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A Capability Approach for Official German Poverty and Wealth Reports: Conceptual Background and First Empirical Results

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A Capability Approach for Official German Poverty and Wealth Reports: Conceptual Background and First Empirical Results

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January 2007

Abstract

The majority of the literature related to Amartya Sen's Capability Approach (CA) has been devoted to questions of development and developing countries. In this paper, however, with a theoretical concept and first empirical results at hand, we shed some light on Sen's argument that the CA is also relevant to wealthy countries (Sen, 1999, p. 6).

First, we discuss the political background of CA applications in the case of Germany. Second, we sketch out a new analytical framework for the assessment of *poverty and wealth* in affluent countries in general from a CA perspective. Third, we show how this framework can be based on a corresponding set of feasible indicators and up-to-date representative information in the German Socio-Economic Panel Study (GSOEP). Finally, three selected empirical examples underline the resulting possibilities for analyses of gender inequalities, the unequal distribution of political participation and interdependencies between financial and non-financial issues of poverty and wealth within this integrative framework.

Key words: poverty, wealth, capabilities, Amartya Sen, affluent countries, poverty determinants.

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1 Introduction and Outline

The majority of the analyses related to the Capability Approach (CA) have been devoted to questions of development and developing countries. However, Amartya Sen (1999, p. 6) points out that the CA is also relevant to affluent countries. This paper shall deepen these insights with respect to recent CA applications for the official ‘German Poverty and Wealth Reports’ by the German government. Our main goals are to present a new concept for the assessment of poverty in affluent countries and to establish a corresponding analytical framework for the analysis of wealth from a CA perspective, which has hardly been done in the CA literature. Last but not least, we want to emphasize the need for a deepened discussion of these propositions as well in the national as in the international audience.

To achieve these goals we will discuss main conceptual issues of CA applications for affluent countries and provide first empirical results on Germany. We will describe the political background of these CA applications for Germany in section 2. Section 3 sketches out the main issues of the general concept and explains the role of income, commodities, personal conversion factors and instrumental freedoms in affluent countries. In section 4 we provide information on the choice of indicators and variables that have been presented recently in a report of the Institute of Applied Economic Research, Tuebingen, on behalf of the German Ministry of Labor (see Arndt et al., 2006). With the assessment of gender inequalities, political participation and the importance of non-financial capability determinants like education, we give three selected examples for the new analytical possibilities within this integrative framework with recent data from the German Socio-Economic Panel Study (GSOEP) and end with final conclusions.

2 Political Background

In Germany, no official poverty assessment existed until 1998. After the election of a new German government in 1998, the governing coalition decided to implement regular official ‘Poverty and Wealth Reports’. Main goals of these new reports are to (German Government, 2005; Volkert et al., 2004):

- contribute to the fight against poverty to strengthen social justice and equality of opportunity.
- analyze exclusion and privileges.

- take account of Gender Mainstreaming issues.
- check how far public policies influence and recognize the fight against poverty ('mainstreaming') and foster social integration.
- strengthen the international exchange of knowledge and experience.

The German government initiated a tender offer to finance an independent research project that should conceptualize subsequent official German Poverty and Wealth Reports. A research team of the Institute for Applied Economic Research (IAW) Tuebingen, Germany, established this study from 2000 to 2002 and recommended to use Amartya Sen's CA as a conceptual framework for the government's official Poverty and Wealth Reports (Volkert et al., 2004). The German government (2005, 2004/3) decided to follow these recommendations. In 2004 it adopted the enhancement of capabilities as a primary goal in the German 'National Action Plans against Poverty and Social Exclusion' that were established for the common 'European Union's National Action Plans' (Volkert, 2006). In 2005 the German government has started to refer to Sen's CA as a conceptual framework for the national Poverty and Wealth Reports. Moreover, a first empirical feasibility study on how to assess main determinants of capabilities in Germany has been carried out (Arndt & Volkert, 2006a; Arndt et al., 2006). Finally, after the elections in 2005, the new German government decided to continue to use Sen's CA as a conceptual framework for subsequent German 'Poverty and Wealth Reports'. At present, the next report scheduled for the second half of 2007 shall pick up the main propositions and results of the already mentioned feasibility study that are going to be discussed in this paper.

3 A general CA-Framework to assess Poverty and Wealth in affluent Countries

In this section we establish a general CA-framework to analyze poverty and wealth. First, we explain the notions of poverty and wealth from a capability perspective. Then, we will describe how we chose main categories and determinants of capabilities, and will explain in further detail the main components of our concept.

3.1 Poverty and Wealth in a CA-Framework

Following the CA-literature a general capability framework will see poverty as a *capability or functioning deprivation* or the *inability to realize a set of basic functionings or capabilities*. A *functioning* is an achievement, what a person manages to do or be. These *beings and doings*

can vary from being adequately nourished, being in good health to complex achievements like having self-respect and appear in public without shame, taking part in the life of the community etc. The various combinations of functionings (beings and doings) that a person *can* achieve are called *capabilities*. The *freedom* that is needed to achieve such a well-being is central for the CA, for example in ethical and political analysis (Sen, 1992, pp. 39-40). If poverty is defined as a capability or functioning deprivation, wealth can be conceived correspondingly as a very extensive capability or functioning set. The kind of wealth the CA will recognize, and seek to develop, is the *extensive possession of those capabilities* to lead the kind of lives that are valuable for them (Volkert, 2005c).

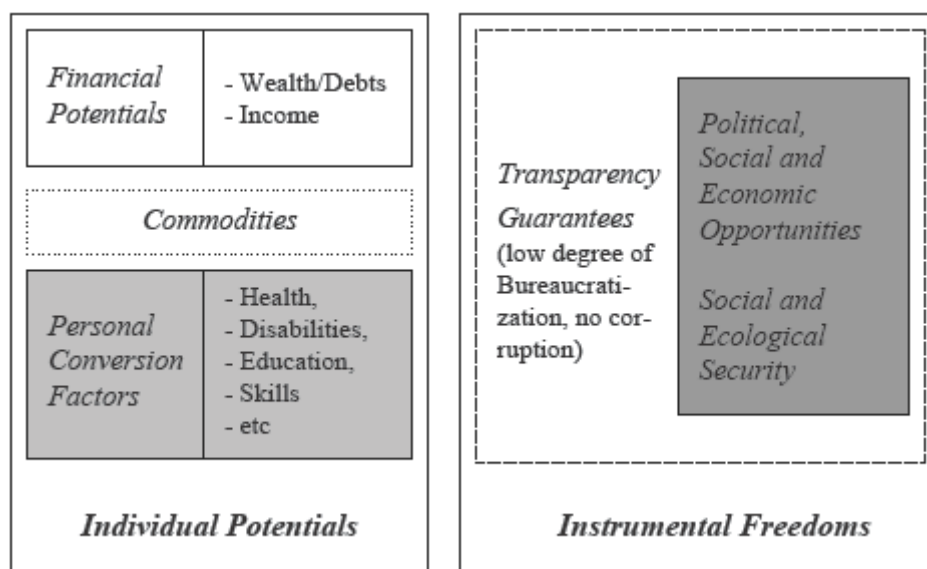
3.2 Choice of Dimensions and main Categories of Capability Determinants

To identify and analyze poverty as a capability deprivation or a capability failure and wealth as a very extensive (or even privileged) capability set and to draw conclusions for public policies, main determinants that make up a person's capability set must be assessed.

Personal normative perceptions are inevitably involved in the choice of capability dimensions. Therefore such a choice should be made as explicit as possible. This is why in the following we will describe the reasons and decisions on which dimensions we perceived as most important. We also want to clarify the role that our proposal played and continues to play for official poverty and wealth reports.

The first study (Volkert et al. 2004) had to set a conceptual framework for the official German Poverty and Wealth Reports, irrespective the shortcomings and limitations of existing databases. Hence, the principal choice of dimensions has not been restricted by issues of data availability (which has been the main question in the subsequent feasibility study – see section 4). Instead our main concern was to show how and that Sen's CA might be a promising approach to reach the goals of the German Poverty and Wealth Reports mentioned in section 2.

Figure 1 provides an overview of main determinants of capabilities, that have been proposed and agreed upon to assess poverty and wealth in Germany.

Figure 1: Main determinants of capabilities in affluent countries

Own presentation following Arndt & Volkert (2006a).

