ORIGINAL INVESTIGATION

Axel Börsch-Supan · Karsten Hank · Hendrik Jürges

A new comprehensive and international view on ageing: introducing the 'Survey of Health, Ageing and Retirement in Europe'

Published online: 2 December 2005 © Springer-Verlag 2005

Abstract This paper introduces the 'Survey of Health, Ageing and Retirement in Europe' (SHARE) to researchers on ageing. SHARE provides an infrastructure to help researchers better understand the individual and population ageing process: where we are, where we are heading to, and how we can influence the quality of life as we age, both as individuals and as societies. The baseline wave in 2004 provides data on the life circumstances of some 27,000 persons aged 50 and over in 11 European countries, ranging from Scandinavia across Western and Central Europe to the Mediterranean. SHARE has made great efforts to deliver truly comparable data, so we can reliably study how differences in cultures, living conditions and policy approaches shape the life of Europeans just before and after retirement. The paper first describes the SHARE data. In order to demonstrate its value, it then presents highlights from the three main research areas covered by SHARE, namely economics, sociology, and health.

 $\begin{array}{ll} \textbf{Keywords} & \text{Ageing} \cdot \text{Cross-national research} \cdot \\ \text{Europe} \cdot \text{SHARE} \end{array}$

Introduction

This paper introduces a new data source to researchers on ageing: SHARE, the 'Survey of Health, Ageing and Retirement in Europe'. Politicians as well as scientists have now recognized that ageing is one of the greatest social and economic challenges of the twenty-first century, particularly so in Europe. By 2025, about one-third of Europe's population will be aged 60 or over, with a particularly rapid increase in the number of oldest-old citizens (cf. WHO 2002). While the demographic

A. Börsch-Supan · K. Hank (⋈) · H. Jürges
Mannheim Research Institute for the Economics of Aging,
University of Mannheim, L13-17,
68131 Mannheim, Germany

E-mail: hank@mea.uni-mannheim.de

mechanisms driving this development—lower fertility rates and longer life-spans (e.g. Hayward and Zhang 2001)—are well known, our knowledge about the social and economic consequences of population ageing is yet incomplete (e.g. Börsch-Supan 2004). Public policy clearly plays a key role here. The typical European combination of an ageing population and widespread early retirement (cf. Kohli et al. 1991), for example, puts severe strains on our social security systems' capacity to maintain today's standard of living for future generations of older people.

To cope with these and other challenges, such as growing long-term care needs (e.g. Batljan and Lagergren 2005), it is important to achieve a better understanding of the complex linkages between economic, health, and social factors that determine the quality of life of the older population. These interactions take place at the individual level in the first place; they are dynamic as ageing is a process, not a state in time, and they must be related to a country's welfare regime, i.e. its labour market institutions, social security and health care system, etc. So far, however, cross-nationally comparable microdata on the economic, social, and health situation of older people in Europe have been missing. This is the gap that SHARE is trying to fill. The interest in such data is not only considerable among academic researchers (see, e.g. the portfolio of crossnational studies collected in this journal's volume 1 issue) but they are also urgently needed to help tailor adequate public policy responses to the population ageing process.

SHARE provides an infrastructure to help researchers to better understand the individual and population ageing process: where we are, where we are heading to, and how we can influence the quality of life as we age, both as individuals and as societies. A particular aim of SHARE is to understand how the diverse historical, cultural, and institutional settings in Europe influence the ageing process and its implications for individuals.

The paper begins by describing the SHARE data set. It then demonstrates the potential value of the data for

researchers on ageing by briefly presenting selected first results from the three main research areas covered by SHARE, namely economics, sociology, and health. The last section concludes with an outlook on the future of SHARE.

The SHARE 2004 baseline wave

SHARE is modelled closely after the US Health and Retirement Study (HRS; see Juster and Suzman 1995) and the English Longitudinal Study of Ageing (ELSA; see Marmot et al. 2003). Yet, SHARE delivers another dimension: it is the first European data set to combine extensive cross-national information on socio-economics status, health, and family relationships of the older population (Börsch-Supan et al. 2005).

