

11 Pension coverage today and in the future

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- ▶ Coverage rates for private and occupational pensions vary widely across SHARE countries
 - ▶ In all countries coverage rates for private pensions are higher among future pensioners
 - ▶ There is a growing importance of supplementary pensions in Europe in the future
 - ▶ Financial and housing wealth is strongly intertwined with entitlements to supplementary pensions
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11.1 Fundamental reforms of pension systems

Pension systems in Europe as well as in other countries of the industrialised world have been subject to fundamental reforms (Börsch-Supan 2013). As mentioned by Callegaro and Wilke (2008), three main reform trends can be observed: the increasing importance of supplementary pension schemes, the trend towards defined-contribution systems and an effort to further extend social security coverage to better cope with poverty in old age.

Following the common practice in pension policy analysis, pension schemes can be described using a distinction between pillars and tiers. Pillars describe the sector in which the pension programme is located: the first pillar refers to the public sector pay-as-you-go or funded pension, the second pillar to occupational pension schemes and the third pillar to individual private sector pensions. Additionally, tiers indicate the function of a pension benefit with respect to income security in old age. The first tier provides basic social security through targeted, minimum or flat-rate basic pensions, the second tier aims to maintain the standard of living through earnings-related benefits. The third tier is a topping-up of income in old age through voluntary saving or fringe benefits for high-skilled employees (Ebbinghaus 2011). Tiers can also be used to indicate whether these benefits are mandatory or voluntary. While most first pillar schemes in Europe have universal coverage, second and third pillar schemes are more often voluntary leading to varying degrees of coverage across countries and demographic groups.

In this article we focus on the increasing role of supplementary pensions in terms of *coverage rates*. We are not taking into account the *level* of entitlements which will be addressed in later research. This chapter is structured as follows. Section two describes public pension coverage for today's pensioners. Section three investigates coverage rates of supplementary pension schemes for today's

and future pensioners. In section four we conduct probit regression analyses to investigate which factors influence entitlements to supplementary pensions of today's and future pensioners. Section five concludes.

For our analyses, we use individual cross-sectional data from the employment and pensions section (EP) of SHARE Wave 4 providing detailed information on pension coverage both for today's pensioners and working or unemployed individuals. We combine this data with selected demographic and socio-economic characteristics from the demographic module (DN), the children module (CH) and the consumption module (CO). Information on housing and financial wealth is provided in the assets section (AS). For longitudinal respondents, previous waves of SHARE are used to take account of demographic characteristics that were only asked in the baseline interview, i. e. when respondents were interviewed for the first time.

In most countries, data collection for SHARE Wave 4 took place in 2011. However, in Estonia field work already started in 2010 while Poland collected data in 2012. To be able to compare countries, we restrict our descriptive analysis to respondents interviewed in 2011. Therefore, Poland and Estonia are excluded. Thus, we end up with 14 countries, including Denmark and Sweden in Northern Europe and Austria, Belgium, France, Germany, the Netherlands and Switzerland in Western Europe. Italy, Portugal and Spain are referred to as Mediterranean European countries. As Eastern European countries we include the Czech Republic, Hungary and Slovenia in our analysis. To deal with problems of sample attrition and unit non-response, the descriptive statistics are weighted with calibrated individual weights (Deville & Särndal 1992).

We limit our analysis to persons who respond to be retired (today's pensioners) ($N = 27,593$) and today's population of working age (future pensioners), i. e. respondents considering themselves to be employed, self-employed or unemployed ($N = 14,717$).

11.2 Public pension coverage of today's pensioners

For today's pensioners, SHARE provides detailed information concerning first pillar pensions. A pensioner, i. e. a person who responds to be retired, is covered by the public pension system if he or she receives an old age, an early retirement or a survivor pension. If respondents consider themselves retired and receive some kind of disability pension or unemployment benefits, they are also included in this category since these ways to leave the labour market are considered to be

main pathways into retirement in many European countries. Those alternative pathways were most often used in Slovenia, Portugal, Hungary and the Czech Republic. Here, unemployment or disability schemes might be more easily available, more generous or used more often as a solution to economic problems (e. g. high unemployment rates and industrial restructuring).

