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SOEP as a Source for Research on Ageing – Issues, Measures and Possibilities for Improvement

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SOEP as a Source for Research on Ageing –
Issues, Measures and Possibilities for Improvement

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SOEP as a Source for Research on Ageing – Issues, Measures and Possibilities for Improvement

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1. Introduction

Demographic change is a key consequence of the development of modern societies. The prolongation of life expectancy, shifts of mortality into later life and long-term low fertility rates cause essential changes in population structures – with an increase in the number and proportion of older people as a key feature. The changes in mortality patterns can be seen as a success of modern society. But demographic shifts imply new risks and challenges as well as opportunities for modern societies, as they affect individual life courses as well as societies as a whole.

The present low birth rates also predict low birth numbers in the future, since the number of potential mothers decreases. At the same time, life expectancies are not expected to decrease. As a consequence, the relation between old and young people will change in Germany in the next decades. In 2050, just about half of the population will be of working age[1] and more than 30 percent will be 65 years old or older. The number of the 20 to under 65-years-olds will decrease from 50 million to a figure between 35 and 39 million in the next 40 years (Federal Statistical Office, 2006). Furthermore, the working age population will undergo an ageing process, implying that in 2050, nearly 40 percent of the working-age population will be between 50 and 64 years old (Federal Statistical Office, 2006). In order to understand the labour market and the fiscal implications of these population trends, it is very illustrative to analyse the proportion of older individuals in relation to the working population, the so-called old-age dependency ratio. According to the Federal Statistical Office (2006) the old-age dependency ratio[2] will grow from 32 percent in 2005 to 60 or 64 percent by 2050. This projection indicates that in 40 years, for every three persons of working-age in Germany there will be two persons receiving a pension. If we consider the age cut at 67, the results are not much more optimistic, indicating that increasing the legal retirement age alone is not a solution for the sustainability of the public pension systems and for the decrease in the labour force.

The proportion of people of very old age is also growing. While the 80+ population was nearly 4 million in 2005, it will grow to 10 million by 2050 (Federal Statistical Office, 2006). This trend has inter alia, important consequences for health care provision.

In this demographic context, interdisciplinary research of ageing and later life gains in relevance. Thus, research on ageing becomes an increasingly crucial task for major surveys like the German Socio-Economic Panel (SOEP). As part of the “research infrastructure” they are called upon to invest in its potentials and attractiveness for research on ageing and later life.

[1] On the basis of working age 20 to 64.

[2] Defined as the number of people aged 65 years old or older per 100 people of working age.

2. The SOEP and its potential as an important database for research on ageing and old age

The SOEP plays an important role in the field of multi-purpose and interdisciplinary studies that have the potential to become more and more important for ageing research. SOEP is a general survey in which the key target population is aged 16 or older. Older individuals are therefore included in the study. Although they are not systematically overrepresented, due to demographic ageing they have been gaining in importance since 1984. Furthermore, the SOEP sample is so large that it contains far more elderly respondents than, for example, the German subsample of SHARE.

The ageing of the population increases the share of older individuals in the SOEP panel. In 1984, the percentage of individuals aged 70 and older in sample A (the main sample) of SOEP was 8 percent. In the year 2006, almost 15 percent of the respondents of sample A were 70 and older. In 2006, the SOEP survey included almost 3000 respondents aged 70 and older; more than 300 respondents are older than 85.

Both the large number of older individuals and the longitudinal structure of the survey make the SOEP an interesting data source for gerontological research. The SOEP also contains mortality data (about 3000 registered deaths). This high number of cases allows mortality analysis using information available from the respondent prior to death.

At the same time, the SOEP covers a wide range of topics which are of relevance for gerontological research. Among other things, the SOEP offers individual information on occupational biographies, education, earnings, health, basic orientation (like preferences) and satisfaction indicators. Furthermore, it also offers some information on the household context and on social support.

However, the SOEP could still be further improved to allow relevant research in the field of gerontology. As argued above, the research agenda in gerontology should be flexible in order to face the new challenges of ageing societies. In this context, the further enhancement of the SOEP as a source for research on ageing is of relevance. In order to respond in a flexible way to the new gerontological research questions as well as to the traditional research agenda, some basic proxy measures need to be included in the study. These would improve the applicability of SOEP to studies on ageing and later life.

3. Core themes of current gerontological research and future need for analyses

Ageing is a multidimensional process and, accordingly, manifold facets affect ageing and later life. This pertains to a high variety of disciplinary approaches in ageing research and hence a variety of highly relevant research questions.

The interest in social and behavioural science research on later life is primarily linked to demographic and structural shifts in ageing societies (the latter are sociologically and

psychologically more interesting). These shifts are a consequence of the development of modern societies, in which the relevance of ageing and old age is now heightened and will continue to intensify and is itself a primum mobile of social change over time[3]. Apart from the demographic and welfare state perspective, there is still a strong requirement to study ageing and old age. The lifespan is still extending and this can be regarded as a success and a valid ambition for individuals and for societies. In this context it is highly relevant to examine both factors for longer life and challenges deriving from this development. Important challenges exist in the fields of 1) health and health related needs for services, 2) employability and late employment, 3) household resources and adjustments in consumer behaviour in later life. In the following, these are described in more detail.

(1) *Health and health-related needs:* Health, health-related needs and services are some of the most crucial challenges for ageing societies. While during the last decades, each cohort of older people entered retirement in better health, the prolongation of life overcompensated this positive effect, which resulted in increases in the number of older people with chronical illnesses and – as a consequence – health-related costs. Additionally, health and morbidity are core aspects of quality of life. Due to the age-related decline in health, the health status of older people needs to be extensively examined to satisfactorily cover the living situations of older people, to discuss the need for medical services as well as acute and long-term care services and to identify potential future developments.