At this point, SHARE has collected a first baseline wave of data. A preliminary release of the data contains information on some 22,000 individuals aged 50 and older (including spouses, irrespective of age) from 15,000 households in 10 countries; see Table 1 for a detailed breakdown of the sample. Further data collection is still going on, and the final release in early 2006 will feature some 27,000 households in 11 countries, representing Europe's economic, social, institutional, and cultural diversity from Scandinavia (Denmark, Sweden) across Western and Central Europe (Austria, Germany, France, Belgium, The Netherlands, Switzerland) to the Mediterranean (Greece, Italy, Spain). Additional data will come from Israel in 2006.

The SHARE data are freely available for all researchers; see the application procedure on the project's website http://www.share-project.org. The database includes *health variables* (e.g. self-reported health, physical functioning, cognitive functioning, physical measures such as grip strength and walking speed, health behaviour, use of health care facilities), *psychological variables* (e.g. psychological health, well being, life satisfaction, control beliefs), *economic vari*

ables (e.g. current work activity, job characteristics, job flexibility, opportunities to work past retirement age, employment history, pension rights, sources and composition of current income, wealth, and consumption, housing, education), and *social support variables* (e.g. assistance within families, transfers of income and assets, social networks, volunteer activities, time use).

SHARE has made great efforts to deliver truly comparable data, so we can reliably study how differences in cultures, living conditions, and policy approaches shape the life of Europeans just before and after retirement. Hence, probability samples have been carefully drawn in each participating country and interview procedures have been harmonized with the help of a joint case management system. The questionnaire has been translated according to a protocol ensuring functional equivalence and was administered face-to-face by a computer-assisted personal interview (CAPI) plus a self-completion drop off part. The overall response rate in the face-to-face part of the survey is 57.4%, lowest in Switzerland and highest in France, see Table 1 below. Further methodological details of the study are contained in Börsch-Supan and Jürges (2005).

A large number of mainly descriptive analyses have been conducted since the end of the main data collection period of SHARE in October 2004. They are collected in Börsch-Supan et al. (2005) and can be downloaded from the project's website http://www.share-project.org. In order to provide the readers of this journal with an impression of the opportunities for new research on ageing provided by SHARE, we summarize three exemplary analyses in the sequel of this paper. All descriptive results are based on weighted data; no weights have been used in the regression analyses. The weights are calibrated to precisely reflect each country's age and gender proportions (cf. Klevmarken et al. 2005). Further substantive details of the analyses can be found in Börsch-Supan et al. (2005; see chaps. 5.4, 5.5, and 3.3) in particular).

Table 1 SHARE 2004: achieved sample by sex and age (release 0)

Country	All	Male	Female	Under 50 ^a	50–64	65–74	75+	Household response rate (%)	Individual response rate ^b (%)
Austria	1,987	820	1,167	61	1,025	560	341	57.3	87.4
Denmark	1,671	755	916	110	885	352	324	61.1	93.0
France	1,578	686	892	85	774	385	334	69.4	91.7
Germany	3,029	1,389	1,640	83	1,620	867	459	60.2	86.5
Greece	2,142	901	1,241	179	1,040	553	370	60.2	91.8
Netherlands	2,828	1,296	1,532	129	1,599	658	442	61.6	87.9
Italy	2,416	1,071	1,345	71	1,287	716	342	54.1	79.7
Spain	1,853	765	1,088	42	824	541	446	50.2	73.8
Sweden	2,066	953	1,113	58	1,060	548	400	42.1	83.8
Switzerland	1,010	468	542	59	513	237	201	37.6	86.9
Total	20,580	9,104	11,474	877	10,627	5,417	3,659	57.4	86.0

Adapted from Börsch-Supan et al. (2005)

^aRespondents younger than 50 years of age are spouses of age-eligible respondents

^bThe individual response rate can be interpreted as a 'within-household' response rate. It is calculated by dividing the number of completed personal interviews through the number of interview eligible respondents across all households in the sample

The economics of institutions: work disability insurance enrolment

Disability insurance, the insurance against the loss of the ability to work, is a substantial part of social security expenditures in almost all European countries. Disability insurance faces a trade-off like many elements of modern social security systems: On the one hand, disability insurance is a welcome and necessary part of the social safety net as it prevents income losses for those who lose their ability to work before the normal retirement age. One the other hand, disability insurance may be misused to serve as an early retirement route even if workers are still fully able to pursue gainful employment. Understanding the trade-off between social safety provision and its misuse is important for the design of a modern social security system which maximizes social safety provision under increasingly tight financial budget constraints (Aarts et al. 1996).