We argue that the scope of direct public policy influence (e.g. on poverty and wealth) can be identified by Sen's concept of 'instrumental freedoms' or Robeyns' social conversion factors (Robeyns, 2005, p. 99). Instrumental freedoms summarize the main possibilities of a state, public policies and social groups to expand or restrict individual capabilities (see also section 3.4). Therefore, we have proposed to highlight instrumental freedoms that have been categorized by Sen (1999, pp. 38-41) as main elements in Poverty and Wealth Reports (Volkert et al. 2004). We have added 'ecological security' as a further instrumental freedom (UNEP/iisd 2004) although we are aware that still quite a number of conceptual and empirical questions will have to be answered to achieve a sound operationalisation (Arndt & Volkert 2006a). However, other aspects like '*personal conversion factors*' and means such as income and commodities are also important for people's well-being in affluent countries and must be incorporated.

We have further specified these broad CA-categories by applying them to main social policy findings for Germany. In this respect it has been very helpful that a leading German socio-economic approach to assess poverty and wealth, the so called "Lebenslagen-Ansatz" shares a lot of common features with the CA, although hardly any international attention has been paid to these parallels yet. These parallels include the idea that poverty analysis should be extended from income and financial means to non-financial issues of well-being, like health, education, housing, employment etc. (Leßmann, 2005). As Germany also has to report in 'National Action Plans against Poverty and Social Exclusion (NAPInc)' it was fortunate that at

the same time Atkinson et al. (2002) proposed a fundamental reorientation of European Union poverty concepts, directly invoking Sen's arguments that emphasized the necessity to integrate income and wealth into a broader picture of success and deprivation (Volkert, 2006). With respect to the remarkable importance of political participation for CA analyses we have requested an analysis of political freedoms and participation for German Poverty and Wealth Reports. These had been neglected in the new European as well as in the first German Poverty and Wealth Report.

This and the subsequent broadening of relevant dimensions and indicators in National Action Plans may also have been reasons for the German government to decide on a CA-related concept of poverty and wealth in Germany.

We have always been aware that our ideas can only be an initial proposal for further discussion. We emphasize that our initial proposals must not substitute a broad discussion related to the choice of dimensions. Therefore, the choice of dimensions – as well as the choice of indicators (see the appendix) – have been discussed at the roundtables of public advisors (organizations of civil society, federal state and local governments) and scientific experts who are involved in the German Poverty and Wealth Report (Semrau & Muellenmeister-Faust, 2003, p. 129). In these discussions the broadening of the perspective to political freedoms and participation has been widely welcomed by most of the groups. It is a goal and challenge for these reports to stimulate a public discussion on main determinants of capabilities that go well beyond the institutionalized groups.

Finally, most of these determinants of capabilities that we will present in the following sections are means or functionings. We are aware that further research will be necessary to bridge the gap between *functionings* and *capabilities*.

3.3 Individual Potentials

As already mentioned, the CA forcefully argues that income is not sufficient to assess a person's well-being. Nevertheless, good reasons exist to begin with an analysis of income. This is necessary to take into account the importance of this means to a variety of ends and to reflect on deprivation of capabilities or very extensive capability sets for which adequate indicators are not available (Anand and Sen, 2000; Sen, 1992, p. 111; Volkert, 2005b).

However, income is neither a sufficient indicator for well-being nor for *financial potentials*. The financial situation may be more influenced by the stock of financial wealth or extreme debts than by the flow of income. We use the term 'extreme debts' to describe situations in

which a person (or a household) is faced with debt payments that go beyond his financial means and make it impossible to cover at least the financial needs of a socio-economic minimum. A person with a relatively low income may be better off than a person with a higher income *and* extreme high debts. Also, to identify the financially rich, a picture of financial wealth that will remain available in the long-run may be more interesting than that of a high income that is gained only at a certain point in time and is possibly lower in other years. Thus, to identify financial potentials, financial debts as well as financial wealth have to be included. Nevertheless, the same financial potentials are not necessarily associated with the same commodities. The commodities that are available to a person may not be adequately reflected by financial or income measures. Reasons for this are, *inter alia*, an unequal income and wealth distribution within a household, complementary public transfers in kind (instead of cash transfers), assistance and transfers by family or neighborhood networks, inability to efficiently dispose on income and different preferences. The CA's differentiation and work on commodities and capabilities (e.g. Sen 1999b) can be helpful in integrating already existing relative deprivation or 'standard of living' research in Germany (Andreß et al. 2004; Andreß 2003). Such an integration may lead to a mutually beneficial exchange of ideas in international discussions.

With a certain set of commodities, individual capabilities are not necessarily determined by the quantity of available commodities but rather by the characteristics that are valuable for a certain person. *Personal conversion factors* determine the ability to convert means, such as income and commodities into capabilities, according to personal characteristics (Robeyns, 2005, pp. 98-100).

The individual status of health and disabilities are part of these personal conversion factors. For example, for people with physical disabilities a car may only guarantee the characteristic of mobility when certain – costly – modifications are available that enable them to drive this car. Kuklys (2005a,b) showed that the share of income-poor in the U.K. households with disabled members nearly doubles (to almost 50 %) if not low incomes, but *inadequate* incomes (with respect to the higher costs to convert income into capabilities) are taken into account. Some forms of disability-driven capability deprivation cannot be compensated at all by higher expenses. A capability deprivation due to the inability to reach places of social contact that are not accessible by wheelchairs provides an example. Hence, very good or very bad health status and life expectancy are important drivers of very restricted or very extensive capability sets (Volkert, 2006).

Other important personal conversion factors are an individual's educational level and skills. The necessity to distinguish educational levels (school enrolment) and skills (e.g. literacy) has become obvious in Germany. Despite a relatively high school enrolment ratio recent studies have shown that 10 % of all 15-years-old pupils in Germany are not able to read and understand even simple texts and have to be classified as functional illiterates (OECD 2004). Hence, such a differentiation of school attendance, on one hand, and resulting skills, on the other, has given important insights to challenges for public education policies. Functional illiteracy will severely restrain the capability set of these pupils (being able to participate, to appear in public without shame, to be well informed about opportunities and risks, participate in the labor market etc.). These obstacles may even exceed the disadvantages resulting of a lack of educational degrees that have a more pronounced impact on employment opportunities. Regarding wealth and privileges, high university degrees and skills will substantially improve the capability set of individuals in knowledge-based societies (Volkert et al. 2004).

Further personal conversion factors such as age, sex and nationality may also affect the conversion of income and commodities into capabilities (Volkert 2006). The whole bundle of individual financial potentials, commodities and personal conversion factors certainly have a significant impact on a person's capabilities. Hence, we name this bundle *individual potentials*. All individual potentials (financial potentials, commodities and personal conversion factors) can or must be transferred to any other society and country. Hence, they are quite strongly linked to an individual.

3.4 Instrumental Freedoms

We have already pointed out, that one feature of our concept is to distinguish individual potentials and instrumental freedoms. Despite the importance of individual potentials as determinants of capabilities, they are not sufficient to assess poverty or wealth from a capability point of view. To give an example: How much a chronic disease such as diabetes affects the life expectancy depends on the access to efficient health care, on knowledge and on the awareness of the corresponding risks – which is in turn influenced by the (prior) access to an efficient educational system – and on social security, which guarantees these necessary opportunities also to people with low incomes (Sen, 1992, pp. 111-116; Robeyns, 2005, pp. 98-99). Hence, public policy and social groups play a key role in determining whether low incomes, lack of commodities and poor personal conversion factors really lead to capability deprivation; or whether public policy is able to efficiently overcome these individual problems by the provision of sufficient instrumental freedoms. Instrumental freedoms consist, inter alia, of so-

cial opportunities, economic facilities, protective security, political freedoms, ecological security and transparency guarantees (Sen, 1999, pp. 38-41; UNEP/iisd, 2004).

Social opportunities reflect the arrangements that society makes to guarantee the access to education, health care, public services, decent housing and other social institutions. For example, missing or insufficient access to health care and to the educational systems, public transport, poor housing and homelessness will induce severe capability deprivation on the one hand. On the other, wealth, comprehensively defined as a very extensive capability set may be characterized by privileged 'elite' education and training opportunities, exclusive health care provision, residing in a privileged neighborhood with contacts to highly influential citizens etc.

Opportunities that individuals enjoy to use economic resources for consumption, production or exchange are called *economic facilities*. Perhaps the most important of economic facilities lacking in Germany and other European countries is access to the labor market. As Sen (1999, pp. 94-95) puts it:

“unemployment has many far-reaching effects other than loss of income, including psychological harm, loss of work motivation, skill and self-confidence, increase in ailments and morbidity (and even mortality rates), disruption of family relations and social life, hardening of social exclusion and accentuation of racial tensions and gender asymmetries...” “...the massive level of European unemployment constitutes at least as important an issue of inequality, in its own right, as income distribution itself”.