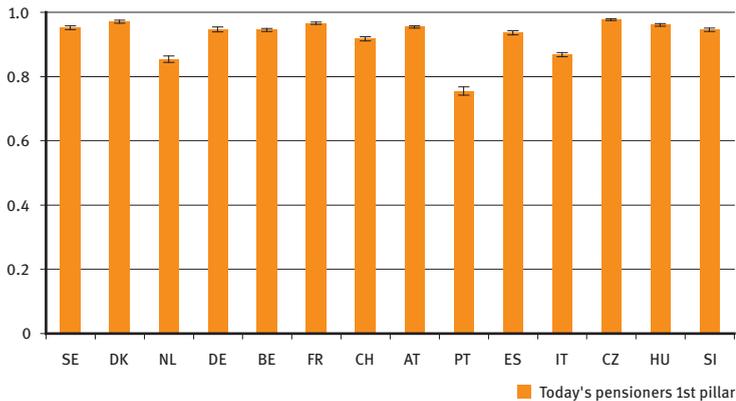


Figure 11.1: Public pension coverage of today's pensioners across countries for SHARE in 2011
 Notes: Sample size 27,593. Weighted observations.
 Source: SHARE Wave 4 release 1

When we look at the public pension coverage we find very similar rates across countries (Figure 11.1). In most SHARE countries, more than 90 per cent of today's pensioners receive benefits from public pension schemes. The only exceptions are the Netherlands and Italy with coverage rates of 85 to 87 per cent and Portugal with 76 per cent respectively. It might be the case that the respondents do not consider any type of means-tested basic pension to be part of the public pension scheme. Universal coverage rates of public pensions can also be expected in the future. Since we are having a focus on the increasing role of supplementary pensions due to recent pension reforms, we do not present figures on public pension claims for non-retired individuals.

11.3 Occupational and private pension coverage for today's and future pensioners

For today's pensioners the picture of second pillar coverage is different (Figure 11.2). As occupational pension we define every type of pension provided through the employer, i. e. old age, early retirement, disability and survivor benefits from a job. Coverage rates are the highest in the Netherlands, Sweden and Switzerland where between 70 and 50 per cent of today's pensioners receive an occupational pension. Here, high coverage rates are mostly achieved due to quasi-mandatory systems where employees must join schemes that their employers established through industry-wide or nationwide collective bargaining agreements. In Portugal, Denmark and Germany between 25 and 37 per cent of today's pensioners state to receive pensions from company pension schemes. In those countries occupational pensions are mostly voluntary. Nonetheless, a recent study of the OECD finds higher coverage rates for Denmark of about 58 per cent compared to the results of SHARE (OECD 2012). One obvious reason for the difference is that the OECD provides coverage rates with respect to the total working age population (i. e. individuals aged 15 to 64) while we focus on today's pensioners. In the remaining countries, second pillar pensions only play a minor role covering less than ten per cent of today's pensioners. As public pension systems were quite generous in the past and occupational pensions both voluntary and less important to secure the standard of living in old age, today's pensioners in those countries have at large lower coverage rates compared to other SHARE countries where employer pension plans have a long tradition and are well established.

For employed, self-employed or unemployed future pensioners we identify a growing role of occupational pension schemes in providing for old age in almost every SHARE country investigated compared to today's pensioners (also Figure 11.2). The only countries with a stronger decline in coverage rates compared to today's pensioners are Portugal, Spain and the Czech Republic. Due to the recent financial and economic crisis, respondents in those countries might face a higher risk of unemployment or drastic cuts to pension entitlements and therefore contribute less to occupational plans. In Sweden, the Netherlands, Denmark and Switzerland, more than 70 per cent of respondents expect to receive retirement income from occupational schemes. In France, Germany, Belgium and Italy between 18 and 36 per cent of today's working or unemployed individuals responded to expect receiving a second pillar pension in the future. In the other countries investigated occupational pensions will continue to play only a minor role in the overall retirement income system.

