disability pensions):

- A. Normal retirement in Germany is at age 65 which is being gradually increased to age 67. Workers are vested for normal retirement benefits once they have contributed five years to the system. This includes contributions on behalf of the worker during unemployment and child care.
- B. Workers with at least 35 years of contributions can retire up to two years earlier but their benefits are reduced by 0.3 percent for each month of earlier retirement. Actually, years of education and years which have been spent for raising children (up to ten years) are counted even if no contributions were paid.
- C. Workers with at least 45 years of contributions are exempt from the increase of the normal retirement age to 67. However, those contribution years have been defined much more narrowly than the 35 years in the preceding paragraph: they neither include times of child raising nor of unemployment.

The reform in 2014 introduced a fourth pathway which is substantially more generous:

- D. Workers with at least 45 years of contributions can receive full pension benefits at age 63 without actuarial deductions. These 45 contribution years are

defined much broader than previously and include periods of child raising, schooling and short-term unemployment (periods up to two years, except if immediately before retirement). The new pathway's eligibility age of 63 will increase gradually to 65 in parallel to the increase of the normal retirement age (65 to 67). Hence, the main advantages of this new pathway apply to the cohorts born between 1952 and 1964, with decreasing attractiveness.

The intention to introduce this new pathway was to compensate individuals who worked especially long and hard during their life, and consequently suffered from extra burdens. Accordingly, times of long-term unemployment were not counted toward the 45 years as these do not reflect burdensome employment.

24.3 Linking SHARE to administrative data

SHARE-RV stands for the German subsample of SHARE that is linked to administrative records of the German public pension system. It is now integrated as a standard module of the German SHARE questionnaire. The combination of accurate administrative data and profound information about different aspects of the respondents' lives in SHARE-RV provide a wide range of research possibilities. Funding for this subproject was provided by the VolkswagenStiftung and the Forschungsnetzwerk Alterssicherung (FNA). (For more information on SHARE-RV, see <http://www.share-project.org/data-access-documentation/record-linkage-share-rv.html>).

SHARE-RV is based on direct linkage, meaning that the records of exactly the same SHARE respondents were linked using the respondents' Social Security Number (SSN) as a unique identifier. Respondents are asked for written consent during the interview on a form which also collects the respondent's SSN and some basic demographics to identify persons if the SSN is erroneous. Since not all respondents give consent and not all Germans are enrolled in the public pension system, SHARE-RV is a subset of the German SHARE data. The linkage rate in Wave 5 is 61.3 per cent, resulting in 3,485 individual observations. We use a preliminary version of this dataset with 3,339 linked observations and hence a linkage rate of 59.4 per cent. The administrative data base covers all insured employees with information about respondents' working history until the end of 2012. From the administrative data base, a large scientific use file with around 60,000 individuals is drawn yearly, which has been used in previous research (e.g. Börsch-Supan et al. 2014). Figure 24.1 shows the various samples and their overlaps.

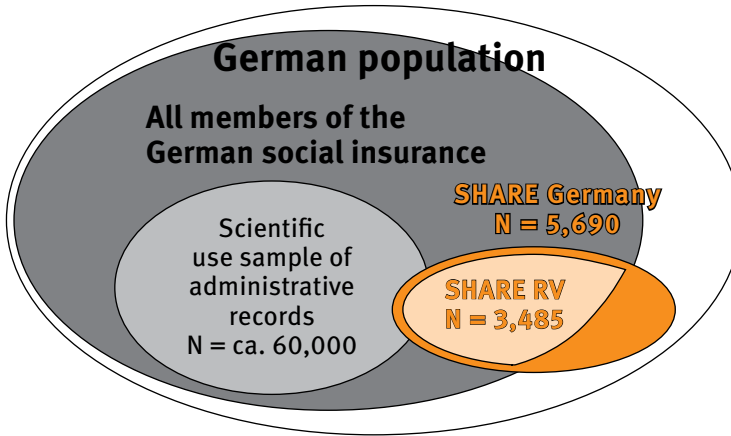


Figure 24.1: Samples drawn from administrative records and SHARE

Source: Authors' own figure

24.4 Results from the administrative data

A recent paper by Börsch-Supan et al. (2014, referred to as BSCR-2014) employs the large scientific user file of the administrative records in order to analyse who is eligible for the new early retirement pathway. These records provide almost exact information on income subject to social security taxation, time spent in employment, therefore pension entitlements, and time spent on sickness leave. These data do not, however, include other income sources, especially in a household context, and direct health data.