(2) *Late employment in ageing societies*: The ratio between work and non-work phases during the life course needs to be readjusted. Although the life span lengthened, the average retirement age dropped during the last decade and this trend did not reverse until the past few years. This implies a need for increased labour force participation by older workers. Hence, analyses of the employability of this group in modern labour markets become more important. Employability is strongly connected to older people's work ability. Thus, we should know more about the capacities of older workers to work longer. These capacities are closely linked to health status, which itself is a major topic apart from its significance for labour force participation.

(3) *Household resources and consumption patterns in later life*: From a social policy perspective, inequality and poverty are crucial problems in modern welfare societies. For a long time, they were not primarily associated with ageing and old age, but current developments indicate an increasing need for analyses from this perspective. There is a lack of information in survey studies about the access to resources and goods within households of older people. As policies promote private intergenerational support towards the elderly people in need of care, the economic positions of older people within such household constellations should be included to properly analyse the resources available to older people to meet their needs, to maintain autonomy and to secure quality of life in these contexts. It is also of

[3] See Amrhein (2004), Birg (2005), Börsch-Supan (2004), Kösters (2006), Mayer et al. (1992), Motel-Klingebiel (2000), Niejahr (2004), Rürup (2000), Schirrmacher (2004), Schulz-Nieswandt (2006), Tesch-Römer, Wurm, Hoff, Engstler & Motel-Klingebiel (2006), Tews (1993).

relevance to analyse how households as a unit manage their resources. Households need to adapt their consumption patterns with age. More research is needed on how households adapt their resources and their expenditure patterns to different transitions in later life.

Within these three fields, we concentrate in the present report on four topics which we consider highly relevant for gerontological research: health, employability of older workers, intra-household resources and consumption patterns of older individuals. We consider that the SOEP study can play an important role for a further development of these research topics. Accordingly, we suggest improvements which can help to develop the SOEP as an important source for gerontological research.

4. Selected topics

4.1 Measuring the health of older people

Being in good health is important throughout a person's lifetime. In the first half of life, however, good health is normally a matter of course. During this part of life, diseases are mostly temporary and acute, but diseases change from midlife on: From the age of 40 years or so, the duration and severity of diseases rises and the existence of one or multiple chronic diseases becomes more and more prevalent. In addition, medical treatments, functional limitations and mortality increase with age. These changes do not only trace back to age-related physiological changes of organs or organ systems, but also to the long latency period of some diseases, to diseases that were already existent at younger ages (but have not caused major ailments), and to prolonged exposure to risk factors (e.g., smoking, noise).

With increasing age, physiological changes and chronic conditions often lead more and more to cognitive limitations (e.g., hearing or vision losses) and impairments in basic and instrumental activities of daily living (ADL, iADL). As a consequence, disabilities become increasingly likely with age.

Ageing often comes along with a disablement process, beginning with initial health changes and physical limitations, and leading up to disabilities and social handicaps. With cumulative disability, people are more and more often in need of help or care. Accordingly, the percentage of people in need of help or care rises sharply: while only one in seven people (14 percent) at the age of 70 to 74 are in need of help or care, this is the case for two out of three people (66 percent) at the age of 85 or older. As depicted in Figure 2, older women are more often in need of help and, from the age of 80, also in greater need of care than men.

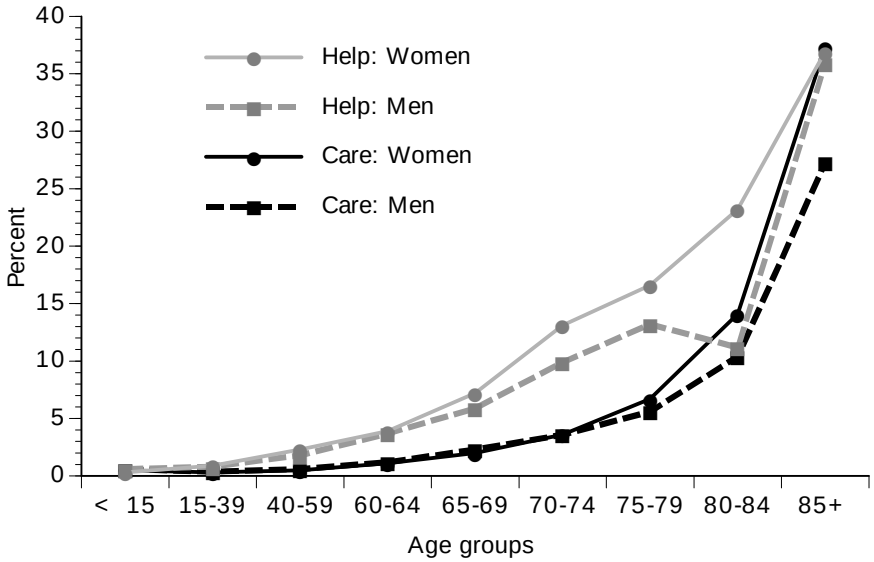

Figure 1: Percentage of people in private households, who are in need of help or care (differentiated by age and gender)

Source: MUG III – Study, representative survey in 2002, TNS Infratest; own depiction

These gender differences are partly due to the lower life expectancy of men compared to women. Thus, the population of men who reach old age is more selected in favour of healthier individuals than it is for the population of women. With reference to the SOEP, the data shown in Figure 1 only refers to older people in private households. However, the share of older people who live in long-term facilities should not be overlooked: eight percent of older people aged 80 to 89 years live in long-term facilities, while the percentage rises up to 30 percent at the age of 90 and over (GeroStat, 2008).