In times of an increasing importance of precarious work – not only in Europe – attention must also be devoted to working conditions, the phenomena of *working poor* and *low wages*. On the other side privileged career opportunities of certain individuals, families or groups may result in high earned incomes, as well as in an extensive occupational independence that all contribute to an extensive capability set (Arndt & Volkert, 2006a).

Protective security includes social security systems and protection from violence and criminality. A social safety net is needed in preventing a reduction of the capability sets of (parts of) a population to abject misery or even starvation and death. In this respect the redistributive effects of the social security system, particularly its contribution in favor of the poorest households will be of interest to assess public policy's contribution to overcome capability deprivation. Hence, on one hand, social security benefits guarantee a politically determined minimum level of income and various transfers in kind to maintain a certain well-being. On the other, particularly long-term recipients of social benefits become dependent on external assistance, a process that may jeopardize their autonomy, self-respect and other determinants of well-being. Therefore, the share of (long-run) recipients of social minimum benefits also

reflect a lack of *independent* capabilities to maintain a minimum level of well-being, without having to rely on or being dependent of public agencies.

Regarding the role of wealth as an extensive capability set, it can be assumed that an efficient and fair social security, transfer and tax system should imply higher net financial contributions (net transfers to the social security, transfer and tax system) by people and groups with higher incomes or financial potentials. Privileges can be assumed when certain persons or groups enjoy relatively lower taxes and social security burdens in comparison to their high(er) incomes. This may occur due to successful political lobbying in favor of tax privileges and exemptions, or simply because of illegal tax evasion.

Moreover, a concept to assess protective security should explicitly incorporate protection from violence, disaggregated for different groups of the whole population.

Finally, there is a need to identify ‘primary’ or ‘extreme’ poverty in the sense of missing even biological subsistence levels (Sen, 1981) in poor as well as in rich countries. Sen (1983, p. 154) argued that the important insight of the relativity of poverty unfortunately “took the investigation entirely in the relativist direction”. It is remarkable that hunger and malnutrition exist in wealthier countries like the United States (Sen, 1999, p. 89), with an average income that exceeds that of Germany. In Germany it is becoming more obvious that the homeless, drug addicts or illegal immigrants live in desperate misery and *extreme poverty*. Their problems have been neglected for decades. An analysis of extreme poverty requires more than primary *income* explorations. This is because insufficient income is not the most important reason for most ‘modern’ forms of primary or extreme poverty in affluent countries. Therefore income redistribution alone may not be a promising solution (Volkert, 2005c).¹

Ecological security has recently been proposed as an instrumental factor which should be incorporated into the capability framework (Scholtes 2005; UNEP/iisd, 2004). Ecological security is defined as “the provision of ecological safety nets to individuals who depend on ecosystem services for achieving many of the constituents of well-being” (UNEP/iisd, 2004, p. 29). Ecosystems and ecosystem services provide relevant services for human well-being such as provisioning (food, fiber fuels), regulating (purification, detoxification, mitigation of droughts and floods) and enriching (spiritual, aesthetic, social; UNEP/iisd, 2004, p. 5).

¹ The German government has just recently begun to systematically assess extreme poverty. For a preliminary description of this project refer to Ludwig & Neumann (2003).

Political freedoms refer to the opportunities to participate in determining governments and public policies. The capability approach necessitates a considerable level of participation of citizen in politics. A policy is to be determined of what people value and have reason to value: The state can, on the one hand, enhance the citizen's political freedoms. On the other, people's use of these enhanced participatory capabilities will in turn influence the behaviour of the state and civil society. To analyze this two-way relationship, formal as well as informal opportunities and barriers to participate in political life have to be included. This is necessary as such barriers identify the needs and areas where action is required. Needs that are not articulated in the democratic process tend to be neglected and highly influential interest groups can further distort the distribution of access to political power (Sen, 1999; Schneider & Volkert, 2005). So, the CA requires broad access to the political process – both because it is in itself an important instrumental freedom, and because it provides the information needed to formulate effective policies. Whether this participation is well-informed may, inter alia, depend on an individual's political interest that may therefore also be included.

Sabina Alkire (2002, pp.129-153) has identified four participation functions that are essential for capability analyses. First of all, participation may have an *intrinsic value* for persons as choosers. It enhances the freedom of participants to express their views and contribute to a more valuable consensus. The higher value is due to broader participation and may be reflected in sociability or consolidating a sense of community and cooperation among the decision-making group. Second, participation may have *instrumental importance* to improve certain outcomes. This is so, because a decentralized decision process provides more and better information on people's needs that in turn may result in a more precise analysis of needs; or/and because this improves the prerequisites and incentives for decision-makers to take account of the various expectations and needs of those who are or should be involved in the decision making process. Third, the *constructive effects* of participation consist in forming and clearing values. Value formation results from participation because citizens have the opportunity to learn from one another and to contribute to the social formation of values and priorities. Additional information generated by participative processes may modify attitudes or even values. Consequently, values and value priorities may be clarified and quite a number of formerly unconsidered positions may be modified. This can help to identify what individuals or groups really want (Alkire, 2002, pp. 137; Sen, 1999, p. 80). Fourth, effective participation plays a necessary role in protecting personal freedom and in considering *identity effects*. Free choices do not only constitute what people do but also who they are – their identity and culture. Sen's CA assumes that people have plural identities (for example being German, a rock

fan, conservative party activist, and a citizen of Berlin). Furthermore, people should be able to choose how they want to live. Sen mentions that people must have the opportunity to decide freely which tradition to follow and which to deny. Hence, participation is necessary to ensure that people have the opportunity to decide on cultural conflicts (Sen, 1999, pp. 31-32). This can entail adopting new cultural practices through the implementation of development measures as well as to refrain from such new practices as long as people have and keep the freedom of participatory decision making.

In the CA the opportunities to realize social actions under guarantees of disclosure and lucidity are called *transparency guarantees* (Sen 1999, p. 39). For poverty analyses the degree of bureaucratization and the resulting size of non-take-up-rates of social transfer payments are of particular interest. The same holds for obstacles in transparency guarantees due to corruption, bribery or fraud with respect to poverty as well as wealth analyses (Volkert et al., 2004, pp. 131-143). This is most important because *formal* public policy guarantees of other instrumental freedoms, like access to health care or social security, do not enhance individual capabilities for those people that are not able to benefit from them because of corruption or bureaucratic complexity. Thus transparency guarantees are indispensable for identifying a lack of *real* freedoms and privileges resulting from corruption and other obscure social activities.

3.5 Instrumental Freedoms, social Exclusion, Privileges and public Policy

As already mentioned in section 2 one of the main goals of the official German Poverty and Wealth Reports is to analyze social exclusion and privileges.

We argue that social exclusion and privileges are both conceptually linked to instrumental freedoms. Social exclusion can be conceptualized as a specific lack or social denial of instrumental freedoms to certain individuals or groups. For example, deficits of individual potentials like income poverty or severe diseases do not constitute exclusion as such. Instead it is the lack of corresponding instrumental freedoms like the denial of social security payments or of an access to health care that lead to social exclusion. On the other side, social privileges may be seen as an extensive set of instrumental freedoms that is often established and maintained by impairing the capability sets of other citizens. Again, an extensive set of individual potentials like high income, very good health or excellent education alone will not be associated with privileges. Privileges will be established by instrumental freedoms like *exclusive* access to elite education, excellent health care, top economic positions or by corruption that may also be used to exclude others from these opportunities.

Obviously, instrumental freedoms are important determinants of individual well-being, social exclusion and privileges in a CA-framework. Instrumental freedoms conceptualise all determinants that can be directly influenced by the state and social groups and hence bear a specific importance for official poverty and wealth reports. Public policy can design and control instrumental freedoms while individual potentials may only be modified indirectly via instrumental freedoms. To give an example: to improve the skills of a population, public policy can provide instrumental freedoms like the access to (excellent) education; however, this will not guarantee the improvement of the people's skills, as long as the population is not willing to attend these educational programs. Therefore, the conceptual identification and boundaries of instrumental freedoms illustrate the field that public policy can directly influence and which will therefore be in the focus of an analysis and evaluation of public policy.

4 First empirical Findings for Germany

4.1 Choice of Indicators and GSOEP as Database

The general CA-framework sketched out in the preceding section has been established with respect to conceptual questions and without compromises due to data restrictions. In contrast to the conceptual framework, the choice of indicators has necessarily been driven by the availability of suitable data. In the following we build partly on the already mentioned first empirical feasibility study, in which the German government requested to explore the availability of suitable indicators, missing data and ways to provide data that are not yet available (Arndt et al., 2006). For the details a list of the proposed and currently feasible indicators is provided in table 2 in the appendix. It shows that not all determinants of capabilities mentioned in section 3 can already be assessed in a completely satisfying way. In quite a number of issues we have recommended to further elaborate and supplement the database. However, it lies beyond the scope of this paper to discuss these shortcomings in further detail.