A striking finding confirmed by SHARE is the great variation across European countries in the number of persons who receive disability insurance benefits in the 50–64 age range (Fig. 1). In Denmark, Sweden, and the Netherlands, enrolment rates vary between 14 and 16%. Lower, but still above average enrolment rates between 7 and 9% prevail in Spain and Switzerland. France, Germany, and Italy feature below average enrolment rates between 4 and 5%. Finally, in Austria and Greece less than 3% of individuals aged between 50 and 65 receive disability insurance benefits.

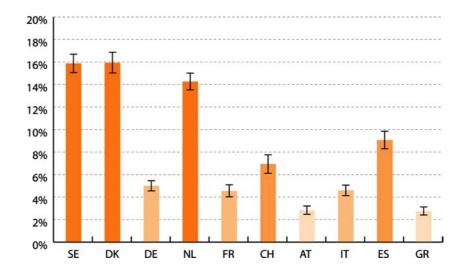
How did these strikingly different enrolment rates emerge? There are three popular explanations (cf. Gruber 2000): demographics, health, and institutions. According to the first explanation, a higher share of older persons causes a higher prevalence of disability insurance uptake. A second potential cause for the crossnational variation is differences in health status: countries with a higher prevalence of physical and mental health problems have higher disability insurance uptake rates. The third explanation parallels a lesson derived

Fig. 1 Disability insurance take-up in the SHARE countries. ^aCountries are arranged in a north-to-south order

from public old-age pension systems which exert large incentive effects and have significantly increased the uptake of early retirement provisions, see Gruber and Wise (1999). Similar incentive effects arise also from disability insurance and may explain the different disability insurance take-up rates across countries.

The SHARE data permit a new look at this question because they include demographic data, an extensive and comparable inventory of physical and mental health measures, and a detailed description of which kind of public transfer payments each individual receives. Our aim is to look which weight each of the three potential causes—demographics, health, and institutions—has in explaining disability enrolment in Europe. Our strategy is straightforward. We exploit the richness of the SHARE data to first relate individual disability insurance enrolment probabilities to demographic characteristics and a broad set of health measures ranging from self-reported health to more objective measurements of the functional physical and mental health status. We then predict how enrolment rates would look like if demographics were equal across countries. If demographic differences were the main cause, enrolment rates should be very similar after taking demographic differences out. We then go through the same procedure for differences in health status. If enrolment rates are still very different after accounting for demographic and health differences, the third explanation, differences in the institutional regulations, is a likely cause.

Our *first* step is to normalize disability insurance enrolment with respect to demographic differences across countries. We first estimate the influence of age and gender on disability insurance take-up. We then predict which share of our sample individuals would take up disability insurance if all countries had the same age and gender distribution as the average of the SHARE countries. The results clearly show that taking account of demographic differences does not make a substantive difference. Italy and Spain, featuring the highest average age of individuals aged between 50 and 65 years among the SHARE countries, would have a



slightly lower disability insurance enrolment if they had the age distribution of the average SHARE country. In Denmark, which is a younger country than the average, the opposite would happen. The effects, however, are very small. Demographic differences cannot explain why the enrolment rates in disability insurance are so different in Europe.

Our second step is to account for differences in the health status of the population. Health varies along many dimensions across countries and should therefore be a good candidate to explain the variation in disability insurance enrolment. Our analysis considers self-assessed health, reported (e.g. bathing) and tested (e.g. walking) physical performance in daily activities, physical strength (measured by hand grip strength), and mental health (using the EURO-D depression scale; see Dewey and Prince 2005). We use the same methodology to correct for the influence of the multidimensional health differences as we did with demographics. We first establish the influence of health on disability insurance take-up and then predict which share of our sample individuals would take up disability insurance if the health status measured along the above four dimensions would be identical to the average of the SHARE countries.