Ageing is an intrinsic process that cannot be avoided or stopped. However, a number of factors contribute to the acceleration or deceleration of ageing processes as well as to the onset and progress of health problems, functional limitations and disabilities associated with it. According to the International Classification of Functioning (ICF; WHO, 2002), a number of environmental and personal factors contribute to how healthy people age. The ICF provides a comprehensive framework to assess the relationship between an individual's function, activities, and participation while the influence of environmental and personal factors on overall health are simultaneously considered (cf. Figure 2).

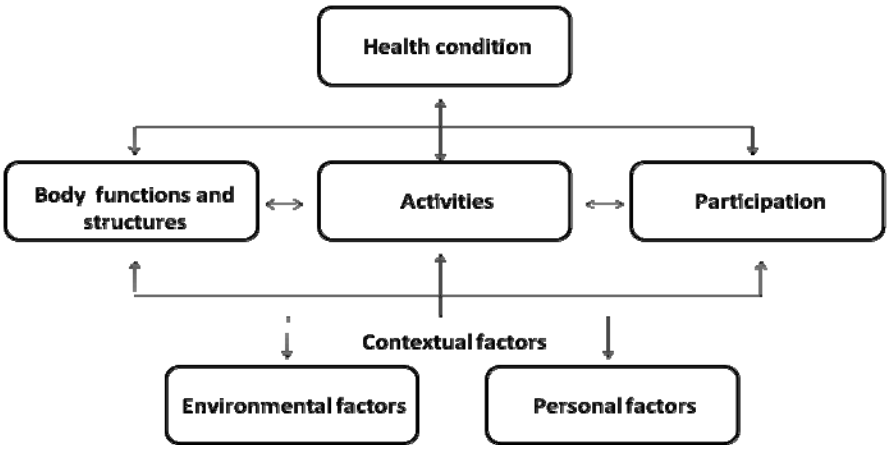

Figure 2: The International Classification of Functioning, Disability, and Health (ICF; WHO, 2002)

Thus, the ICF is designed as a biopsychosocial model that emphasises the function, not the health condition, and describes the situation, not the person. This means that functioning or disability is not only a question of the biological (or medical) status of a person, but of the dynamic interaction between biological, personal and environmental factors. This complex interplay should be considered when we think about how healthy ageing can be promoted.

Politically and socially a number of policies are currently discussed to foster healthy ageing. These include amongst others (cp. Oxley, 2009):

- Healthy working environments: The prolongation of working lives requires that people are healthy enough to work longer. Thus, in the coming years, the question of how the physical and psychological health of the labour force can be maintained or advanced will become increasingly important.
- Social integration: The economic impact of ageing populations (e.g., health expenditure, spending on pensions) can be mitigated by extending working life. One of the positive effects of working longer is that people remain better socially integrated, because work is an important social network. For those, who are no longer in employment, social integration can be promoted through participation in communal activities.
- Better lifestyles: physical activity and healthy diets should be promoted while substance use/misuse (smoking, excessive alcohol consumption) should be reduced.
- Better adaptation of health care to the needs of older individuals: This comprises, inter alia, better health care and coordination of care for chronically-ill patients, promotion of primary and secondary prevention (e.g. preventive medical checkups, screenings and vaccinations), greater attention to mental health, and the encouragement of better self-care (e.g., by using ICT).
- Reducing social inequalities: Depending on their socio-economic status, individuals vary considerably as to health, morbidity and mortality. Disadvantaged segments of the population live under different circumstances (e.g., financial circumstances, housing conditions) and often have an unhealthier lifestyle than those with higher socio-economic status.

The SOEP annually examines the health status of all adult respondents. Health questions that are included in the survey are, for example, satisfaction with health, self-rated health, occupational accident, sick notes, (severe) disability, health care insurance and health care use. Since 2002, other health questions have been included in the survey biannually. These include single-item questions on health behaviour (physical activity, smoking, body mass index and healthy diet), SF–12 scale (SOEPvSF12v2) on health-related quality of life and, as from 2006, a physical health measure (grip strength) and a measurement of fluid cognitive ability (digit symbol test).

The SOEP provides data with which a number of the policies described above can be addressed. A few examples are mentioned in the following. Concerning the working environment, the effects of unemployment or fixed-term jobs on health can be examined (cf. Romeu Gordo, 2006; Gash, Mertens, & Romeu Gordo, 2007) or the question of whether absenteeism is increasing in the ageing workforce. The indicators on health and risk factors (e.g., physical activity, obesity) allow studying the link between health behaviours and health (e.g., Andersen, Grabka, & Schwarze, 2008) regarding both cohort differences and age-related changes in different lifestyle factors. The questions on health and health care provide important information on health status and health changes and allow the examination of health care use (e.g., Schreyögg & Grabka, 2008). For all these topics, the significance of social inequality can be examined in detail with the SOEP data (e.g., Lampert & Ziese, 2005).

The SOEP therefore provides data for a number of health topics. However, to enrich the data from a gerontological perspective, several additional aspects should be taken into account for future waves of the SOEP. These are described in the following.

Chronic diseases: The study design of the SOEP with annual interviews offers the opportunity to examine different health trajectories as well as disablement processes of older people. Together with the also existent mortality data, the data offers the possibility to examine measures of healthy life expectancies (»Health Expectancies«) such as healthy life years (HLY), disability-free life expectancy (DFLE) or disability-adjusted life expectancy (DALE).