To decide on indicators to be proposed we have proceeded in the following way: Indicators have been selected that should catch the main aspects of the CA in the light of recent research on German social policy issues. Moreover, the German government wants its poverty and wealth reports to serve as a complementary source of information for its National Action Plans that have to be provided at the level of the European Union. Therefore, the desire was to give priority to the so called *Laeken-indicators*. This is a list of indicators that have been agreed upon by European Member States to be relevant for assessing poverty and social exclusion (in an earlier version proposed by Atkinson et al., 2005a,b, and 2002). Each Member

State has to supply data for all these indicators (Volkert, 2006). Therefore, we decided to use Laeken-indicators as far as these are suitable to assess main determinants of capabilities in order to avoid parallel work by similar, though not identical indicators. Nevertheless, we proposed additional indicators that have been missing where certain relevant dimensions such as political freedoms and participation or other relevant fields had not been on the agenda before.

We have chosen the GSOEP as our database. GSOEP is a wide-ranging representative longitudinal micro-data panel that includes about 12,000 private households and about 22,000 persons in Germany. In principal, it covers all relevant CA-dimensions for about the past 20 years. It allows to identify determinants of capabilities from a microeconomic perspective for households and individuals. Information about wealthy people is often underrepresented in household surveys. Therefore, from the year 2002 on, GSOEP provides an oversampling of high-income households to allow analyzing patterns of inequality and extreme wealth more precisely. In many fields of capability research GSOEP appeared to be very helpful also because it has – among other – been established following German Lebenslage-approaches with their remarkable similarities to the capability approach. Because we can retrieve information regarding almost the full set of our proposed CA-dimensions, we are able to analyze interactions between the different capability determinants, e.g. have a look at dependencies of financial and non-financial characteristics, as done in section 4.4. In addition, the longitudinal structure of the panel not only allows to report aggregated developments of capabilities, but also permits to have a closer look at the dynamics at the household or individual level – for example long term unemployment.

However, the neglect of political freedoms and participation in German official Poverty and Wealth Reports as well as in quite a number of independent German studies on poverty and wealth has been reflected by a lack of suitable indicators in GSOEP. The only indicator that is at least associated with political participation is a question about ‘political interest’. Given the outstanding importance of this field in the CA, this is certainly not sufficient. Therefore, supplementary data of the German General Social Survey (ALLBUS) is used, a survey that is more suitable to assess different kinds of formal and informal political participation in Germany. However, ALLBUS serves only as a specific opportunity for in depth analysis of political freedoms and participation as it includes only 3,000 persons in Germany and is less suitable than the GSOEP to assess other dimensions of capabilities. Hence, we recommended to supplement further indicators for the identification of political freedoms and participation into GSOEP to allow for analyzing these issues on a comprehensive micro-data basis.

As we have already emphasized in section 3.2, our indicator set can only serve as a first proposal for further public discussion. Therefore, the choice of indicators has already been discussed by a variety of public advisors (organisations of civil society, federal states and local governments) and by scientific experts that are involved in the Poverty and Wealth Report. But still, a main target of subsequent reports will be to stimulate a broad public discussion on indicators for determinants of capabilities – as well on the German as on the international level.

4.2 Gender Inequality: Descriptive Results for the main Indicators

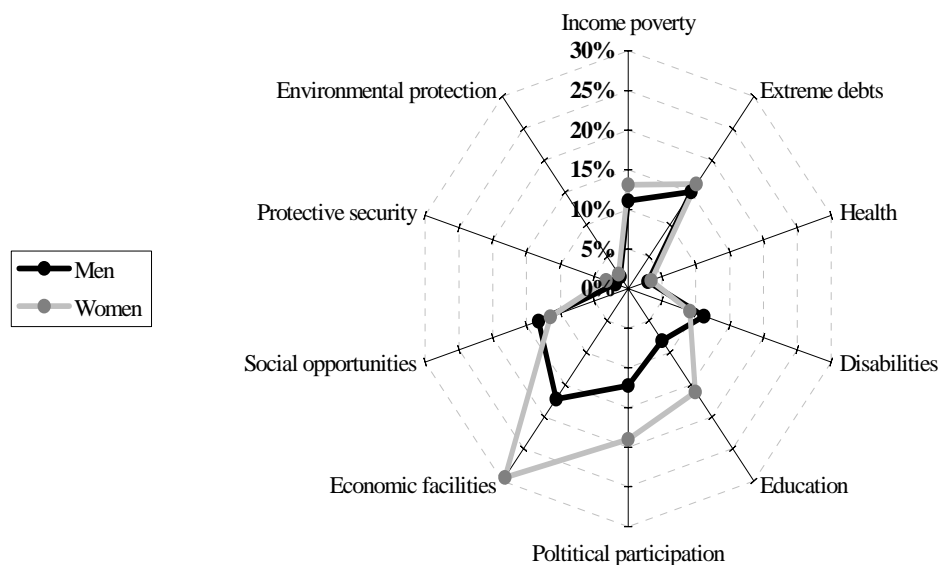
Amartya Sen (1999, p. 109) argued that “we cannot analyze gender inequality primarily in terms of income differences.” He stressed that there is a need for more information to specify inequalities that exist within economic affluence. He requested information concerning other types of deprivation to directly assess inequality and poverty in order to relate “the extent of relative deprivation of women to the existing inequalities in opportunities (in earning outside income, in being enrolled in schools and so on)”.

We have briefly explored the relevance of Sen’s argument for Germany, using the CA-framework, established in the previous sections. A more sophisticated analysis of CA and gender questions for Germany has been carried out elsewhere (Arndt & Volkert, 2006b). Figure 2 shows that on one hand, women are confronted with only slightly higher income poverty rates (13.2 % versus 10.9 %) compared to men as well as almost similar shares of persons in households with extreme debt burdens (6.6 % to 6.3 %).

To a large extent, this is due to the fact that income is measured and weighted per household, obscuring intra-household inequalities. To the contrary, women are much worse off with respect to lack of education (women 16.7 % versus men 8.1 %), political participation (women 16.8 % versus men 10.1 %) and economic facilities (women 27.9 % versus men 16.6 %).

The results indicate that the shortcomings of income focused poverty assessments highlighted by Sen’s CA play a significant role in Germany. Moreover, regarding the necessity to redesign public policies it is obvious that improvements in the field of education for women are more urgent than household-oriented financial redistribution. However, the even more pronounced female deprivation within economic facilities signals that improving education will not be enough. Instead, public policy will have to ensure better labor market access and working conditions for women in Germany as they still have less opportunities in the labor markets – even with the same educational level.

Figure 2: Lack of individual potentials and instrumental freedoms among men and women in Germany (2004)

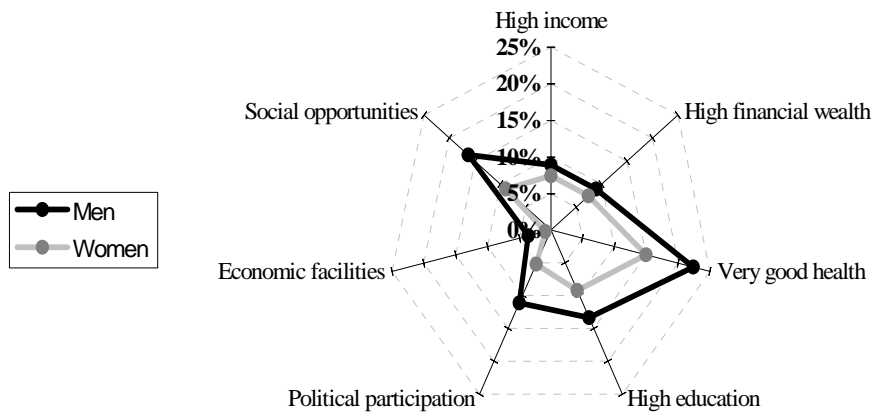


Source: Arndt & Volkert (2006a), GSOEP 2004. For detailed descriptions of underlying indicators refer to Table 2 (Appendix)

Sen's thesis that non-financial inequalities may be more pronounced than financial is also confirmed with respect to very extensive individual potentials and instrumental freedoms in Germany (Figure 3). Differences between female and male high income and financial wealth are again less pronounced than other determinants of capabilities, notably in the fields of health status, education, social opportunities (particularly access to privileged health care) and economic facilities. Moreover, the data that is available shows that the male shares in Germany who benefit from extensive individual potentials and instrumental freedoms in Germany are almost higher in all dimensions – except disabilities – than the female shares.² This indicates that inequality between women and men is even more pronounced within a CA-perspective for poverty *and* wealth than a focus on income inequality or deprived functionalities or capabilities alone might have suggested.