The results show that disability insurance enrolment would be less varying across countries if their health status were equal. For instance, if the Italians and Spaniards had the same health status as the average SHARE European person, their disability insurance enrolment would be considerably lower, less than half of the actual enrolment. In Switzerland, in turn, it would be slightly higher. However, controlling for health does not equalize enrolment across countries. Pronounced differences remain. Differences in health across Europe cannot be the dominant explanation for the cross-national variation in the European disability insurance enrolment.

We also correct for differences in demographics and health simultaneously, using the same methodology as before. We find that the striking variation in the uptake of disability insurance across the SHARE countries does not vanish. Especially the high enrolment rates in Sweden, Denmark, and the Netherlands remain relatively stable after correcting for health and demographic differences.

Which reasons could it be? By exclusion of the first two of the three popular explanations (demographic and health-related differences) the third popular explanation remains, namely institutional differences, specifically enrolment and eligibility rules that make disability insurance benefits easier to receive and more generous in some countries than in others. Such rules may create incentive effects similar to those exerted by old-age pensions which often provide a financial incentive to retire early. In many countries, health requirements for disability insurance eligibility are weak. Under such circumstances, disability insurance may work as a labour market exit route to early retirement (cf. Börsch-

Supan 2001). Many countries have established very lenient work disability eligibility rules under the conditions of high unemployment.

Future work will therefore construct measures of the institutional and country-specific incentives to take up disability insurance even if in relatively good health. The SHARE data are an ideal starting point for such an analysis that will shed light on the working of our European social institutions.

Social productivity of the older population: the case of volunteering

Working for money is by no means the only way to contribute to society. Today's discussion about the growing 'burden of ageing' must not neglect that many older people are willing and able to stay involved in other productive ways, such as volunteering (O'Reilly and Caro 1994). Many studies suggest that older men and women actually spend more hours volunteering than do their younger counterparts (e.g. Gallagher 1994). This higher commitment is often attributed to the fact that the productive nature of volunteering is particularly beneficial for older people's life satisfaction or health (see also Bath and Deeg 2005). Volunteerism, though, should not be seen in isolation of the broader societal context in which it takes place: "as a cultural and economic phenomenon, volunteering is part of the way societies are organized, how they allocate social responsibilities, and how much engagement and participation they expect from citizens." (Anheier and Salamon 1999, p 43). So far, however, cross-nationally comparable data on active participation in volunteer work have been scarce. SHARE provides information on whether the respondent has been actively engaged in voluntary or charity work during the month before the interview, which can be related to a broad set of sociodemographic variables.

With regard to levels of volunteering, the SHARE countries may be divided into three groups (Fig. 2). The Mediterranean countries feature low participation in volunteer work during the preceding month (7% of the Italian and 2–3% of the Greek and Spanish). Germany, France, Switzerland, and Austria exhibit medium activity levels between 9 and 14%. Sweden and Denmark (17%) and the Netherlands (more than 20%) feature high participation in volunteering, see Fig. 2.

Among those who report to have volunteered in the last month, almost one-fifth has done so almost daily, nearly half of the volunteers have been engaged almost every week, and slightly more than one-third has worked less often. The two most frequently mentioned motivations to volunteer are the desire to contribute something

¹Unfortunately, we cannot distinguish different kinds of voluntary work (e.g. coaching at a sports club, distributing food or clothes, serving in committees or boards) nor do we know how many hours a respondent has volunteered.

useful (70%), followed by the joy derived from volunteering (61%).

Gender differences and variations in volunteering by partner status are generally small (in the order of 2 percentage points). The age gradient of volunteer activity among older adults, however, is quite clear. When respondents aged 75 or older are compared to younger age groups, activity rates drop by at least one-third everywhere (in the Netherlands even by two-thirds), to an average level of 5%. Still, in the Nordic countries as much as 12–13% of the population 75 + continue to be engaged in voluntary work, which is more than the SHARE average across all age groups.