An important indicator for HLY not included in the SOEP is a question on the existence of one or more long-lasting diseases. This is important, however, because chronic diseases and multiple illnesses (multimorbidity) are prevalent from midlife on: In Germany, for example, 36 percent of individuals aged 40 to 54 have two or more diseases. This percentage increases to 57 percent in the age group 55 to 69, while 70 percent of individuals aged 70 to 85 suffer from two or more diseases (Wurm & Tesch-Römer, 2006). On this account, the inclusion of questions on the existence and number of chronic diseases would constitute an important extension of the current health indicators. At least one question on long-lasting illnesses from the ***Minimum European Health Module (MEHM)*** should be included as an additional health indicator; this question is a key variable for the computation of HLY. Furthermore, a ***question on medication*** would also provide important information on the health status of older people.

Functional limitations: Functional limitations are precursors of activity restrictions and subsequent disabilities. While the SOEP contains a few questions on physical functioning and cognitive abilities, questions on sensory functioning have been neglected. ***Sensory functions***, in particular, vision and hearing should be considered as well, because they have proved to be strong predictors of subsequent disability and mortality (Laforge, Spector, & Sternberg, 1992; Rudberg, Furner, Dunn, & Cassel, 1993). Moreover, the assessment of sensory function is important for the interpretation of tests of cognitive function (e.g., digit symbol test), since lower test scores may be a result of poor vision rather than poor cognition (Jagger, 2006).

Physical activity: Physical activity is a lifestyle factor with a considerable prevention potential up to and including old age. It protects against cardiovascular diseases, depression, cognitive decline as well as dementia. Furthermore, physical activity protects against sarcopenia and osteoporosis and thus prevents falls. In old age, injuries conditional on falls are often the beginning of disability and the need of help or care. The general and disability-free life expectancy of individuals who regularly exercise in the age of 65 is one to six years longer than for those with a sedentary lifestyle (Ferrucci et al., 1999). Moderate physical activity is already sufficient in later life to achieve health-related benefit. However, in later life, a sedentary lifestyle is predominant (Wurm & Tesch-Römer, 2005). Thus, a question on sporting activities cannot sufficiently measure the low to moderate physical activities of older people. For this reason, at least one additional ***question on moderate exercise*** (such as ***walking***) would be a meaningful extension with regard to gerontological research with the SOEP.

Health care use: Although health problems increase with age, the consultation of some medical specialists (e.g., dentists) decreases (Bergmann & Kamtsiuris, 1999; Wurm & Tesch-Römer, 2006). This could point to a medical undersupply of older people. The European Community Statistics on Income and Living Conditions (EU-SILC) assesses the prevalence of ***unmet medical needs*** using two questions. The inclusion of these questions would allow the analysis of causes and effects of unmet medical needs. Answers to these questions provide information about whether people do not visit a doctor for financial reasons, a lack of accessibility of medical specialists or due to responsibility for a family member who is in need of help or care. Effects of unmet needs could result in worse health and lower life expectancy. Whether this is the case could be analysed with the SOEP data.

Reciprocal help: As described above, chronic diseases, functional limitations and disability increase with age. In the households of older people, this does not often hold true for one person alone, but it often does for both spouses. In the case of older couples, it is frequently difficult to distinguish between the caregiver and the care recipient (Aldwin & Gilmer, 2004). They tend to mutually complement each other and compensate their particular deficits. A strength of the SOEP is that it examines all the individual members of a household. Hence, regarding older people, questions on the ***need for help*** should be included in the ***personal questionnaire*** of the SOEP, instead of asking these questions in the household questionnaire (as is it the case at present). By this means, the dyadic interplay of older

couples could be analysed. The question of how people can maintain an autonomous life in their private household is becoming more and more important – both for the quality of life of the growing number of older people and for economic reasons. A research question that could be addressed with this data is, for example, whether older couples who assist each other live longer (or shorter) in their private household than older people who receive help from others (e.g., other family members, professional caregivers).

Healthy working: A recommendation regarding the assessment of the ageing workforce is described in the subsequent section (cf. section 4.2).

Timing of health questions: Health problems do not only accumulate with age, they also accelerate. In the SOEP, a number of health questions are assessed biannually (e.g., SF-12). In old age, two years are often a very long time. For a better comprehension of disablement processes and their impact on mortality, it would be more appropriate to assess these questions annually.

4.2 Measuring the work ability of older workers

In a context of a progressive increase in the average age of the labour force, the labour force participation of older individuals gains in relevance.

In Germany, the labour participation rate of older workers is one of the lowest in the OECD countries. These low rates of participation are mainly caused by early labour market exit. Employment participation rates decline abruptly after the age of 60, dropping at age 63 to 25 percent for men and to 10 percent for women (OECD, 2005). Furthermore, for those individuals who remain active in the labour market, the incidence of unemployment and especially long term unemployment is very high. As a result there is a significant proportion of the working population that is not working. The OECD (2005) has estimated that 11.7 percent of German non-working people who are of working age, are ‘mobilisable labour resources’; two-thirds of this percentage is attributable to excess non-employment of older workers. One of the main explanations for early labour market exit is the social security retirement incentives (Gruber & Wise, 2002). As a result, new legislation was introduced in 1999, 2001 and 2004 in order to gradually increase the retirement age and to regulate the phasing-out into retirement. However, in order to improve the employment rates of older workers, a higher legal retirement age needs to be accompanied by the maintenance of a continually productive workforce.