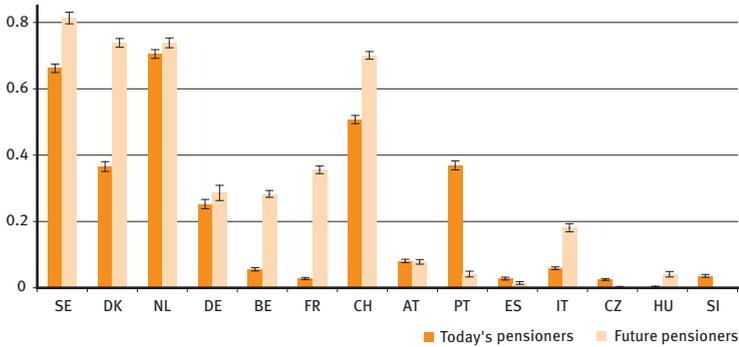


Figure 11.2: Occupational pension coverage of today's and future pensioners across countries for SHARE in 2011

Notes: Sample size 14,717. Weighted observations.

Source: SHARE Wave 4 release 1

To be covered by or entitled to private sector pensions we define all today's and future pensioners that state to receive or expect to receive regular life insurance payments and/or regular private annuities or private personal pension payments respectively as well as respondents that state to put money away in individual retirement accounts. Based on this rather narrow definition of third pillar pensions, we are able to support earlier work using previous waves of the SHARE data set (Brunner et al. 2005, Callegaro & Wilke 2008). For today's pensioners we confirm that private pensions only play a minor role in the overall retirement income system with the exceptions of Sweden, Denmark, France and the Czech Republic (Figure 11.3). In those countries, between 20 and 36 per cent of today's retirees receive income from private schemes. In all other countries investigated, coverage rates are below ten per cent, only Belgium has a slightly higher coverage rate of 15 per cent. One obvious explanation is that private savings were less important to maintain the standard of living in old age in the past due to generous public sector pay-as-you-go and occupational pensions. Furthermore, today's pensioners are not affected by the recent reforms aiming at the increasing role of supplementary pensions.

For future pensioners the picture looks quite different (also Figure 11.3). Actually, in all countries investigated we see that coverage rates are increasing considerably compared to respondents already retired confirming again the increasing importance of supplementary pension schemes in the overall retirement income system. The highest coverage rates are found among non-retired individuals in Sweden, the Czech Republic, Belgium and Denmark where coverage rates rise to 60 and almost 70 per cent. Apart from pension reforms, one possible explanation

for this strong increase could also be that respondents might confound to which pillar their pension claims belong to. In Sweden for instance, a pension reform led to the introduction of a mandatory funded scheme with individual investment accounts in 1999. Since the insured can freely decide on their fund portfolio it might be the case that many respondents consider this to be a private pension although it is in fact part of the public pension scheme. This might lead to an overestimation of coverage rates. According to Sjögren Lindquist and Wadensjö (2011) only about one third of the Swedish working population pays contributions to voluntary individual pension schemes. Nonetheless, this trend of increasing importance of private sector pensions can also be observed in Switzerland and France where about half of the future pensioners are entitled to such schemes. Still about one third of the non-retired respondents state to be entitled to third pillar pensions in Portugal, Germany, Austria and Spain. In the remaining SHARE countries investigated entitlements to private schemes only play a minor role. A reason for this might also be the rather narrow definition of third pillar pensions we used for our analysis.