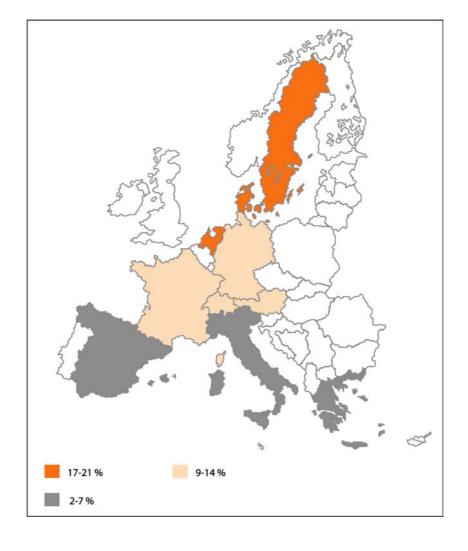
The share of volunteers also varies substantially between educational groups. Participation rates generally increase by almost 5 percentage points when respondents with a low degree are compared to those with a medium degree and by another 7–8 percentage points when the highest educational group is considered. The gradient between the two latter groups is somewhat less pronounced in Sweden, Switzerland, and Austria. In most countries, the share of volunteers differs only moderately between working, retired, and other non-working respondents (in the order of 2 percentage

Fig. 2 Spatial pattern of volunteer work in the SHARE countries

points). In Austria, Switzerland, and Italy, though, rates of volunteering are up to 5 percentage points (i.e. about one-third) lower among retirees than among those who are engaged in market work.

Turning to volunteer work and health, we find much lower activity rates among those who perceive their current health status as fair or worse (about 6%), compared to those who report a good or better health condition (13%). This negative association is corroborated by our Euro-D mental health indicator. In almost all countries, the share of volunteers among respondents who showed symptoms of depression in the last month is 4–5 percentage points lower than among those who were not bothered by such problems. A similar, though weaker, relationship seems to exist between volunteering and chronic physical health problems.

In sum, our analysis of the SHARE data reveals a cross-national pattern of volunteering with higher participation rates in Northern Europe and substantially lower ones in the Mediterranean countries. This underlines the relevance of the broader social, institutional, and cultural background for private voluntary engagement. Even when controlling for socio-demographic characteristics in a multivariate logistic regression (de-



tails not shown here), we find strong indication for contextual effects on the probability to participate in voluntary work. These are suggested to be due to various cultural, institutional, and economic factors, which clearly need more detailed investigation in future analyses. Across different national contexts, however, we find a remarkable consistency in the association of individual characteristics (health, etc.) with volunteering. Longitudinal data will help to investigate this relationship in depth and to understand the limits as well as the opportunities of volunteer work.

Cross-country differences in self-assessed health: the role of reporting styles

A particular strength of the SHARE data is the broad set of health measures. Most socio-economic surveys have only a self-reported health indicator. This section shows how important it is to measure health broadly if one wants to avoid serious misinterpretations (see also Bardage et al. 2005).

Figure 3a shows the proportion of SHARE respondents who report to be in very good or excellent health by country. According to their subjective assessment, the healthiest elders live in Denmark, Sweden, and Switzerland. Nearly 50% of the Danish respondents and more than 40% of the Swedish and Swiss respondents report to be in very good or excellent health. The least healthy are French, German, Italian, and Spanish older adults. The proportion of respondents in very good or excellent health is at around 20% and thus only about half as large as in the 'healthy countries'.

In the light of these large cross-country differences, it is natural to ask if they can be taken at face value. If we find that Danes are much more likely to report excellent health than Germans, does that mean Danes are really that much more healthy than Germans? Or are they simply more likely to report excellent health, even if they have about the same true level of health? Because much of the added value of SHARE comes from multidisciplinary, cross-country comparisons, many of our future analyses depend on the existence of a good comparable summary measure of the respondents' overall health.

One major concern with the self-assessed health ratings displayed in Fig. 3a is that respondents do not perceive the health self-assessment scale given to them as absolute. Individuals with the same true health status may have different reference levels against which they judge their health. This sheds doubt on the comparability of such measures across groups of individuals (e.g. Groot 2000; Sen 2002). In cross-cultural studies like

SHARE, and also the Eurobarometer or the European Social Survey, these concerns are particularly strong. Respondents from different countries and cultures may not only have different reference levels of health, but response categories may also have different connotations. Self-reported health categories are verbal representations of different health states, which may not mean the same thing to all respondents. For instance, 'excellent' is a term that is used in everyday parlance in the Anglo-Saxon world, but Germans would often consider 'ausgezeichnet' as an ironic exaggeration, in particular if used in the context of health. A comparison of self-reported general health across countries has to take such differences in habitual language use into account.