An important concept in this context is the employability of older workers. Employability refers to a person's capability of gaining initial employment, maintaining employment, and obtaining new employment if required (Hillage & Pollard, 1998). Conceptually, it expresses how well an individual’s competencies and skills meet the requirements of the labour market, e.g. if it is possible to be employed with his or her present skills and competencies. In general terms, employability depends on: assets in terms of the knowledge, skills and attitudes possessed, the way these assets are used and deployed, how they are presented

to employers, and crucially, the context (e.g., personal circumstances and labour market environment) within which the individual sees work. The balance of importance between and within each element will vary with age, depending on the relationship of the individual to the labour market.

Although employability is an important term in the design of labour market policies, it is difficult to measure employability by individual data since it depends strongly on work and retirement legislation, and on the prevalent values and attitudes of society. One alternative is the subjective assessment of employability. In the SOEP questionnaire, non-working individuals are asked the following question: *If you were currently looking for a new job: Is it or would it be easy, difficult or almost impossible to find an appropriate position?* The answer to this question could be used as a subjective indicator of employability.

Compared to employability, individual data allow a better measurement of work ability, which is the basis for the employability of an individual. Work ability expresses the ability to perform the work. Conceptually, it expresses how well the individual resources meet the requirements of the job. This concept, which was introduced more than 20 years ago in the Finnish literature, has gained relevance in the international context in the last years. According to Ilmarinen (2004) and Ilmarinen and Tuomi (2004), it needs to be understood, 'how good is the worker at the present, in the near future, and how able he/she is to do his/her work with respect to the work demands, health and mental resources'. It is the result of the interaction of the worker and his or her environment which explains its two components: human resources and work characteristics. Human resources include functional capacities (physical, mental, social) and health, competencies, as well as attitudes and values. Work is described by features of work environment, work community, physical and mental work demands, and by managerial and leadership issues. These components and the relationship between them change throughout life. Therefore, work ability should be understood as a dynamic process. Across a life time, adverse human resources characteristics can be compensated for by better work characteristics and the other way around.

Before dealing in detail with the measurement of work ability we want to analyse more deeply the components of functional capacity and their measurement possibilities with the SOEP. Functional capacities (mental, physical, social) are the basis for the human resources aspect of work ability.

Mental abilities have been shown to be a good predictor of productivity (Skirbekk, 2004, 2008). They refer to broad aspects of intellectual functioning (Skirbekk, 2004). These include reasoning, spatial orientation, numerical capabilities, verbal abilities and problem solving. It has been examined how mental abilities affect job performance. Schmidt and Hunter (1998) analyse how different individual characteristics, such as education, work experience and general mental abilities relate to job performance. The authors find that mental abilities predict a person's job performance better than any other observable characteristic. Currie and Thomas (1999) and Tyler et al. (2000) find that mental abilities at younger ages determine adult income levels after adjusting for socio-economic status. Considering that

cognitive abilities are a good indicator of productivity is important to understand how they develop over the life span.

Verhaegen and Salthouse (1997) present a meta-analysis of 91 studies that describe how mental abilities develop with age. These studies show that important cognitive abilities like reasoning, speed and episodic memory decline significantly by the age of 50. However, not all abilities follow the same decline pattern. While fluid abilities (learning, perceptual speed and reasoning abilities) decline considerably over the life cycle, crystallised abilities (vocabulary size and semantic meaning) remain stable (Schaie, 1994). This could mean that there is a decrease in productivity in certain tasks during normal ageing; but there are certain tasks in which productivity remains stable or even increases.

In the year 2006, short cognitive tests were included for the first time in the SOEP. Approximately 5,500 persons did the cognitive tests, of whom almost 40 percent were older than 50 years. Two ultra-short tests are used which were selected using the theoretical framework of life-span psychology (Lang et al., 2007). This theoretical framework distinguishes between two components of intellectual functioning: the mechanics and the pragmatics of intellectual ability.[4] The mechanics of cognition are capacities related to information processing, and the pragmatics of intellectual ability refer to educational and experience-related competences. Taken together, both components represent the cognitive abilities that are required for performing proficiently over the life course. The mechanics of cognition are tested using the Symbol-Digit-Test (SDT) which requires individuals to match numbers with graphical symbols as quickly as possible. The test ends after 90 seconds, and the maximum amount of correctly assigned digits provides an estimate of the respondent's perceptual information-processing speed (Lang et al., 2007). Knowledge-based word fluency is assessed with the Animal Naming Task. The participants name as many different animals as possible during a 90 second interval (Lang et al., 2007).

Physical abilities are very important determinants of employability of older workers. As we have already described in section 4.1, ageing is associated with physical health deterioration. From the age of 40, the duration and severity of diseases rises as does the prevalence of one or multiple chronic diseases.

Social abilities (non-cognitive skills) are also very important for the participation of ageing workers. According to the literature, social capacities change with age because individuals become familiar with their own limitations and possibilities and change their behaviour accordingly (Ilmarinen, 1999). Thus, older workers are better able than younger people to adjust their behaviour to a certain situation. Also the ability to adjust 'my will' into 'our will' can improve with age. However, social adjustment also depends on others and therefore, it is difficult to make predictions about how social participation at work develops with age.

The relevance of the concept of work ability it is well-founded. The question arises, however, as to whether the measurement of work ability can be broad enough to allow a comparison

[4] This classification is parallel to the distinction between crystallised and fluid abilities.

between different occupational groups,including in an international context. For this purpose, the Work Ability Index (WAI) was developed by Finnish researchers (Tuomi et al., 1998).