² Slightly more women (87,8 %) than men (85 %) in Germany report that they do not suffer from any severe disability. This result was not depicted in figure 3 because the high female and male values of this indicator would have made it difficult to perceive the other smaller values.

Figure 3: Very extensive individual potentials and instrumental freedoms among women and men in Germany (2004)



Source: Arndt & Volkert (2006a), GSOEP 2004.

Finally, it is remarkable that significantly more women show little or low political participation or interest and even less women show a strong interest in politics. This indicates the necessity for public policy to strengthen female political interest and participation to increase the probability to overcome existing gender inequalities within the political competition. Without more female public interest and action there is the risk that deficits will be neglected in the political process and will prevail in the long run.

It shall be noted again that the concrete GSOEP political participation values have to be interpreted with caution as they relate to the indicator 'high or low political' interest. Hence, in this section a potentially lower political participation could only be measured based on political interest. To avoid these problems we have carried out the special analysis of political participation in the next section with more suitable ALLBUS-data.

4.3 Political Participation and Inequalities

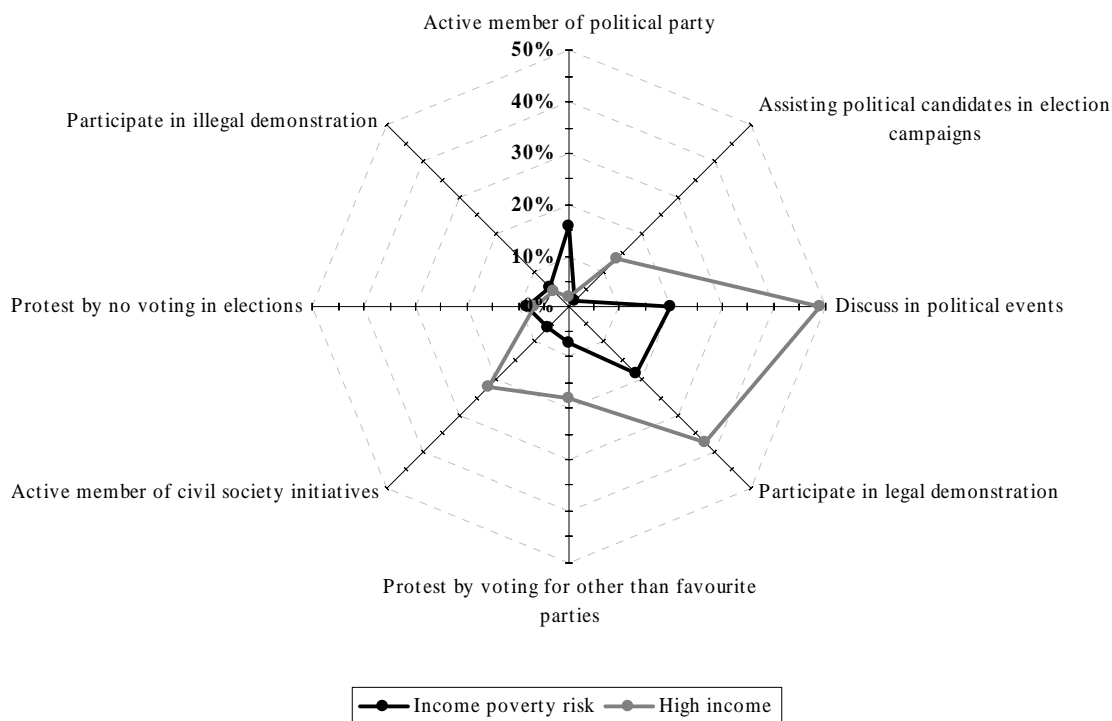
We have seen that remarkable gender differences persist in Germany. However asymmetric political participation is also found in other capability-relevant fields in Germany. We have already argued, that within a CA-framework political participation shall guarantee that different social values are recognized, discussed and become part of a critical value formation in

political processes. This requires broad and at least fairly proportionate participation rates by all actors. Drawing on the more suitable ALLBUS-data to identify political participation in Germany, we find remarkable differences in participation also between households that face a risk of income poverty (lower than 60 % of median equivalent income) and households with high incomes (higher than 200 % of median equivalent income, see figure 4). About 93 % of the respondents in high-income households, but only about 79 % of low-income households say that they have participated in political elections.

Figure 4 depicts further remarkable differences: citizens with higher incomes show higher inclination to become active members of political parties, assist political candidates in campaigns, discuss in political events, participate in legal demonstrations and become active members of civil society initiatives.

The importance and potential consequences of these results become more obvious if we look at them from a perspective of CA participation functions (see the discussion in section 3.4). In the light of these participation functions (Alkire, 2002) the dominance of financially rich citizens is particularly strong. Main participation functions like instrumental and constructive effects, formation of intrinsic value and identity require active contributions in open discourses. These contributions in open discourses will be more effective in certain forms of political participation like being member of a political party or civil society initiative, assisting political candidates or discussions in political events than in more passive or illegal forms of political responses. Obviously, the inequality of political participation between the income rich and poor in Germany is most pronounced for these important forms of open discourses. Moreover, due to the dominance of financially rich people for these discursive forms of political participation the risk occurs that positive participation effects will be shared almost exclusively among rich-income people thereby distorting the political process and devaluating political consensus. To the contrary, participating in illegal demonstrations and particularly to protest by staying away from the polls (a reaction that is almost as widespread in high as in low-income groups) tends to be less adequate to fulfill the CA-tasks of political participation.

Figure 4: Differences in political participation between households with high and low incomes in Germany (2002)

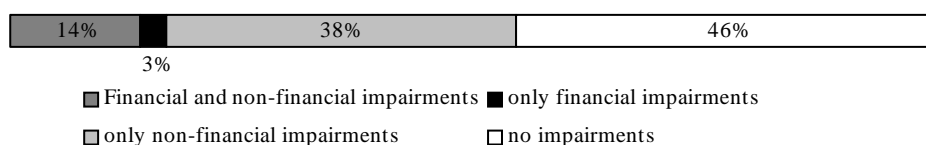


Source: Arndt & Volkert (2006a), ALLBUS 2002.

Therefore, a public policy that tries to build on broader public action should be aware of the formal and informal methods of political participation that are used by different citizens and groups. This may enable to clarify how far important functions of political participation are really secured for different groups of citizens.

4.4 Interdependencies between financial and non-financial Determinants of Capabilities

Sen (1999a, p. 94) stated that the difference of a traditional concentration on economic wealth and a broader focus on the lives we can lead is important to conceptualize poverty, affluence and development. This is not only due to the fact that, as we have already demonstrated, inequalities are often more severe regarding non-financial instead of financial determinants of capabilities – moreover, focusing only on income would miss substantial fractions of the population who suffer from non-financial impairments.

Figure 5: Financial and non-financial impairments of determinants of capabilities in Germany (2004)

Source: Arndt & Volkert (2006a), GSOEP 2004.

Figure 5 shows that besides the 17 % (14 % + 3 %) of people in Germany who suffer from financial impairments (low incomes or extreme debts), a considerably larger fraction is subject to non-financial impairments without being financially poor (38 %). Meaning a narrow focus on financial poverty would miss a substantial fraction of the population, among them people with very severe non-financial impairments, like illiteracy, severe diseases, lack of health insurance etc.

4.5 Main Drivers of Capability Inequalities: Regression Results

Going beyond these first descriptive statistics and regarding the causes of inequality and poverty in Germany, maximum-likelihood-probit estimations show that missing or low education has a very prominent role among the main drivers of most determinants of capabilities in Germany.

Table 1 shows the estimated influences of the regional background in the former socialistic East Germany, sex, education and low income on main determinants of capability deprivation. For the full regression output see table 3 in the appendix. Taking into account various important control variables one result is, that people in East Germany face significantly higher risks to be income poor (+4 %), to suffer from persistent poverty (+2 %), extreme debts (+2 %), and low economic facilities (+4 %) like low wages (+3 %) than people in West Germany. They have significantly more problems in getting access to decent housing and are more likely not to be interested in politics at all. Nevertheless, they have a significantly smaller risk (-5 %) of insufficient school education than the population in West Germany.

Table 1: Main drivers of capability deprivation in Germany (2004).