In order to shed light on these cultural differences, we compare the self-assessed health ratings to a more objective health index constructed from the SHARE data.³ This is possible because SHARE contains a wide array of information on health problems: self-reported diagnosed chronic conditions, mental problems, physical symptoms (especially pain), or functional limitations. SHARE also reports measurements and tests like grip strength, gait speed, and various cognitive tests. We use all available information in SHARE to compute a continuous health index for each individual. The idea of this index is to combine in a single number not only the prevalence of a large variety of conditions and limitations but also the effect of these conditions and limitations on the respondents' health. The health index is scaled such that it has a value of 0 for the respondent with the worst observed health and a value of 1 for respondents without any conditions, symptoms, or limitations ('perfect health'). The presence of a condition or limitation reduces the value of the index by a specific amount. This amount can be interpreted as a 'disability weight' that differs between conditions and symptoms and reflects their effect on health (cf. Cutler and Richardson 1997). For instance, Parkinson's disease has a larger weight than diabetes. The weights are assumed to be the same for each respondent (and hence the same across countries).

Figure 3b shows the distribution of the health index by country. The countries are sorted by the median value, shown as a circle, with the healthiest country (Switzerland) on the left and the least healthy country (Spain) on the right of the graph. The upper and lower bars indicate the 90th and the 10th percentile, respectively, of the distribution of our health index in each country. Health inequality (measured by the ratio of the index amount at the 90th to the amount at the 10th percentile) is largest in Spain (1.77) and smallest in Switzerland (1.38). It is interesting to compare Fig. 3a, b. First, there are some changes in the countries' ranks. For instance, Sweden drops from second to the seventh, while the Netherlands rises from sixth to third rank.

²To ensure comparability with a large number of other surveys, SHARE contains two different versions of the self-reported health question. Both are 5-point scales. One ranges from 'excellent' to 'poor' (used, e.g. in the US Health and Retirement Survey), the other ranges from 'very good' to 'very poor' (used, e.g. by WHO in numerous studies). To ease the exposition, we concentrate on the former version.

³The final release of the SHARE data will offer a second, complementary way to purge our data from cross-country reporting bias, so-called anchoring vignettes.

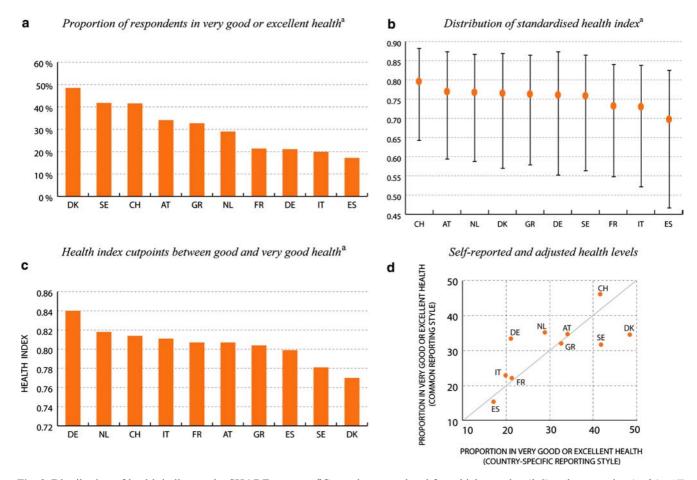


Fig. 3 Distribution of health indicators by SHARE country. ^aCountries are ordered from highest value (*left*) to lowest value (*right*). *AT* Austria, *CH* Switzerland, *DE* Germany, *DK* Denmark, *ES* Spain, *FR* France, *GR* Greece, *IT* Italy, *NL* Netherlands, *SE* Sweden

Both countries are now in a larger group with very similar median health.

The next step of the analysis is to relate the health index values to the respondents' self-reported health levels. The idea is that each individual reports very good or excellent health only if his or her health index value passes a specific threshold value. In other words, these thresholds indicate how healthy respondents must be in order to state that they are, say, in very good rather than in good health. We are specifically interested in crosscountry variations in these thresholds. We compute country-specific reporting thresholds as the exact quantiles of the country-specific health index distribution that correspond to the proportion of respondents that report up to a specific health level. For example, 48.5% of all Danish respondents reported to be in very good or excellent health. The Danish reporting threshold between 'good' and 'very good' is thus computed as the 48.5th percentile of the Danish health index distribution, which is 0.77. Consider Germans as another example. Only 21.1% of them reported to be in very good or excellent health. The 21.1th percentile of the German health index distribution is 0.84. Germans need to be much healthier than Danes to claim that they are in very good health.