The questionnaire of the WAI is composed of ten questions and a list of diseases which comprise seven different dimensions:

- Current work ability in relation to best ever (0-10 points)
- Current work ability in relation to demands (2-10 points)
- Number of physician-diagnosed diseases (1-7 points)
- Work impairment due to diseases (1-6 points)
- Sickness absence (1-5 points)
- Estimated work ability in 2 years (1,4,7)
- Mental resources (1-4)

The sum score of these items ranges from 7 to 49, 7 points being very poor work ability and 49 very high work ability. It needs to be remembered that 'poor work ability' is due to the fact that the demands of work and the resources of the worker do not fit together (due to adverse working conditions, limitations on the side of the worker, or both).

The validity of the WAI has been assessed by clinical examinations and by follow-up studies. In these studies it has been shown that the index is a good predictor of the future development of work ability. Concretely, it predicts very well early retirement due to work disability as well as mortality (Ilmarinen & Tuomi, 2004). The items which predict retirement due to work disability and mortality better are: own prognosis of work ability two years from now, work ability in relation to demands of the job, estimated work impairment due to diseases, and current work ability compared with lifetime best.

Given that the measurement of work ability through the WAI requires the introduction of a long list of items, some studies have opted for self-assessed work ability with questions such as:*To what degree is your ability to perform your ordinary, remunerative work reduced today?* (see, for example, Reiso et al. 2000). The drawback of this alternative is that no distinction can be made between the different components of work ability.

There are other indicators which have been used in the literature in order to measure work ability. For example, the General Aptitude Test Battery (GATB) collects information about detailed ability scores. The GATB is a screening process used mainly by employment and/or vocational counsellors to assist in determining an individual's occupational aptitudes. The main abilities measured in this test are numerical ability, managerial ability, clerical perception, finger dexterity, and manual dexterity (Skirbekk, 2008). However, the main goal of this test is to measure the aptitudes of candidates rather than offering a complete picture of human resources and work characteristics aspects as the WAI does.

Summarising, given that the WAI is a comprehensive measure of work ability of proved validity which allows international comparisons, we suggest the ***introduction of the WAI in the SOEP study***.

4.3 Household resources and consumption patterns in later life

The intra-household perspective on older people's resources

The societal distribution of economic resources is a key issue in socio-economic research in general and access to resources and positions is a core marker of social inequality. At the same time, material living conditions are a key aspect in research on quality of later life. Material resources play an important role for life chances and can be understood both as preconditions and results of individual behaviour and quality of life over the life course (Motel-Klingebiel, Wurm, Huxhold, & Tesch-Römer, 2009). The household context can be seen as a sphere of production of quality of life and its distribution. In multi-person households, the existing resources are managed within the household context. These complex household situations are quite common in later life: while about one third of those aged 65 and older are living alone, about ten percent of this population is living in two or more generation households - and the provision of private support to older people in multigenerational households is a relevant policy goal. These household contexts change over time. Depending on different phases during the lifespan, individual needs differ. In later life, needs change for example due to reduced labour force participation, changing social networks, declines in physical/mental abilities, multimorbidity or frailty.

At the same time, household contexts and older people's needs interact. On the one hand, increasing needs may lead to household changes as people relocate to receive help and support. On the other hand, household changes (e.g., due to the loss of the partner) might lead to an increase in need for help and support. A significant goal of policy oriented research on ageing is to examine unmet needs in later life to know more about the necessity for social policy interventions. For this purpose, the role of households in the distribution of resources must be analysed. Economic resources offer a material basis to accept the challenge of ageing, to cope with the process of ageing and to maintain quality of life and autonomy – often under conditions of shrinking physical or mental capabilities. This does not only include the substitution of the own abilities by buying services. It also comprises the maintenance of social roles within social networks and families by upholding economic agency and the role as a giver in the family milieu. In this context, intergenerational transfers between households were examined extensively during the past decades. In contrast, intra-household transfers are still not sufficiently encompassed by empirical research on ageing.

What are older people's economic resources? The picture seems to be quite clear if the ageing person is living alone or with his/her spouse. While inter-household differences are conceptually covered by the concentration on household resources and equivalence weights, the situation becomes more complex if we face the structure within a large or even multigenerational household. Multigenerational households are highly relevant for research on ageing. Firstly, because they can be understood as a role model for private provision of help and support. Secondly, people are not only moving together because of an increasing

need for help or care, but also as a strategy to maintain consumption levels and quality of life by merging resources (Bonke & Uldall-Poulsen, 2007; Ulker, 2008). These are an important case for the analysis of declining capabilities and their effects in later life. Thirdly, analyses report economic neediness as a major reason for the formation of multigenerational households in European societies. Hence, individuals should not be excluded from a proper analysis by debasing the measurement by way of levelling presumptions. Finally, multi-person households should not be neglected in the analysis of intergenerational bonding and transfers between older individuals and their offspring which are heavily based on the givers resources as previous analyses have shown.

Households are the locus for economic decision making. Many broad empirical studies of poverty and income distribution assume an equal sharing of resources between all household members. The household is treated as one entity but not as an arena of decision making. However, a growing body of substantial research indicated that this assumption is not realistic. Households are places of tension and cooperation and it has to be analysed how resources are allocated among household members. This is most important for households in which income is not completely pooled as this is more often the case in intergenerational settings where fairly independent units can be found. Many findings suggest that there is intra-household inequality, which is related inter alia to household welfare levels (Kanbur & Haddad, 1994), with more inequality in less wealthy households. Conventional methods of measurement may lead to an underestimation of the incidence and degree of unmet needs in two-, multi-person- or multigenerational households (Findlay & Wright, 1996). Most of this work stems from gender studies or at least gender sensitive socio-economic research, but it is also essential for the appropriate socio-economic investigation on ageing and later life.