Marginal effects	Income Poverty	Persistent Poverty	Extreme Debts	Education	Economic Facilities	(Low) Wage	Access to Health care	Access to Decent Housing	Political Interest	Protective Security
East Germany	0.04***	0.02***	0.02***	-0.05***	0.04***	0.03***	-0.00	0.06***	0.02***	-0.00
<i>[vs. West]</i>	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)
Women	-0.00	-0.00	(0.00)	0.05***	0.04***	0.11***	-0.00	-0.00	0.07***	0.00
<i>[vs. men]</i>	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)
School Drop Outs	0.23***	0.13***	-0.01*	-	0.20***	0.17***	0.93***	0.05***	0.31***	0.02**
<i>[vs. Tech. /Upper]</i>	(0.03)	(0.03)	(0.00)	-	(0.03)	(0.05)	(0.07)	(0.02)	(0.03)	(0.01)
Income poverty	-	-	0.01	0.02**	-	-	-0.00	0.03***	0.04***	0.03***
	-	-	(0.00)	(0.01)	-	-	(0.00)	(0.01)	(0.01)	(0.01)
Observations	16,825	16,733	16,653	16,811	16,825	10,387	399	16,284	16,795	16,796

Maximum likelihood probit estimates, marginal effects reported. Robust standard errors in parentheses. ***Significant at the 1 % level; **significant at the 5 % level. Various further not depicted variables have been controlled for and are partly significant; among them 4 household types, 4 age groups, 4 educational levels, 5 groups of occupational status and 3 groups of employment status. For the full regression output see table 3 the appendix. Data: GSOEP 2004, authors' calculations.

Table 1 also confirms the first gender-specific result of the descriptive analysis in section 4.2. Indicators with focus on the financial situation on household level (income poverty, persistent poverty, extreme debts) apparently show no significant differences between females and males in Germany, which is partly due to the limits of the household concept as stated by Sen (1999). Our regression results also show that gender inequalities can be found with regard to non-financial determinants of capabilities. Controlling for various other variables, women bear a significantly higher risk of being insufficiently educated (+5 %), and suffer from deprived economic facilities (+4 %). This is mainly due to their risk of working in a low-wage job which is c.p. 11 % higher than for men. With regard to the policy implications of these results, we have to conclude that a more inclusive education for females may solve at least an important part of these inequalities. This may pose a severe challenge in improving the overall situation for women by public policy. However, we have to acknowledge, that for a more detailed analysis of gender issues it is indispensable to take into account possible further gender specific influences. These may be specific problems of mothers, like lone motherhood and the respective number of children (see Arndt & Volkert, 2006b).

But apparently, the most remarkable driver of unequal determinants of capabilities in Germany is the lack of education. Controlling for other determinants of capabilities school drop outs' risk to live in income poverty is 23 % higher than for people who succeed in doing a technical or upper degree. The probability for drop outs to be persistently poor is 13 % higher. They are significantly more probable to be deprived from economic facilities (+20 %), to work

in low-wage jobs (+17 %), to be deprived from access to decent housing (+5%) and protective security (+2 %). Furthermore, the probability that drop outs are not interested in politics is 31 % higher. Further results with regard to facing problems to benefit from the health care system in Germany have to be interpreted with caution, given the small number of only 399 observations in the case of this regression.

It would go beyond the scope of this study to discuss the causal factors for these remarkable results. We can only briefly confront these findings with the influence of income poverty. This may provide a first insight into Sen's thesis that income poverty is only part of the problem. Yet, financial aspects may provide a substantial value added. Obviously, income poverty significantly increases the risk of insufficient education (+2 %), deprivation of protective security (+3 %), bad housing conditions (+3%) and no interest in politics (+4 %).

Sen's thesis that income is not necessarily of the greatest importance is underlined by the fact that the influence of insufficient education seems to be at least equally important as the influence of income poverty with respect to a lack of decent housing and political interest. The descriptive results indicate that the group of the income poor is quite different from the group of people suffering from extreme debts. This may be reflected by the finding that only education and not income poverty has at least a slight significant impact on extreme debts. Moreover, even in the areas where income poverty has a remarkable impact on deprivation with respect to social security, a lack of education is of almost similar importance. Finally, controlling for various other variables, the additional risk to suffer from insufficient education is more pronounced for women than for the income poor. We can cancel out potential implications from possible endogeneity bias on our conclusions as the robustness of the reported results has been checked also for the case of alternative regression set ups – without controlling for income issues.

We can conclude that although income poverty without doubt is an important driver of capability deprivation in Germany, Sen's argument that we have to include non-financial aspects is empirically confirmed for Germany. Even the few results that were selected from the first empirical feasibility analysis for Germany show that other factors like education and sex have to be included as they may cause more significant impacts than income poverty.

5 Conclusions and Perspectives

The main intention of this study was to present and discuss a comprehensive capability concept to assess inequalities in main determinants of capabilities and to identify poverty, social exclusion *and* wealth as well as privileges from a CA perspective.

Our conceptual work underlines Sen's thesis that the CA can be applied not only to developing but also to affluent countries. Moreover, experiences related to German as well as European poverty reports show remarkable similarities between German 'Lebenslage-approaches' and EU poverty assessments, on one side, and an assessment of capabilities, on the other. Hence, a more intensive international exchange of concepts established in affluent countries and capability assessments may be mutually beneficial.

First empirical results for Germany confirm Sen's thesis that it is necessary to broaden the perspective from a narrow income focus to a fuller picture of human freedoms. Regarding the German situation this is so because:

- As assumed by Sen, inequalities, e.g. between females and males, tend to be even more substantial for non-financial than for financial determinants of capability deprivation.
- Inequalities are more pronounced when we extend the perspective to financial and non-financial determinants of very extensive functionings, particularly with respect to the non-financial determinants; again gender issues provide examples.

With respect to the importance of political freedoms and participation substantial inequalities prevail even in affluent countries such as Germany. These may become obstacles for necessary improvements of public policies' potential to substantially decrease inefficient and unjust inequalities. Furthermore, a broad perspective covering both financial and non-financial determinants of capabilities may also be helpful to identify the main drivers of inequality.

There is no doubt, that a variety of questions are left open for further discussions and research. Our analysis has been restricted to the main determinants of capabilities, particularly functionings, including financial potentials, personal conversion factors and selected instrumental freedoms. However, neither have we bridged the gap from functionings to capabilities; nor have we analyzed their concrete interplay within the capability set that may intensify the impacts of isolated deprivation or privileges. Both will have to be left for further research as well as important longitudinal empirical research that is possible with GSOEP.

The German government's decision to refer to Amartya Sen's CA as a conceptual framework for subsequent reports on poverty and wealth have to be interpreted as a first step. It has broadened the scope of analysis, amongst other, to political freedoms and political participation. More steps will be needed to move from that principal decision to a fully satisfying assessment of capabilities.

References

- Alkire, S. (2002): *Valuing Freedoms: Sen's Capability Approach and Poverty Reduction*. Oxford University Press, Oxford.
- Anand, S. & Sen, A. (2000): The Income Component of the Human Development Index, in: *Journal of Human Development*, 1 (1): 83-106.
- Andreß, H.-J.; Krüger A. & Sedlacek, B. K. (2004): *Armut und Lebensstandard. Zur Entwicklung des notwendigen Lebensstandards der Bevölkerung 1996 bis 2003*. Berlin. Studie im Auftrag des Bundesministeriums für Gesundheit und Soziale Sicherung.
- Andreß, H.-J. (2003): Resources, Standard of Living and Lebenslagen – and What does all this have to do with poverty?, in: R. Hauser and I. Becker (Eds.), *Reporting on Income Distribution and Poverty*. Springer, Berlin.
- Arndt, Chr. & Volkert, J. (2006a): Amartya Sens Capability-Approach – ein neues Konzept der deutschen Armuts- und Reichtumsberichterstattung, in: *Vierteljahrshefte zur Wirtschaftsforschung*, 1: 9-27.
- Arndt, Chr. & Volkert, J. (2006b): *Gender Inequality in Germany – a Capability Perspective*. Paper presented at the 6th Human Development and Capability Association (HDCA) Conference at the University of Groningen, NL, August 29 - September 1, 2006.
- Arndt, Chr.; Dann, S.; Kleimann, R.; Strotmann, H. & Volkert, J. (2006): Das Konzept der Verwirklichungschancen (A. Sen) – Empirische Operationalisierung im Rahmen der Armuts- und Reichtumsmessung, Machbarkeitsstudie, <http://www.bmas.bund.de>.
- Atkinson, A. B.; Cantillon, C.; Marlier, E. & Nolan, B. (2005a): *Taking Forward the E.U. Social Inclusion Process*. Luxembourg. An Independent Report commissioned by the Luxembourg Presidency of the Council of the European Union, Final Version, 31 July 2005, Report.
- Atkinson, A. B., Cantillon, C.; Marlier, E. & Nolan, B. (2005b): *Taking Forward the E.U. Social Inclusion Process*. Luxembourg. An Independent Report commissioned by the Luxembourg Presidency of the Council of the European Union, Final Version, 31 July 2005, Annexes.
- Atkinson, A. B., Cantillon, C.; Marlier, E. & Nolan, B. (2002): *Social Indicators. The E.U. and Social Inclusion*. Oxford University Press, Oxford.
- German Government (2005): *Zweiter Armuts- und Reichtumsbericht*. Drucksache 15/5015, Berlin. German National Parliament.
- German Government (2003/2004): *National Action Plan against Poverty and Social Exclusion 2003-2005*, Update 2004, Bonn. Federal Ministry of Health and Social Security.