The results for all countries, ranked according to their computed good-to-very good threshold, are shown in Fig. 3c. It reflects differences in reporting styles across SHARE countries and can be used to predict the self-reported health level of a respondent of a specific health index in each SHARE country. For example, someone with a health index value of 0.79 would be predicted to report very good or better health in Denmark or Sweden but good or worse health in all other SHARE countries.

Given the health index and the reporting thresholds, we can purge the self-reported health ratings from crossnational differences in habitual language use, simply by using the same thresholds for each respondent, say, the SHARE average. Figure 3d compares self-reported health levels with adjusted health levels. The *x*-axis shows the proportion of respondents in very good or better health given their country-specific reporting style. The *y*-axis shows the proportion of respondents in very good or better health if everyone showed the same reporting behaviour. Respondents in countries to the left of the 45° line systematically undervalue their health

compared to the SHARE average, respondents in countries to the right systematically overvalue their health. Considering what we have already seen above in Fig. 3c, the results are not surprising. Scandinavians have a more positive attitude towards their health. Germans, Dutch, and the Swiss are less positive. In the remaining countries (Mediterranean and Austria), differences between reported and adjusted health levels are unsystematic.

To illustrate what our adjustment of self-reported values achieves, consider again Denmark and Germany. Although there are huge differences in the distributions of self-reported health between Danes and Germans (nearly 27.4 percentage points), the difference in adjusted health levels are negligible (1.2 percentage points) and probably much more realistic. However, accounting for different response styles does not equalise all health differences: Spain, for instance, remains at the bottom of the health distribution. Thus, cross-country differences in (unadjusted) self-assessed health reflect both, variations in reporting thresholds and real between-country differences in physical health.

Outlook: future research on ageing and the future of SHARE

So far, the SHARE data are a cross-national snapshot of 11 countries in the autumn of 2004. From its beginning, however, SHARE was designed as the baseline of a longitudinal survey. The second wave of data will be collected in the autumn of 2006. Further waves are planned every 2 years. The time dimension is essential because it allows new insights in several respects. First, ageing is a process and not a state. Processes need to be observed over time. Observing two individuals of different age at the same time is no substitute for observing the same person at two ages, since the two persons have been born in different years and thus have experienced other times. Second, the time dimension provides a crucial handle to detect causality, which is not possible in a single wave of data. Causality is easiest detected if one can establish that an event happened after the cause. In a single wave, however, a sequence of events is impossible to detect. Third, the European Union is undergoing rapid institutional change. Some countries have enacted dramatic pension reforms. All countries are working on health care reform. A host of incremental labour market reforms is going on. Data with time dimension lets researchers observe the reaction to those changes, e.g. the choice of a later retirement age or higher old-age savings in response to pension reform, different health service utilisation and corresponding health status changes in response to health care reform, and possibly higher labour force participation in response to labour market reforms. Europe with its huge policy diversity represents a 'natural laboratory' from which we can learn about the effects of public policy on the behaviour and the well being of its citizens.

SHARE will also cover more countries. The 2006 wave will add data from the Czech Republic and Poland. Moreover, there is a very large overlap with the English Longitudinal Study on Ageing (ELSA), and we will create a joint data set of such SHARE and ELSA variables. Both steps together are the beginning of a European Longitudinal Ageing Survey which the European Commission has been asking for in a Communication to the Council and the European Parliament in response to the insight stressed at the Lisbon Special European Council in March 2000 "that population ageing and its social and economic challenges to growth and prosperity are among the most pressing challenges of the 21st century in Europe."

Acknowledgements The work in this paper has been supported financially through the fifth framework programme under the project name of AMANDA ("Advanced Multidisciplinary Analysis of New Data on Ageing", QLK6-CT-2002-002426). The paper uses data from the early release 0 of SHARE 2004. This release is preliminary and may contain errors that will be corrected in later releases. The SHARE data collection has been primarily funded by the European Commission through the fifth framework programme (project QLK6-CT-2001-00360 in the thematic programme Quality of Life). Additional funding came from the US National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, Y1-AG-4553-01, and OGHA 04-064). Data collection in Austria (through the Austrian Science Fund, FWF), Belgium (through the Belgian Science Policy Office), and Switzerland (through BBW/OFES/UFES) were nationally funded.