The BSCR-2014 paper shows that those employees who are eligible for the new “retirement at age 63” have, on average, higher pension entitlements as well as more continuous and stable working histories, higher incomes, but shorter periods of employment with social insurance contributions than those not eligible. Moreover, there is no evidence that eligible employees are more likely to be sick at the end of their working life – at least when measured by the days reported as sick leave. Rather, the contrary is the case. These are surprising results which contradict the originally claimed purpose of the legislation, namely to help the underprivileged who worked especially long and hard during their lives and consequently suffered from extra burdens. A drawback of the analysis by BSCR-2014 is that it is based solely on administrative data and no direct information on health and the household context is available to evaluate the overall effectiveness of the reform. In this paper we aim to fill this gap.

24.5 Results from SHARE-RV

SHARE-RV has a much richer data set than the administrative records of the German Social Security system. In particular, SHARE data include other income sources than those subject to social security taxation, measure income also in the household context, and feature a very broad set of health measures. SHARE data also identifies education and type of job in more detail than the administrative data. The sample size, however, is relatively small.

Our analytical sample includes individuals born between 1942 and 1952. These are not exactly the cohorts who are potentially eligible for the new retirement path. However, the eligible cohorts have not completed their employment histories until age 63 yet. Thus, our assumption is that employment patterns between these slightly older cohorts and the eligible cohorts do not differ fundamentally. The resulting sample size is 1,200 individuals.

We also need to overcome a major glitch in the German legislation which introduced the new early retirement pathway. The historical records of the German social security system did not systematically distinguish between short- and long-term unemployment. This is due to the fact that during most times, it was neither necessary nor legally allowed to store this information. Hence, employees who apply for “retirement at age 63” have to provide such data themselves in a written statement which is legally equivalent to a statement under oath. To determine eligibility for the new retirement path, we follow the approach by BSCR-2014 and distinguish four sets of assumptions in handling unemployment spells. We bracket possible outcomes with two extreme assumptions and present two intermediate sets of assumptions:

- a. No unemployment spells are counted as contribution years.
- b. Unemployment spells in which the administrative data cannot differentiate between short- and long-term unemployment are subtracted from the contribution years.
- c. Unemployment spells in which the administrative data cannot differentiate between short- and long-term unemployment are counted until the end of 1997; only spells explicitly coded as short-term unemployment are counted as contribution years from January 1998 onwards.
- d. All unemployment spells are counted as contribution years.

In the following figures, we denote individuals eligible for the new early retirement pathway as “WZ45x” where x refers to one of the four assumptions above. These individuals represent the “treatment group”.

As comparison (or “control”) group, we choose all individuals who are eligible for early retirement after 35 years of contributions with actuarial deductions (see Pathway B in section 24.2). This group of individuals is termed “WZ35”.

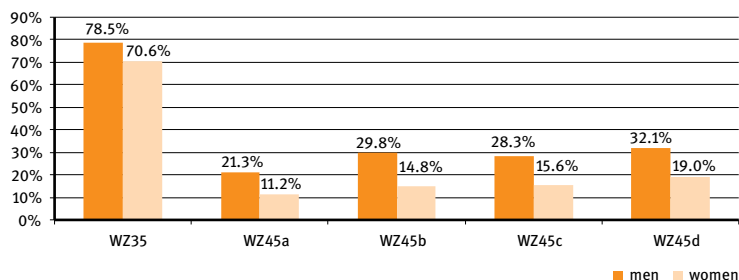


Figure 24.2: Eligibility for early retirement by gender and for different eligibility assumptions

Notes: $n = 1,200$

Source: Authors' own calculations, SHARE Wave 5 release 0

Even when using a conservative definition of eligible periods of unemployment, Figure 24.2 shows that the new pathway is relevant for a substantial share of employees. Around 30 per cent of male employees aged 60 and older could take early retirement without actuarial adjustments, either in three years or even sooner, depending on their current age. This corresponds to about 40 per cent of those who could draw pension benefits only with actuarial deductions before the reform. The share of female employees eligible for the new pathway is much lower – about 15 per cent of those in the chosen age range or about 22 per cent of those eligible to Pathway B.

Figure 24.3 replicates the finding of BSCR-2014 on the only health indicator available in the administrative data. Contradictory to the originally claimed intent, those eligible for the new early retirement pathway appear healthier, at least measured in terms of months of sickness leave between age 50 and 59. However, and opposed to the results derived from the much larger scientific use file of the administrative records, the estimates derived from SHARE-RV have large standard errors and the differences between treatment and control groups are not significant.

As opposed to the administrative records, SHARE-RV has a large number of health indicators. In the sequel of this paper, we select four health measures: the most generous and the most salient indicator with respect to labour force participation, and the most subjective and the most objective health measure available in the SHARE data.

We begin with the general health indicators. The most subjective health measure available in the SHARE data is self-assessed health (on a scale ranging from 1 – “excellent” to 5 – “poor”); its most objective counterpart is the number of chronic illnesses which the respondents have been told by their doctors.