- Kuklys, W. (2005a): Armut- und Ungleichheitsanalyse in Großbritannien. Vorschläge zur Operationalisierung von Sens Capability-Ansatz, in: J. Volkert (Ed.), *Armut und Reichtum an Verwirklichungschancen. Amartya Sens Capability-Konzept als Grundlage der Armut- und Reichtumsberichterstattung*. VS Verlag, Wiesbaden.
- Kuklys, W. (2005b): *Amartya Sen's Capability Approach. Theoretical Insights and Empirical Applications*. Springer, Berlin.
- Leßmann, O. (2005): Der Capability Ansatz von Sen als Gerüst für eine Neuinterpretation des Lebenslage-Ansatzes von Weisser, in: J. Volkert (Ed.), *Armut und Reichtum an Verwirklichungschancen*. VS Verlag für Sozialwissenschaften / Springer Media, Wiesbaden: 73-94.
- Ludwig, M. & Neumann, U. (2003): A conceptual framework for recording extreme poverty, in: R. Hauser and I. Becker (Eds), *Reporting on Income Distribution and Poverty*. Springer, Berlin.
- OECD (2004): *Learning for Tomorrow's World. First Results from PISA 2003*. Paris.
- Robeyns, I. (2005): The Capability Approach. A Theoretical Survey, in: *Journal of Human Development*, 6 (1): 93-114.
- Schneider, F. & Volkert J. (2005): Politische Chancen, Armut und Reichtum, in: J. Volkert (Ed.), *Armut und Reichtum an Verwirklichungschancen. Amartya Sens Capability-Konzept als Grundlage der Armut- und Reichtumsberichterstattung*. VS Verlag, Wiesbaden: 259-281.
- Scholtes, F. (2005): Ensure Environmental Sustainability: MDG7 and the Capability Approach, Maytreeye, in: *Newsletter of the Human Development and Capability Association*, 2: 8-9.
- Semrau, P. & Muellemmeister-Faust, U. (2003): The Poverty and Wealth Report and the National Action Plan (NAPincl): Mutual Co-ordination and Prospects, in: R. Hauser & I. Becker (Eds.): *Reporting on Income Distribution and Poverty*. Springer, Berlin.
- Sen, A. (1981): *Poverty and Famines. An Essay on Entitlement and Deprivation*. Clarendon Press, Oxford.
- Sen, A. (1983): Poor, Relatively Speaking, in: *Oxford Economic Papers*, 35: 153-169.
- Sen, A. (1992): *Inequality Reexamined*. Oxford University Press, New York.
- Sen, A. (1999a): *Development as Freedom*. Oxford University Press, Oxford.
- Sen, A. (1999b): *Commodities and Capabilities*. Oxford University Press, New Delhi.
- UNDP/United Nations Development Programme (2005): *Human Development Report*. New York.
- UNEP/iisd (Eds.) (2004): *Exploring the Links: Human Well-Being Poverty and Ecosystem Services*. Nairobi, Kenya and Winnipeg, Manitoba, Canada. The United Nations Environment Programme / International Institute for Sustainable Development
- Volkert, J.; Klee, G.; Kleimann, R.; Scheurle, U. & Schneider, F. (2004): *Operationalisierung der Armut- und Reichtumsmessung*. Tübingen. IAW-Forschungsbericht im Auftrag des Bundesministeriums für Gesundheit und Soziale Sicherung.
- Volkert, J. (Ed.) (2005a): *Armut und Reichtum an Verwirklichungschancen. Amartya Sens Capability-Ansatz als Grundlage der deutschen Armut- und Reichtumsberichterstattung*. VS Verlag für Sozialwissenschaften / Springer Media, Wiesbaden.

- Volkert, J. (2005b): Das Capability-Konzept als Basis der deutschen Armuts- und Reichtumsberichterstattung, in: J. Volkert (Ed.), *Armut und Reichtum an Verwirklichungschancen*. VS Verlag für Sozialwissenschaften / Springer Media, Wiesbaden: 119-147
- Volkert, J. (2005c): Armut als Mangel an Verwirklichungschancen („capability deprivation“). Ein adäquater Methoden-Ansatz, in: J. Volkert (Ed.), *Armut und Reichtum an Verwirklichungschance*. VS Verlag für Sozialwissenschaften / Springer Media, Wiesbaden: 73-94.
- Volkert, J. (2006): E.U. Poverty Assessment – a Capability Perspective, in: *Journal of Human Development*, 7 (3): 359-383.

Appendix

Table 2: List of indicators

Indicators for lack (very extensive) determinants of capabilities in black (grey):	Operationaliation with SOEP 2004, exemptions have been indicated (% shares of all respondents > 16 years, unless otherwise specified)
Financial poverty	Income Poverty OR Extreme Debts
Income poverty	Net equivalence income of households (new OECD-scale) < 60 % of respective median household equivalence incomes (= E.U.'s official "at-risk-of poverty threshold").
<i>High income</i>	... > 200 % ...
Extreme debts	Persons in households, having to serve debts with a disposable income (after debt service) < official socio-economic financial minimum (= 930 € for 1. Person, + 350 € for a 2. Person, + 195 € per further persons).
<i>High wealth</i>	People in households with incomes from wealth (capital and real estate) that can permanently generate at least 200% of households' net median equivalence incomes.
<i>Financial wealth</i>	High Income OR high Wealth
Health impairments	<i>Current personal health status AND resulting impairments of everyday life</i>
Current health status	Health status subjectively reported as „bad“ or „very bad“
Impairments of everyday life	Severe, frequent or permanent impairments related to at least three of the following five activities: <ul style="list-style-type: none"> - going a staircase up- or downstairs, - exhausting activities - on the workplace or everyday activities (quantitatively OR qualitatively) impaired by <i>physical</i> health conditions - on the workplace or everyday activities (quantitatively OR qualitatively) impaired by <i>mental</i> health conditions - reduced social contacts due to physical or mental health problems
Disability	Disability with an officially confirmed „grade“ of 50 (maximum: 100)
<i>Good health, no disabilities</i>	<i>Current personal health status reported to be good or very good AND none of the mentioned impairments in everyday life AND no disabilities</i>
Lack of education	School drop out or secondary education without further occupational training or apprenticeship
<i>High education</i>	University degree (referring to all persons > 16 years who are not in education or training processes)
Lack of social opportunities	„Insufficient access to education“ OR „insufficient access to health

	<i>care</i> OR „insufficient access to decent housing“
Insufficient access to education	Share of young (16 to 24 year old) early school leavers as % of all young, 16 to 24 year old people.
Insufficient access to health care	Persons, who have not consulted a doctor although they have suffered health impairments in the last three months.
Insufficient access to decent housing	Persons, whose housing is subjectively characterized as ‘in urgent need of complete renovation’ or ‘being in danger of breaking down’ OR ‘overcrowded’ OR ‘lacking socially necessary amenities’.
<i>Very extensive social opportunities</i>	Private health insurance
Lack of economic facilities	<i>Persons, living in jobless households OR being long-term unemployed OR “Working Poor” OR working for low wage.</i>
Persons living in jobless households	Persons (excluding pensioners and students) in households without any member in the labor force (% of all persons excluding students and pensioners)
Long-term unemployed	Persons, having been unemployed for at least 12 months on December 2003 (% of all persons).
Low wages	Regular monthly net income before the interview below the at-risk-of poverty threshold (60% of median equivalence income) as % of all persons > 16 years in the labor force.
Working poor	Persons, living in a household with at least one person in the labor force with a disposable net equivalence income below the at-risk-of poverty threshold (60% of median equivalence income) as % of all persons in households with at least one member in the labor force.
<i>Very extensive economic facilities</i>	Very extensive occupational autonomy (leading position with comprehensive leadership tasks and competences)
Protective security	‘Dependence on social assistance’ OR „dangerous environment“
Dependence on social assistance	Persons depending on minimum social and unemployment assistance (,Sozialhilfe’, Sozialgeld’, Arbeitslosengeld II’)
Dangerous environment	Persons, who subjectively classify their neighborhood as „very insecure“
Very extensive protective security	Persons privileged by tax and social security payment privileges; persons who say their neighborhood is very secure
Lack of ecological Security	Problems with „Polluted Air“ OR „Noise“
Polluted air	Persons, who subjectively feel to be strongly impaired by air pollution in their housing environment
Noise	Persons, who subjectively feel to be strongly impaired by noise in their neighborhood
<i>Very extensive ecological security</i>	Persons, who say they are not at all affected by air pollution or noise in their neighborhood
<i>Lack of political participation</i>	Absolutely no political interest
<i>Very extensive political participation</i>	„High“ political interest

Table 3: Drivers of capability deprivation in Germany (2004).