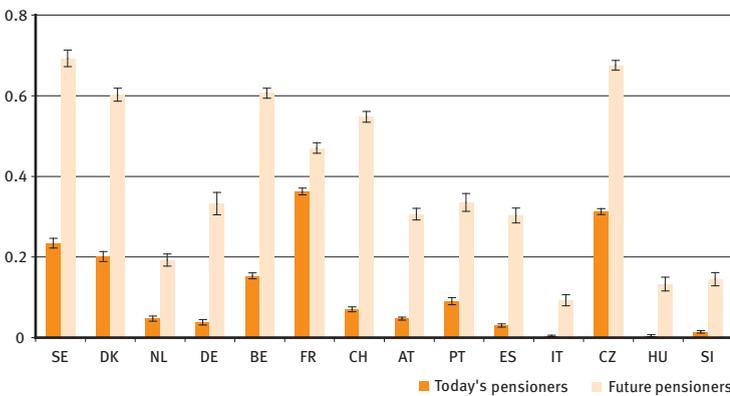


Figure 11.3: Private pension coverage of today's and future pensioners across countries for SHARE in 2011

Notes: Sample size 14,717. Weighted observations.

Source: SHARE Wave 4 release 1

11.4 Correlates of supplementary pension entitlements

Based on these descriptive statistics we conduct probit regressions to investigate which factors influence coverage by or entitlements to occupational and private pension schemes both for today's and future pensioners. Our dependent variables "receipt of or entitlement to an occupational pension" and "receipt of or entitlement to a private pension" are binary. They take the value one if a respondent receives or expects to receive income from such a scheme in old age.

To control for country-specific characteristics of pensions schemes we include country fixed effects in all regressions. In addition, we include Poland and Estonia in our analyses and also include dummy variables for month and year of interview to account for time and interviewer effects during fieldwork. The regression tables report the average marginal effects for occupational and private pension claims both for today's and future pensioners.

Table 11.1: Correlates of occupational pension entitlement/reciency. Average marginal effects from probit regressions

Variables	Today's pensioners		Future pensioners	
	Average Marginal Effect	Delta-method Std. Err.	Average Marginal Effect	Delta-method Std. Err.
Pension entitlements/reciency				
Private pension (dummy)	0.003	(0.0076)	0.077***	(0.0079)
Socio-demographics				
Male (dummy)	0.033***	(0.0041)	0.032***	(0.0072)
Age (years)	0.000	(0.0003)	-0.003***	(0.0009)
Married (dummy)	-0.005	(0.0071)	0.021*	(0.0108)
Divorced (dummy)	0.004	(0.0089)	0.023*	(0.0124)
Widowed (dummy)	0.032***	(0.0078)	0.016	(0.0210)
No. of children	-0.005***	(0.0015)	-0.003	(0.0028)
Years of education	0.003***	(0.0005)	0.005***	(0.0009)
Retirement status				
<i>(ref. regular retirement)</i>				
Disability as reason for retirement	0.016**	(0.0065)		
Early retirement	0.028***	(0.0043)		
Employment situation				
Unemployed (dummy)			-0.104***	(0.0358)
<i>Labour force status (ref. employee)</i>				
Civil servant			-0.062***	(0.0102)
Self-employed			-0.103***	(0.0133)

Variables	Today's pensioners		Future pensioners	
	Average Marginal Effect	Delta-method Std. Err.	Average Marginal Effect	Delta-method Std. Err.
Financial and housing wealth				
Able to make ends meet (dummy)	0.019***	(0.0047)	0.012	(0.0093)
Own house/apartment (dummy)	0.004	(0.0045)	-0.017*	(0.0089)
No. of own cars	-0.003	(0.0033)	0.000	(0.0051)
Own firm/company/business	-0.031**	(0.0126)	0.021	(0.0130)
Has bonds	0.010	(0.0067)	0.006	(0.0123)
Has stocks	0.021***	(0.0056)	0.022**	(0.0094)
Has mutual funds	0.023***	(0.0060)	0.029***	(0.0102)
Controlled for country fixed effects	yes		yes	
Controlled for time fixed effects	yes		yes	
No. of observations	20,762		9,097	
Pseudo-R ²	0.39		0.43	

Significance: *** = 1%, ** = 5%, * = 10 %

Notes: Average marginal effects from probit regressions with robust standard errors clustered at household level in parentheses. All regressions include dummy variables for country and year and month of interview.

Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0, Wave 3 release 1, Wave 4 release 1

Table 11.1 summarises the results for occupational pensions. The regressions for occupational pension entitlements or receipt of an occupational pension explain about 39 per cent for today's pensioners and 43 per cent for future pensioners of the total variation measured as the pseudo-R². These high values for pseudo-R² are driven by the included country dummies and indicate the strong influences of the characteristics of pension schemes on the national level. With regard to occupational pensions the socio-demographic characteristics male, widowed and years of education bear the expected positive statistically significant correlation with the dependent variable for today's pensioners. For retired respondents the number of children is negatively correlated. For future pensioners being male and years of education also correlate significantly with occupational pension claims, while the number of children is no longer significant.

For future pensioners every employment situation compared to the reference group (employee) is associated with a lower probability of being member of an occupational pension scheme. That might be due to the reason that they are often linked to dependent employment, i. e. there are basically no employer pension plans available for self-employed persons. What is surprising at first glance is

the lower probability of civil servants to have an occupational pension entitlement. This might be due mainly to the high socio-economic status of this group of people with rather safe and well-paid jobs. Therefore, they are easily able to fulfill private pension plans. Additionally, occupational pensions are not even available to civil servants in some SHARE countries.

When it comes to the retirement status of today's pensioners, alternative pathways to leave the labour market, i. e. early retirement and disability as a reason to retirement, are positively correlated to receiving a second pillar pension compared to the reference group (regular old age pension). Concerning the wealth variables we observe the expected signs. Significantly positively correlated are holding stocks and mutual funds both for today's and future retirees. For retired respondents being able to make ends meet bears a positive correlation while owning a business is negatively correlated when it comes to occupational pension claims. The latter might again be due to the fact that occupational pensions are mostly related to dependent employment.

Table 11.2: Correlates of private pension entitlement/reciency. Average marginal effects from probit regressions

Variables	Today's pensioners		Future pensioners	
	Average Marginal Effect	Delta-method Std. Err.	Average Marginal Effect	Delta-method Std. Err.
Pension entitlements/reciency				
Occupational pension (dummy)	0.007	(0.0066)	0.112***	(0.0127)
Socio-demographics				
Male (dummy)	0.003	(0.0041)	-0.007	(0.0089)
Age (years)	-0.005***	(0.0003)	-0.004***	(0.0011)
Married (dummy)	-0.012	(0.0076)	0.001	(0.0137)
Divorced (dummy)	-0.008	(0.0090)	0.016	(0.0161)
Widowed (dummy)	-0.007	(0.0083)	0.022	(0.0226)
No. of children	-0.002	(0.0016)	-0.006	(0.0037)
Years of education	0.002	(0.0005)	0.008*	(0.0011)
Retirement status				
<i>(ref. regular retirement)</i>				
Disability as reason for retirement	-0.001	(0.0061)		
Early retirement	0.015***	(0.0044)		
Employment situation				
Unemployed (dummy)			-0.058***	(0.0480)
<i>Labour force status (ref. employee)</i>				
Civil servant			0.039***	(0.0132)
Self-employed			-0.034**	(0.0146)

Variables	Today's pensioners		Future pensioners	
	Average Marginal Effect	Delta-method Std. Err.	Average Marginal Effect	Delta-method Std. Err.
Financial and housing wealth				
Able to make ends meet (dummy)	0.049***	(0.0046)	0.102***	(0.0105)
Own house/apartment (dummy)	0.011*	(0.0046)	0.057***	(0.0112)
No. of own cars	0.014***	(0.0031)	0.013**	(0.0062)
Own firm/company/business	0.016	(0.0116)	0.057***	(0.0144)
Has bonds	0.017**	(0.0077)	0.045***	(0.0174)
Has stocks	0.047***	(0.0058)	0.103***	(0.0123)
Has mutual funds	0.055***	(0.0060)	0.111***	(0.0138)
Controlled for country fixed effects	yes		yes	
Controlled for time fixed effects	yes		yes	
No. of observations	21,484		9,723	
Pseudo-R ²	0.31		0.19	