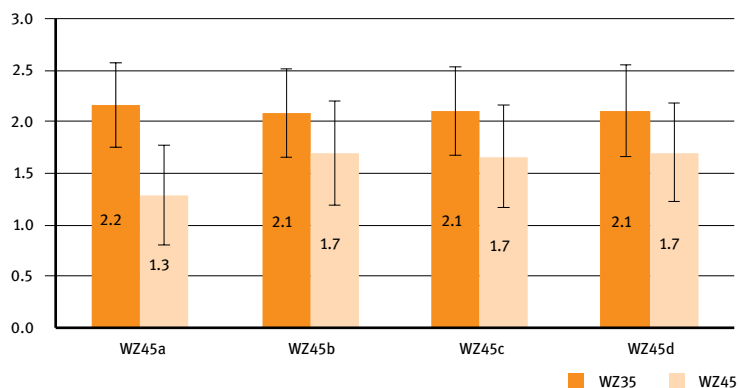


Figure 24.3: Months with sickness leave between age 50 and 59

Notes: $n = 848$

Source: Authors' own calculations, SHARE Wave 5 release 0

There are no substantive differences in terms of self-assessed health, measured in the left panel of Figure 24.4 as the share of individuals reporting only fair or poor health. The more unemployment years are counted towards the 45 contribution years, the worse is self-assessed health. Our interpretation is that this reflects the correlation between unemployment and health that has been found in earlier analyses, e.g. Schröder (2013). The differences, however, are neither statistically significant nor meaningful in substance.

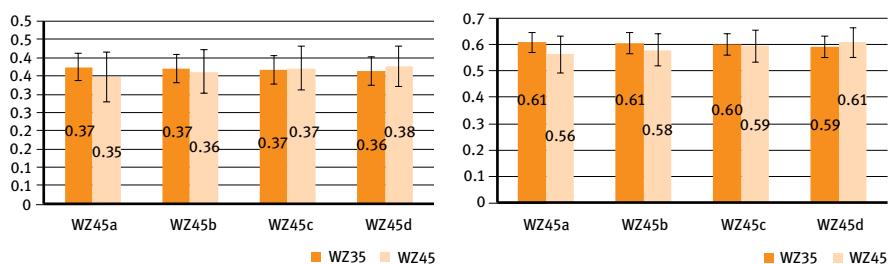


Figure 24.4: Share of individuals with self-assessed fair or poor health (left panel), and share reporting at least one chronic condition (right panel)

Notes: $n = 825$

Source: Authors' own calculations, SHARE Wave 5 release 0

A similar finding holds for chronic illnesses. The right panel of Figure 24.4 shows the share of individuals with at least one chronic illness that a doctor has told them about. Taking a very generous assessment of which unemployment spells

are counted against the 45 years of contributions, we find that those eligible for “retirement with 63” are slightly more likely to report at least one chronic condition.

While the general health measures show essentially no difference between treatment and control group, the more salient measures with respect to work ability produce very different results. We begin with the subjective measure. The left panel of Figure 24.5 shows that less than a quarter of those eligible for early retirement at age 63 self-report a health problem which limits the type or amount of work they are doing. This percentage is lower than for the individuals in the comparison group. While the difference between treatment and control group is large in substantive terms and robust across all four assumptions on unemployment duration, it is not statistically significant (probably due to the small number of 185 observations in the treatment group).

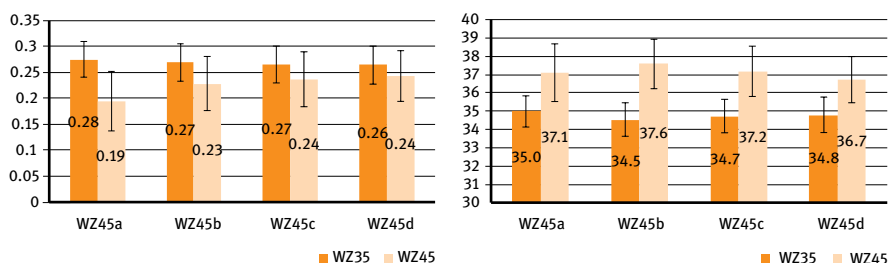


Figure 24.5: Share of respondents with limitations in the type or amount of work they can do (left panel), and grip strength in kilogram (right panel)

Notes: $n = 825$ (left panel), $n = 795$ (right panel)

Source: Authors' own calculations, SHARE Wave 5 release 0

This finding is even stronger for the objective measure. The left panel of Figure 24.5 shows grip strength, measured in kilogram. Grip strength is much stronger for those eligible for the new early retirement pathway, and the results are not only substantive in terms of kilogram but also statistically significant for the two less extreme assumptions about unemployment duration. We conclude that those individuals who are eligible for the new early retirement pathway are actually healthier, at least as it concerns their ability to work, than the control group.