Unequal sharing of resources, for whatever reasons that may emerge, could affect the measurement of resources available for single individuals. On the one hand, it could be assumed that women, individuals in poor health and disabled people may lose in the case of unequal sharing in the household. On the other hand, men as well as physically/mentally fit individuals may substantially profit. Old age is characterised by females and individuals in poor health. Thus, the question of unequal economic resources is a topic for ageing research. Gains and losses may result for entirely different reasons: power vs. powerlessness and contentment vs. special needs, which leads to the role of decision-making and power (Maitra & Ray, 2005; O'Laughlin, 2007). But unfortunately, the measurement of decision-making power within the household poses some problems. There may be differences in judgments among household members about who is responsible for specific decisions and individuals may not report the correct allocation of resources. It may also be argued that the contribution of those with less power (female, frail, old...) could be more important than publicly acknowledged. However, ignoring intra-household inequalities may lead to substantial miscalculations and should be addressed. This does not relate to the number of people living in poverty (or similar indicators) – presumably, a proper measurement of economic resources would only lead to the fact that some people are not

poor but others are, while the percentage could remain the same. Instead, it will affect the degree of overall inequality and the structure of access to resources, even if it seems that poverty and inequality patterns across key socioeconomic groups are not significantly influenced (Haddad & Kanbur, 1989; O'Laughlin, 2007).

Three aspects are essential in this context:

(1) Do household members pool their economic resources?
(2) Do household members have equal access to pooled resources or do we find unequally distributed access to resources?
(3) Do household members use pooled and individual resources equally, or is there a different consumption behaviour or even transfers within the household?

A unitary model would assume that household resources are pooled by the household members. Usually, the household as such is defined by the idea of collective performance of its members. In contrast to the unitary model, the individualistic model assumes that individuals within households do not pool their income (completely) as they have different preferences and the philosophy of the household is not entirely collectivistic. With regard to the use of resources, an egalitarian model considers that if (parts of) the household members' resources are pooled, individuals may have equal access to them. In contrast, the differential model assumes unequal access to household resources and reflects differences within the household. These differences may have effects on the fulfilment of demands or it may affect the expenditure structure of the household. Data shows that assets controlled by females and higher educated people have a positive effect on allocations towards the next generation.

While an 'individualistic egalitarian household type' (Type 1) does not seem to be imaginable, a 'unitary egalitarian type' (Type 2) expresses the standard assumption of equal access to pooled resources for all household members. The 'unitary differential type' (Type 3) covers a situation with pooled resources but unequal access to resources due to differences in power or preferences while the 'individualistic differential type' (Type 4) expresses a situation where a household in the conventional definition of the term hardly exists at all as no collective action is given. All types have implications for the measurement of the living situation and quality of life of older people. While in case of Type 2, resources are portrayed correctly based on standard assumptions, it can be expected that Type 3 and 4 overestimate the resources that are available to the elderly people and therefore lead to incorrect assumptions about their basis for the maintenance of autonomy and quality of life.

Thus, we suggest including ***measures on the degree of pooling of resources*** by different members of (older peoples) households (males, females, young adult children, elderly people relatives, or unrelated members including the proportion of pooled and individual parts). These measures should go beyond what is already known about pooling between partners and spouses, respectively, which is insufficient to cover the situation of multigenerational household with older people. Additionally, information on the role of the head of household, the degree of equal access to household resources and to preferences

towards household members' fulfilment of demand is needed. As we know, the SOEP is already very useful for household-level analysis as it contains information on individual sources of income (earnings, transfers, wealth income), and even information on earned and wealth income is associated with the appropriate individual. In any case, including information on the intra-household access to resources will add value to the analysis of older people's quality of life especially in multi-generational household settings.

What transfers are given and received by older people within one household? Another aspect that is relevant for research on ageing is the monetary transfers and valuable gifts given among the household members, especially from the elderly people to the younger generations of children and grandchildren within the households. While transfers between households were widely researched during the past two decades, little is known about intra-household transfer and support behaviour. Time, money and space are defined as major dimensions of transfers (Soldo & Hill, 1993). However, if space is transferred (in the sense of shared households), an analysis of money transfers becomes impossible if data on the intra-household distribution of resources are not gathered appropriately. We therefore suggest adding ***information on givers and receivers of gifts in cash and kind within the household*** enriched data on frequency, type and value of such gifts within the household.

Adjustments in the consumption behaviour of older households

Population ageing has generated new interests in how people manage their resources later in life. There are three main aspects of household resource management that are of interest for the economy: patterns of saving and the use of wealth (reflecting choices between current and future consumption), choices between leisure and work; and the allocation of current consumption expenditure among different goods and services (Denton, Mountain, & Spencer, 2002).

In a context of an ageing population, the study of expenditure allocation is of relevance since spending patterns are likely to change in a number of ways. Understanding these changes is of considerable interest for marketing, as well as policy analysis.

The life-cycle hypothesis in the economic literature indicates that consumption decisions are made on the basis of current and past experiences and future expectations to achieve a relatively consistent lifetime consumption level (Friedman, 1957; Modigliani, 1966). According to this hypothesis, families are supposed to save during peak earning years and dissave during retirement years to maintain their consumption levels (Rubin & Nieswiadomy, 1995). However, many studies have shown that older households dissave less than the life-cycle hypothesis predict. Many retired households continue to save during retirement by reducing consumption. There is even a 'consumption drop' after retirement which might be hard to reconcile with life-time optimizing behaviour; this is known in the literature as the retirement consumption puzzle (Blau, 2004; Battistin et al., 2007). On the other hand, there is still a proportion of older households who dissave at unsustainable rates.