Marginal Effects	Income poverty	Persistent poverty	Extreme debts	Education	Economic facilities	Low wage	Access to health care	Access to decent housing	Political interest	Protective security
East-Germany	0.04*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	-0.05*** (0.00)	0.04*** (0.01)	0.03*** (0.01)	-0.00 (0.00)	0.06*** (0.01)	0.02*** (0.01)	-0.00 (0.00)
Women [vs. Men]	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.05*** (0.00)	0.04*** (0.01)	0.11*** (0.01)	-0.00 (0.00)	-0.00 (0.00)	0.07*** (0.01)	0.00 (0.00)
1-Pers.-HH [vs. Other Comb.]	0.01 (0.01)	0.00 (0.00)	-0.00 (0.01)	-0.02*** (0.01)	-0.04*** (0.01)	-0.03* (0.02)	0.00 (0.00)	-0.06*** (0.01)	-0.04*** (0.01)	0.00 (0.00)
Single Parent	0.03** (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.03*** (0.01)	-0.03 (0.02)	0.01 (0.03)	-0.06*** (0.01)	-0.02 (0.01)	0.03** (0.01)
Couple Without Children	-0.04*** (0.01)	-0.02*** (0.00)	-0.01 (0.01)	-0.03*** (0.01)	-0.07*** (0.01)	-0.02 (0.02)	-0.00 (0.00)	-0.09*** (0.01)	-0.04*** (0.01)	-0.00 (0.00)
Couple With Children	-0.03*** (0.01)	-0.01*** (0.00)	-0.00 (0.01)	-0.02*** (0.01)	-0.05*** (0.01)	0.01 (0.02)	0.00 (0.00)	-0.08*** (0.01)	-0.05*** (0.01)	-0.00 (0.00)
Age 16-29 [vs. Age 30-44]	0.02*** (0.01)	-0.00 (0.00)	-0.01*** (0.00)	0.01 (0.01)	0.03*** (0.01)	0.06*** (0.01)	- (0.01)	0.00 (0.01)	0.06*** (0.01)	0.00* (0.00)
Age 45-64	-0.02*** (0.00)	-0.01*** (0.00)	-0.02*** (0.00)	0.02*** (0.01)	-0.01** (0.01)	-0.01 (0.01)	0.82*** (0.19)	-0.02*** (0.01)	-0.05*** (0.01)	-0.00** (0.00)
Age 65+	-0.03*** (0.00)	-0.01** (0.00)	-0.03*** (0.00)	0.08*** (0.01)	-0.05*** (0.01)	0.04 (0.04)	0.20 (0.22)	-0.01 (0.01)	-0.04*** (0.01)	-0.00 (0.00)
Secondary School Degree [vs. Technical/Upper]	0.06*** (0.01)	0.03*** (0.00)	0.00 (0.00)	- (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.05 (0.06)	0.03*** (0.01)	0.14*** (0.01)	0.01* (0.00)
Intermediate School Degree	0.03*** (0.01)	0.01*** (0.00)	0.00 (0.00)	- (0.01)	0.03*** (0.01)	0.02*** (0.01)	0.76*** (0.22)	0.00 (0.01)	0.07*** (0.01)	0.00 (0.00)
Other Degree	0.12*** (0.02)	0.07*** (0.01)	-0.00 (0.00)	- (0.01)	0.12*** (0.02)	0.08*** (0.02)	- (0.01)	0.04*** (0.01)	0.16*** (0.02)	0.02** (0.01)
No School Degree Yet	0.01 (0.04)	- (0.01)	-0.01 (0.02)	- (0.01)	0.10 (0.09)	- (0.01)	- (0.01)	0.10 (0.07)	-0.04 (0.05)	- (0.01)
School Drop Outs	0.23*** (0.03)	0.13*** (0.03)	-0.01* (0.00)	- (0.01)	0.20*** (0.03)	0.17*** (0.05)	0.94*** (0.09)	0.05*** (0.02)	0.31*** (0.03)	0.02** (0.01)
Reg. Part-Time Employment [vs. Full-Time]	0.05*** (0.01)	0.03*** (0.01)	0.00 (0.00)	-0.01 (0.01)	0.45*** (0.02)	0.47*** (0.02)	- (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.00)
Other gainfully empl. stat.	0.12*** (0.02)	0.06*** (0.01)	-0.00 (0.00)	-0.01 (0.01)	0.80*** (0.01)	0.91*** (0.01)	-0.00 (0.00)	-0.00 (0.01)	-0.02** (0.01)	-0.00 (0.00)
Not Employed	0.09*** (0.03)	0.03** (0.01)	0.03 (0.03)	-0.02 (0.02)	0.32*** (0.05)	- (0.01)	-1.00*** (0.00)	0.07* (0.04)	0.06 (0.04)	0.01 (0.02)
Civil servant [vs. self employed]	-0.05*** (0.00)	-0.01*** (0.00)	-0.02*** (0.00)	-0.05*** (0.01)	-0.09*** (0.00)	-0.10*** (0.00)	- (0.01)	-0.02* (0.01)	-0.02 (0.02)	-0.00 (0.01)
Employee	-0.05*** (0.01)	-0.01*** (0.00)	-0.02*** (0.00)	-0.03*** (0.01)	-0.07*** (0.01)	-0.12*** (0.01)	-0.00 (0.00)	-0.00 (0.01)	0.01 (0.01)	-0.00 (0.00)
Worker	-0.03*** (0.00)	-0.00 (0.00)	-0.01*** (0.00)	0.08*** (0.02)	-0.03*** (0.01)	-0.05*** (0.01)	-0.00 (0.00)	0.02* (0.01)	0.09*** (0.02)	0.00 (0.00)
Pensioner	-0.05*** (0.01)	-0.01 (0.01)	-0.04** (0.02)	0.10*** (0.03)	-0.24*** (0.02)	-0.08*** (0.00)	0.02 (0.04)	-0.06** (0.03)	-0.01 (0.04)	-0.00 (0.01)
Unemployed (not employer)	0.03 (0.03)	0.02 (0.02)	-0.02*** (0.01)	0.12*** (0.04)	-0.04** (0.02)	- (0.01)	- (0.01)	-0.04* (0.02)	0.01 (0.04)	0.01 (0.02)
Nationalized [vs. German born]	0.00 (0.01)	-0.00 (0.00)	0.01 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.06*** (0.01)	0.03* (0.01)	-0.00 (0.00)
Foreign	0.04*** (0.01)	0.02*** (0.01)	0.01 (0.00)	0.06*** (0.01)	0.01 (0.01)	-0.01 (0.01)	0.01 (0.02)	0.12*** (0.01)	0.11*** (0.01)	-0.00 (0.00)
Income poor	- (0.01)	- (0.00)	0.01 (0.00)	0.02** (0.01)	- (0.01)	- (0.01)	-0.00 (0.00)	0.03*** (0.01)	0.04*** (0.01)	0.03*** (0.01)
OECD2-wght. Inc.	- (0.01)	- (0.00)	-0.05*** (0.00)	-0.05*** (0.01)	- (0.01)	- (0.01)	-0.00 (0.00)	-0.06*** (0.00)	-0.02*** (0.01)	-0.00 (0.00)
Observations	16825	16733	16653	16811	17694	10622	399	16284	16795	16796
Pseudo-R ²	0.206	0.218	0.183	0.214	0.452	0.544	0.335	0.114	0.125	0.146

Maximum likelihood probit estimates, Marginal effects reported. Robust standard errors in parentheses. ***Significant at the 1 % level; **significant at the 5 % level. Data: GSOEP 2004, authors' calculations.

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