References

Aarts LJM, Burkhauser RV, de Jong PR (eds) (1996) Curing the Dutch disease. An international perspective on disability policy reform. Aldershot, Avebury

Anheier HK, Salamon LM (1999) Volunteering in cross-national perspective: initial comparisons. Law Contemp Probl 62:43–65
 Bardage C, Plujim SMF, Pedersen NL, Deeg DJH, Jylhä M, Noale M, Blumstein T, Otero A (2005) Self-rated health among older adults: a cross-national comparison. Eur J Ageing 2:149–158

Bath PA, Deeg D (2005) Social engagement and health outcomes among older people: introduction to a special section. Eur J Ageing 2:24–30

Batljan I, Lagergren M (2005) Future demand for formal long-term care in Sweden. Eur J Ageing 2 (in press)

Börsch-Supan A (2001) Incentive effects of social security under an uncertain disability option. In: Wise DA (ed) Themes in the economics of aging. University of Chicago Press, Chicago, pp 281–310

Börsch-Supan A (2004) Global aging: issues, answers, more questions. MEA discussion paper 55–2004, University of Mannheim Börsch-Supan A, Jürges J (eds) (2005) The Survey of Health, Ageing and Retirement in Europe—methodology. Mannheim Research Institute for the Economics of Aging, Mannheim. Available at http://www.share-project-org

Börsch-Supan A, Brugiavini A, Jürges H, Mackenbach J, Siegrist J, Weber G (eds) (2005) Health, ageing and retirement in Europe—first results from the Survey of Health, Ageing and Retirement in Europe. Mannheim Research Institute for the Economics of Aging, Mannheim. Available at http://www.share-project-org

- Cutler DM, Richardson E (1997) Measuring the health of the U.S. population. Brookings papers on economic activity: microeconomics 1997:217–271
- Dewey ME, Prince MJ (2005) Mental health. In: Börsch-Supan A et al (eds) Health, ageing and retirement in Europe—first results from the Survey of Health, Ageing and Retirement in Europe. Mannheim Research Institute for the Economics of Aging, Mannheim, pp 108–117
- Gallagher SK (1994) Doing their share: comparing patterns of help given by older and younger adults. J Marriage Fam 56:567–578
- Groot W (2000) Adaption and scale of reference bias in selfassessments of quality of life. J Health Econ 19:403–420
- Gruber J (2000) Disability insurance and labor supply. J Polit Econ 108:1162–1183
- Gruber JD, Wise DA (1999) Social security and retirement around the world. The University of Chicago Press, Chicago
- Hayward MD, Zhang Z (2001) Demography of aging. In: Binstock RH, George LK (eds) Handbook of aging and the social sciences. 5th edn. Academic Press, San Diego, pp 69–85

- Juster FT, Suzman R (1995) An overview of the Health and Retirement Study. J Hum Resour 30 (special issue):S7–S56
- Klevmarken A, Hesselius P, Swensson B (2005) The SHARE sampling procedures and calibrated design weights. In: Börsch-Supan A, Jürges J (eds) (2005) The Survey of Health, Ageing and Retirement in Europe—methodology. Mannheim Research Institute for the Economics of Aging, Mannheim, pp 28–69
- Kohli M, Rein M, Guillemard A-M, van Gunsteren H (eds) (1991) Time for retirement: comparative studies of early exit from the labor force. Cambridge University Press, Cambridge
- Marmot M, Banks J, Blundell R, Lessof C, Nazroo J (eds) (2003) Health, wealth, and lifestyles of the older population in England: the 2002 English Longitudinal Study of Ageing. Institute for Fiscal Studies, London
- O'Reilly P, Caro FG (1994) Productive aging: an overview of the literature. J Aging Stud 6:39–71
- Sen A (2002) Health perception versus observation. Br Med J 324:860–861
- WHO (2002) Active ageing: a policy framework. World Health Organization, Geneva