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What Have We Called as "Poverty"? A Multidimensional and Longitudinal Perspective

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Abstract Although the multidimensional approach to poverty is a common-sense idea, there have been numerous debates on what kind of dimensions can be included in the concept. As one way of addressing the issue, I introduce a dimension of 'time', which could help us to select more relevant dimensions by displaying the changes in their influence on the multidimensional poverty over a period of time. After the thirteen waves of British Household Panel Survey data, 1996–2008, are analyzed for a multidimensional poverty based on the Capability approach, I find out that most of the dimensions that have mentioned in previous research demonstrate a consistent influence on poverty over the period, which implies that existing literature on multidimensional poverty has been on the right path. Also, it turns out that the dimensions of 'health' and 'social capital' are getting more weights in measuring the multidimensional poverty, while 'economic resources' dimension is still the most influential factor for the construct. The findings seem to suggest that the multidimensional approach as it stands is quite relevant, though an agreeable list of dimensions of poverty still requires far more intellectual endeavor.

Keywords Multidimensional poverty · British Household Panel Survey · Longitudinal change · The capability approach · Structural equation modeling

1 Introduction

It is not a surprising news for the students of poverty that the concept does not indicate only one dimension—especially an economic one (Foster 1984; Seidl 1988; Zheng 1997). However, it is rather surprising that not many studies have taken a serious look at what

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kind of dimensions can be included in the concept, at least in a widely acceptable way. Although it is undeniable that many studies have investigated hard how the multiple aspects of poverty can be integrated into a smaller number of indices (Bourguignon and Chakravarty 2003; Desai and Shah 1988; Deutsch and Silber 2005; Dewilde 2004; Duclos et al. 2006; Muffels et al. 1992), those endeavors have not tried too much to come up with agreeable dimensions of poverty. Judging from the fact that 'multidimensional poverty' is a very commonsense idea now (Alkire 2002; Atkinson 2003; Maasoumi and Lugo 2008; Thorbecke 2007), this relative indifference on the concept itself is hard to understand.

Though it cannot be denied that the discussion of the multidimensionality would be unavoidably controversial since the very concept of poverty is a social construct (Alkire and Black 1997; Anand and Sen 1997; Boarini and d'Ercole 2006; Carr-Hill 1986; Sen 2004a; Whelan and Whelan 1995), still it is an indispensable information for almost every social policy. In fact, several researchers, such as, Alkire (2002, 2008) or Nussbaum (2000, 2003), heavily influenced by Sen (1985c, 1993, 2000), have tried to suggest a useful list of multiple dimensions of poverty, and though the result so far does not look definitive by any stretch, it seems that the goal looks more achievable than ever since we come to learn that just pouring more money does not translate into eradicating poverty automatically, in particular from the numerous evaluations of the "War on Poverty" (Danziger and Weinberg 1986).[1] Still, it should be admitted that we do not have a solid list of indicators that enables us to measure the concept even satisfactorily, not to mention perfectly. However, there have been continuous attempts to make the list, and also there have been a growing agreement on the dimensions of poverty. Especially after Sen (1979a, 1985a, 1985c)'s suggestion on functionings and capability, many common dimensions are referred to as the components of poverty. For instance, it is well-accepted that both health and education are inevitable factors, and it cannot be too far-fetched to talk about the social capitals of a family or an individual when it comes to discussing poverty. Whelan and Whelan 1995), still it is an indispensable information for almost every social policy. In fact, several researchers, such as, Alkire (2002, 2008) or Nussbaum (2000, 2003), heavily influenced by Sen (1985c, 1993, 2000), have tried to suggest a useful list of multiple dimensions of poverty, and though the result so far does not look definitive by any stretch, it seems that the goal looks more achievable than ever since we come to learn that just pouring more money does not translate into eradicating poverty automatically, in particular from the numerous evaluations of the "War on Poverty" (Danziger and Weinberg 1986). Still, it should be admitted that we do not have a solid list of indicators that enables us to measure the concept even satisfactorily, not to mention perfectly. However, there have been continuous attempts to make the list, and also there have been a growing agreement on the dimensions of poverty. Especially after Sen (1979a, 1985a, 1985c)'s suggestion on functionings and capability, many common dimensions are referred to as the components of poverty. For instance, it is well-accepted that both health and education are inevitable factors, and it cannot be too far-fetched to talk about the social capitals of a family or an individual when it comes to discussing poverty.