Significance: *** = 1%, ** = 5%, * = 10%

Notes: Average marginal effects from probit regressions with robust standard errors clustered at household level in parentheses. All regressions include dummy variables for country and year and month of interview.

Source: SHARE Wave 1 release 2.5.0, Wave 2 release 2.5.0, Wave 3 release 1, Wave 4 release 1

Table 11.2 summarises the results for private pensions both for today's and future pensioners. Similar to the previous results our regressions with country dummies for entitlements to or the receipt of a private pension explain about 31 per cent of the total variation measured as pseudo-R² for today's and 19 per cent for future pensioners respectively.

With regard to private pension plans the variable age bears the expected negative statistically significant correlation both for today's and future pensioners. All other socio-demographic variables are not significant except for the years of education which are significant for future pensioners. Early retirement correlates stronger with private pension claims for today's pensioners compared to the reference group (regular old age pension).

Similar to entitlements to occupational pensions, for today's population of working age the employment situations of being unemployed or self-employed are associated with a lower probability of being member of a private pension scheme compared to the reference group (employee). This result might change when controlling for income in the analysis. Being a civil servant bears the expected positive statistically significant correlation. As described above they

might be more easily able to fulfill private savings contracts due to the safe and well-paid jobs.

Concerning the wealth variables we observe the expected signs. Significantly positively correlated are all variables for today's working respondents. Holding stocks and mutual funds as well as being able to make ends meet increases the possibility to expect receiving private pensions the most. Owning a business is only positively significant for non-retired individuals. Since concluding a private pension contract mainly depends on the financial scope of an individual, we find higher probabilities among wealthier respondents.

When finally comparing results from both tables it becomes clear that for today's working population, the variable age which actually controls for birth cohort is negatively correlated with entitlements to an occupational or private pension. This indicates a greater relevance of supplementary pensions for younger cohorts. Entitlements to an employer or private pension plan seem to be more important for them as they are more strongly affected by recent reforms and the resulting decline in public pensions. As expected, being unemployed is also negatively correlated with entitlements to supplementary pensions among future pensioners.

Individuals that retired due to disability are more likely to receive income from an occupational pension in comparison to regular old age retirement, whereas we find no significant correlation between disability as main reason for retirement and private pension entitlements. Furthermore, among future pensioners, individuals owning real estate are more likely entitled to private pensions due to their socio-economic status. Although we obviously face reversed causality between financial and housing wealth and supplementary pension entitlements, it gives us a clear picture that these entitlements are strongly intertwined with additional sources of old age income as well.

Since a higher socio-economic status is apparently highly correlated with occupational and private pension entitlements, future research should try to shed more light on how this varies along the distribution of income in old age of future pensioners, especially for individuals at the lower end of the old age income distribution. According to our analyses, being unemployed is negatively correlated with having entitlements to supplementary pension schemes. Therefore, this group might also be of special interest for further research since they only acquire reduced entitlements to public schemes in some SHARE countries.

In addition, the influence of country-related supplementary pension patterns e. g. mandatory versus non-mandatory schemes among others should be an additional focus. When it comes to the analysis of poverty in old age, welfare regimes in terms of pension coverage might be an important determinant.

Finally when looking at both tables, future pensioners with entitlements to occupational pensions are also more likely entitled to private pensions and vice versa, while for today's pensioners these positive correlations do not exist. This simultaneity for future pensioners emphasises the growing importance of more diverse pension coverage, whereas we are not able to distinguish the causal relationships in our regressions and these basic analyses. The trend is even persistent when controlling for country-specific effects and appears to be rather general across Europe.