They also live in households with a higher monthly household net income as the left panel of Figure 24.6 documents. The difference is about €2,000 or about 50 per cent, hence rather large in economic terms, but the variance in the treatment group is very large; hence, none of the differences is significant.

Finally, we try to identify “Facharbeiter” (specialists), i.e. highly qualified workers without a university education. This group of workers has attracted much attention in recent discussions about labour market shortages in Germany. Some

have advised to make additional efforts to increase migration by such workers; others have pointed out that they are most likely to enjoy early retirement by the new legislation. In an attempt to test the latter hypothesis, we have identified those individuals who have no university degree (measured by their ISCED code being below 5) but have a highly skilled occupation (measured by their ISCO code being below 4). The right panel of Figure 24.6 confirms that the share of such individuals is higher among those eligible for the new early retirement pathway as compared to the control group.

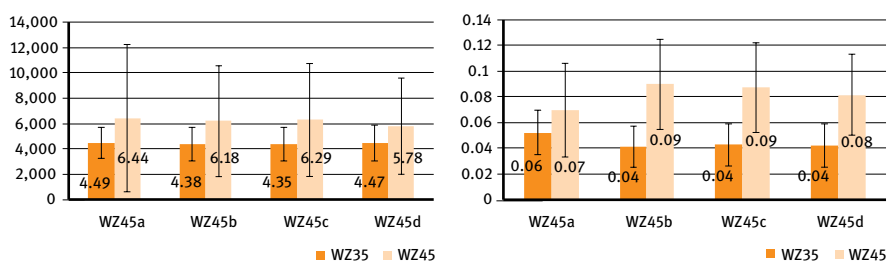


Figure 24.6: Monthly net household income in Euro (left panel) and share of workers with special qualification (right panel)

Notes: $n = 534$ (left panel), $n = 838$ (right panel)

Source: Authors' own calculations, SHARE Wave 5 release 0

24.6 Multivariate analysis

Since health is correlated with age, gender and socio-economic status, the final step in our analysis is to correct for these potentially confounding factors. Table 24.1 shows that the main conclusions from the bivariate comparisons in Figures 24.3 through 24.6 hold in a multivariate regression analysis. Our preferred specification is WZ45b. Those eligible for the new early retirement pathway had significantly fewer sick days when they were between age 50 and 59, and significantly fewer of them report work limitations. These results are robust with respect to linear, logit and probit specifications.

Table 24.1: Multivariate analysis of eligibility for retirement at 63

	WZ45a		WZ45b		WZ45c		WZ45d	
	Coeffi-	t-stat	Coeffi-	t-stat	Coeffi-	t-stat	Coeffi-	t-stat
	cient		cient		cient		cient	
Age	0.001	0.22	0.005	1.07	0.001	0.25	0.007	1.29
Female	-0.135	-4.56	-0.200	-6.23	-0.175	-5.44	-0.179	-5.39
HH net income	0.000	0.75	0.000	0.82	0.000	0.85	0.000	0.53
Specialist	-0.017	-0.26	0.095	1.36	0.075	1.06	0.056	0.77
ISCED	-0.064	-4.47	-0.094	-6.05	-0.095	-6.04	-0.117	-7.27
Sickdays 50–59	-0.007	-2.46	-0.006	-1.96	-0.007	-2.00	-0.008	-2.44
Work limitations	-0.079	-2.31	-0.067	-1.83	-0.050	-1.34	-0.045	-1.18
Constant	0.491	1.59	0.417	1.25	0.668	1.99	0.453	1.31
N	817		817		817		817	
R2	0.0513		0.0857		0.0729		0.0890	

Source: Authors' own calculations, SHARE Wave 5 release 0

24.7 Conclusions

Record-linked data sets such as SHARE-RV try to combine the best of both worlds: administrative data have very precise information on employment history and resulting pension claims while SHARE offers data on socio-demographics which are not available in administrative data, has income information on the household context and a broad set of very detailed health measures. In the illustrative example of this paper, the administrative data are crucial to identify the eligibility for the new early retirement pathway in Germany. In turn, SHARE data are needed to assess the health and socio-economic status of eligible workers. Only the combined data set can answer the question whether the eligible workers are indeed underprivileged.

The paper shows that SHARE cannot afford much smaller sample sizes, especially when targeted at a special group of individuals such as those eligible for a new early retirement pathway or similar targeted policy reforms because this would make it even more difficult to establish statistically significant results.

In terms of substance, the results taken together produce quite a clear picture. If the aim of the new German early retirement pathway was to target the underprivileged with bad health, then the SHARE-RV data provides no evidence that the policy achieved that aim – rather, the contrary appears to be the case.

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