One good way to contribute the debate on the multidimensionality of poverty is introducing a time dimension in the discussion (Addison et al. 2009), which means that we have to look into the changing aspects of poverty. As there has been many arguments against the absolute definition of poverty, one of the strongest arguments is that it is almost

[1] It is certain that the negative impressions on the result of the "War" also have a lot to do with the implementation part of a policy process, which were convincingly argued in Pressman and Wildavsky (1979)'s ground–breaking research.

impossible to have an absolute criteria for the concept especially when we take time dimension into consideration.[2] The concept of poverty has changed continuously according to the longitudinal changes in a society. For example, in the U.S., it is certain that a car was a luxury item in the 1930 s, but it would be strange to argue the same in the 2010 s. Moreover, the various experiences of antipoverty policies illuminate that the answers to the previous basic questions about poverty, such as "who is poor?" or "what is the most salient characteristic of the poor?", are just not enough to guide the policy area (Tomlinson et al. 2008; Valletta 2006). It becomes clearer that the study of the dynamic aspect of poverty is inevitable, because more and more people realize that poverty at one time point looks entirely different from at another time (Bane and Ellwood 1986; Duncan et al. 1993; Stevens 1999; Weinberg 1991).

Thus, this research tries to take a step toward the goal of identifying a set of appropriate indicators of multidimensional poverty by examining what the U.K. has looked like in terms of multidimensional poverty over the years from 1996 to 2008, and by demonstrating how the diverse dimensions in it have interacted in indicating the multidimensional phenomenon of poverty. The analysis is expected to show which dimensions have contributed to constructing the concept of poverty more and how the influence has changed, thus suggest more plausible dimensions for the definition of multidimensional poverty.

Following this introduction, a broad discussion on the multidimensional poverty measurement is initiated in chapter 2, and in chapter 3, the methodological part, including method and data, is explained. After the analysis results are presented in chapter 4, the implications are discussed and concluded in chapter 5.

2 Literature Review

2.1 Multidimensional Poverty

After the seminal endeavors to measure poverty by Rowntree (1901) and Booth (1892), the concept of poverty has been identified with its economic operationalization (Bradshaw 2000; Grusky and Kanbur 2006).[3] Although there has been a continuous debate on whether an absolute or relative approach is more appropriate (Himmelfarb 1991; Sen 1985b; Townsend 1979a, 1985), still saying one is poor is exactly the same to saying the person does not have income enough to satisfy the basic needs, at least until the end of 1970s (Dagum and Costa 2004). It is easy to understand why the convertibility is the most favorite for the people in economics department, because it is compatible with the utilitarianism that underpins the discipline of microeconomics (Hayati et al. 2006).

The definition, however, soon turned out to be not comprehensive enough, because it is realized more and more that some aspects of human well-being, which is the ultimate ends to be measured and evaluated, cannot be expressed entirely in terms of a monetary unit (Bossert et al. 2009; Brady 2003; Jenkins and Micklewright 2007; Ringen 1988, 1995). For instance, a person's health status cannot be reduced into the amount of money. Rather, it is

[2] It is certain that it also depends heavily on regional differences. Recently, the U.S. Census Bureau begins to produce the Supplemental Poverty Measurement series, and one of the main arguments for it is that it is indispensable to take the geographic variation in the cost of living into account when we measure poverty (Meyer and Sullivan 2012).

[3] Tomlinson et al. (2008), however, argue that even the initial students of poverty measurement already realized the need to take account of social conditions. Also, they find that Adam Smith already considered "shame and stigma" as an inherent components of poverty.

more reasonable to see the status as one irreducible aspect of human well-being because unhealthy people are able neither to maintain stable relationships with others, nor to enjoy their lives, even with a very high income, both of which are good indicators of low well-being.

Contemporarily, therefore, diverse perspectives on the multidimensionality are vividly discussed, and there are roughly three main ways to conceptualize the trait. Firstly, the "Social Exclusion" approach, which emphasizes an alienation from social life as a whole with a particular focus on the relationship between work and social interactions, not just from economic resources, is widely accepted in EU countries (Dagum and Costa 2004; Demeyer and Farrell 2005; Smeeding 2006). It is certain that the approach does not have the purpose of identifying the poor (Bossert et al. 2007; Hayati et al. 2006; Wagle 2008), but the intrinsic multidimensional point of view(Costa 2002; Millar 2003), which is clearly stated in the EU's definition of 'the exclusion from full participation in the society' provides a vast possibility to examine the question of in what sense one falls into the state of alienation,[4] though it has to be admitted that an operational definition to measure the social exclusion is not yet fully realized (Dagum and Costa 2004; Mussard and Pi Alperin María 2005; Nolan and Whelan 2010).[5] Demeyer and Farrell (2005) summarize current situation by demonstrating how "the European Social Inclusion Strategy"[6] is designed and employed, but still not executed properly. However, they also show some interesting attempts to find appropriate indicators of social exclusion, such as, the "European project on poverty indicators" by Hacourt (2003), or, the indicators on social inclusion suggested in the Laeken European Council in 2001 (Atkinson et al. 2004).