On the one hand, it is of relevance to identify which households are more likely to have unsustainable dissaving later in life. The empirical evidence shows that poor health, lower

income or becoming widowed are factors which increase the risk of dissaving (Davies, 1981; Hogarth, 1989). On the other hand, it is also important to investigate how consumption patterns of older individuals change, especially in relation to their labour market situation.

Traditionally, the studies which analyse changes in expenditure patterns use data from consumer expenditure surveys (such as the Income and Expenditure Survey (EVS)). Therefore, the question which rises is why the SOEP should include expenditure information for older households.

While consumer expenditure surveys are able to offer very detailed and reliable information about household expenditures, they fail to offer detailed information about labour market transitions and labour market history. Furthermore, not all consumer expenditure surveys are repeated yearly, in the case of the EVS the survey is conducted every five years, and they have no longitudinal design at all. These restrictions lead to limited possibilities in the analysis of the relationship between labour market transitions and changes expenditure patterns.

In order to be able to unravel the retirement consumption puzzle, a longitudinal multi-purpose survey like the SOEP is more adequate than expenditure surveys since it allows investigation of the causes for such consumption behaviour. In the literature, the main explanations for the consumption drop mentioned are: changes in preferences due to increased leisure, shocks inducing retirement and affecting the level of consumption, reduction in work-related expenditure (transport, meals out, clothing), increase in home production of services and/or more efficient purchases and unexpectedly low pensions or liquidity problems (Battistin et al., 2007). Given the longitudinal structure of the SOEP, it would be possible to identify whether there were already some changes in the years prior to retirement which lead to a prediction of a consumption drop at the moment of retirement. Furthermore, the literature usually concentrates on the consumption drop after retirement but it would be also important to investigate how other labour market exit patterns and how labour market history affect expenditure patterns.

Household expenditure information would also allow the analysis of other factors which can also influence expenditure patterns. For example, it would allow the investigation of how household structure changes affect household consumption. Questions like how widows adjust their consumption or how household consumption changes when the children leave the household could be analysed.

Other socio-economic surveys have introduced some expenditure questions. Specifically, in the case of SHARE seven questions about household consumption are introduced in the main questionnaire which collect information on food consumption at home and outside home, home produced food, expenses in telephone calls and charges and self-assessment about the financial situation of the household.

In the SOEP housing expenditures are collected in the household questionnaire. We suggest to introduce ***questions about major expenditure categories such as food at home,***

apparel, transportation and recreation. Information about apparel consumption is also present in the household questionnaire, however the amount spent on apparel is not asked.

Other costs which usually increase with age are health care costs. Therefore, it is also important to observe how these costs develop in comparison to the rest of expenditure. In the personal questionnaire detailed information about health insurance costs is asked. However, there is no information about out-of-pocket health care or care costs. In the EVS, such costs are asked. Among other things, pharmaceutical costs (with and without prescription), out-of-pocket costs of medical services as well as body care costs are included. The ***introduction of health costs in SOEP*** would allow the analysis of the evolution of those with age. Furthermore, it would also allow the analysis of the evolution of health costs in relation to health status. These analyses would help answer policy relevant questions such as the question whether health costs dramatically increase with age or whether health costs only dramatically increase in the years prior to death?

Summarizing, consumption patterns of older households are of relevance given the increase in the proportion of older people in the population. We recognize the potential of the SOEPas an instrument for the analysis of the consumption behaviour of older individuals, especially in relation to their labour market situation and their labour market history.

5. Summary

The research agendas of social gerontology and socioeconomic research need to respond to the new challenges that the ageing of the population implies and, hence, need to be open for the inclusion of appropriate research topics. At the same time, proper instruments are necessary in order to further develop the potentials of socio-economic surveys for the manifold ambitions of research on ageing; multi-purpose studies in particular are expected to deliver the adequate empirical instruments for a multi-disciplinary ageing research agenda. The SOEP has the potential to become increasingly important for ageing research given its longitudinal structure, its large share and thus the number of older individuals and its high diversity of topics. However, there is still improvement potential in order to be able to cover the specific requirements of research on ageing.

In the present report we concentrate on three thematic fields which we identify as relevant for research on ageing: health and health-related needs for services, employability of older workers, and household resources in later life. Within these three fields we make recommendations on ***health measurement***, measurement of ***work ability*** of older workers, measurement of ***intra-household distribution*** of resources and ***household consumption*** information. Improved instruments on these fields can substantially contribute to the further development of SOEP as one of the important sources for socio-economic research on ageing in Germany. Furthermore, improvements in the data basis on the identified fields of health, employment and household contexts can help to react to current policy questions.

This report concentrates on these fields and the potentials of the SOEP. However, it must be stated that there are other ageing topics which need more satisfactory empirical support. In this sense, it is important that the SOEP structure and contents evolve in order to meet the requirements of a very diverse and dynamic ageing research agenda. Furthermore, it must be recognised that the SOEP already offers a wide range of information to research on ageing that is, at least until now, still not sufficiently utilised by most ageing researchers.

Not only improved data but also further substantial ***marketing*** is needed to promote a broader use of the SOEP's existing potentials in the field of ageing. In this way, the SOEP becomes an increasingly important data source for empirical ageing research in Germany and worldwide.

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