11.5 Summary and perspectives for future research

The main results of our descriptive statistics and regression analyses of the supplementary pension coverage in the SHARE countries in 2011 can be summarised as follows. In Sweden, the Netherlands, Denmark and Switzerland more than 70 per cent of respondents expect to receive retirement income from occupational schemes in SHARE 2011. In addition, we find a strong decline in occupational pension coverage rates among future pensioners in Portugal and Spain, which might indicate the ramifications of the recent financial and economic crisis as respondents in those countries face a higher risk of unemployment or drastic cuts to pension entitlements and therefore contribute less to occupational plans. Even when controlling for country and time fixed effects, being male and being higher educated remains important regarding the entitlement to occupational pensions among future pensioners, but play only a minor role for private pension entitlements. Overall, country-specific characteristics explain much of the variation in pension claims. Financial and housing wealth is strongly intertwined with entitlements to supplementary pensions especially when it comes to private pension coverage among both today's and future pensioners. Since we only focus on coverage rates, future research should account for the level and composition of entitlements to supplementary pensions. Although we are not able to clearly identify the causal relationships due to simultaneity and reversed causality, our results indicate the growing importance of supplementary pensions in Europe in the future. Our findings might show the first implications for supplementary pension coverage of the recent pension reform efforts for future pensioners in the SHARE population aged 50+. It remains to be seen how this trend of more diverse pension coverage from different pillars evolves over time. The SHARE study provides an excellent basis for further research as it enables us to track future pensioners in Europe till their retirement and beyond. Thus, we will e. g. be able to compare

the respondents' self-assessed pension entitlements prior to retirement with the receipt of a pension when retired in future waves. In addition, SHARE enables us to exploit variation across different welfare state regimes in Europe.

References

- Börsch-Supan, Axel (2013): "Entitlement reforms in Europe: policy mixes in the current pension reform process". In: Alesina, Alberto, Giavazzi, Francesco (Eds.): *Fiscal policy after the financial crisis*. Chicago: University of Chicago Press (to be published).
- Brunner, Johann, Riess, Cornelia, Winter-Ebmer, Rudolf (2005): "Public and private pension claims". In: Börsch-Supan, Axel, Brugiavini, Agar, Jürges, Hendrik, Mackenbach, Johan, Siegrist, Johannes, Weber, Guglielmo (Eds.): *Health, ageing and retirement in Europe. First results from the Survey of Health, Ageing and Retirement in Europe*. Mannheim: MEA, p. 241–245.
- Callegaro, Lisa, Wilke, Christina (2008): "Public, occupational and individual pension coverage". In: Börsch-Supan, Axel, Brugiavini, Agar, Jürges, Hendrik, Kapteyn, Arie, Mackenbach, Johan, Siegrist, Johannes, Weber, Guglielmo (Eds.): *First results from the Survey of Health, Ageing and Retirement in Europe (2004–2007). Starting the longitudinal dimension*. Mannheim: MEA, p. 220–227.
- Deville, Jean-Claude, Särndal, Carl-Erik (1992): "Calibration estimators in survey sampling". In: *Journal of the American Statistical Association* 87, p. 376–382.
- Ebbinghaus, Bernhard (2011): "Introduction: studying pension privatization in Europe". In: Ebbinghaus, Bernhard (Ed.): *The varieties of pension governance. Pension privatization in Europe*. Oxford: Oxford University Press, p. 3–22.
- OECD (2012): *OECD pensions outlook 2012*. Paris: OECD Publishing.
- Sjögren Lindquist, Gabriella, Wadensjö, Eskil (2011): "Sweden: a viable public-private pension system". In: Ebbinghaus, Bernhard (Ed.): *The varieties of pension governance. Pension privatization in Europe*. Oxford: Oxford University Press, p. 240–261.