The second way to appreciate the multidimensional aspect of poverty is the famous "Human Development Index" by the United Nations Development Programme (UNDP). Initiated by the collaboration between Sen, Nussbaum, and Mahbub ul Haq, it draws our attention to (1) the achievement of ultimate ends, (2) the multidimensionality, and (3) opposing to materialism of economic resource-based approaches (Hulme and McKay 2007). Especially, it has its own advantage in that several concrete and agreeable dimensions, if not universally, to consider in the context of development, such as, literacy or longevity as well as economic resources, have been set firmly, which can provide "secure epistemological and empirical footing to the multidimensional objective of human development" (Alkire 2002). Besides, since it also takes advantage of the idea of capability by defining development as an expansion of capabilities (Desai 1991; Fukuda-Parr 2003; Hayati et al. 2006), the promotion of well-being, other than that of growth, can be supported (Bérenger and Verdier-Chouchane 2007), which is not a small achievement by any stretch because the sole focus on growth in development has only produced very disappointing pictures to say the least (Qizilbash 1996; Seers 1969; Sen 2000). Nevertheless, it cannot still be denied that there has to be some arbitrary choices of dimensions in making the index, if not necessarily a unique problem for this particular way. Though the plural

[4] It is also worthwhile to note that S. Anand and Sen (1997) argues that the tendency to concentrate on other variables than income, such as, the inability to take part in the life of the community, is especially strong in the more affluent countries.

[5] It has to be noted that the existence of one operational definition does not necessarily mean there should be one composite index for social exclusion. Marlier and Atkinson (2010) even advocate that the key dimensions of social exclusion should not be aggregated into one index "not to conceal dissensions in a 'scientific' model" (Erikson 1974).

[6] It has three main "pillars", which can be outlined as "Promote the effective exercise of fundamental rights", "Promote an integrated approach and action", and "Promote participation and partnership"(Demeyer & Farrell 2005).

attention to poverty is highly justifiable on a philosophical ground (Kakwani and Silber 2007; Robeyns 2006), it seems that an answer to the question by Sugden (1993), "is it realistic alternative to the methods on which economists typically rely?" is still far away.

The third take to conceive the idea of multidimensional poverty, influenced by Sen (1979a, 1979b, 1979c)'s arguments on capabilities and functionings, is the "capability approach". Based on the notion that what really matters in determining the well-being of a person is the freedom to have a choice, including a choice of not doing,[7] Sen (1979a, 1985a) claims that the traditional approach to poverty and inequality in economics, which he characterizes as "welfarism", is "questionable" because it considers individual utility as an exclusive basis of judging well-being (Atkinson 1999; Kuklys 2005; Sen 1979c). First of all, as the utility is just a "calibration system which reflects choice"(Basu 1987), the approach cannot distinguish each individual's unique motivation for a choice, which has been proved as a crucial weakness because the well-being of a person decisively depends on the person's own characteristics. Secondly, since there is no way to compare utilities from different sources, the approach "robs us of our ability to tell effectively the rich from the poor" (Sen 1979c). From the diagnosis, Sen suggests that we need to consider functionings, and ultimately capability, which are better representations of well-being than just utility because they can be strictly related to (1) the inherent characteristics of people, (2) environmental circumstances, and (3) the conversion process from the resources to well-being (Chiappero-Martinetti 2000). However, it is also recognized that it is extremely hard to operationalize both of the concepts firstly because the entire set of available options needs to be comprehended, and secondly because the selection of relevant functionings has to be a deliberative process, on which Sen (2004a) even refuses to endorse a plausible list of "central capabilities".[8] Consequently, the way to make the concept of capability measurable is still ad-hoc in its essence (Kuklys 2005; Robeyns 2003).

The review here clearly presents that though there are rich and philosophically solid approaches to the multidimensional nature of poverty, there is no universal way to choose the diverse dimensions of it. Nonetheless, hardly is it impossible to come up with a reasonable list of dimensions that construct poverty, without positing the list is the only one. In fact, Sen (2004a)'s argument against a list of central capabilities is by no means against making a list itself, but against a tendency to make one "fixed, canonical, and authoritative list of capability"(Alkire 2008), which is beyond what a theoretical discussion can do. In addition, Sen (2000, 2004a) himself admits that through an enlightened public deliberation, the multidimensionality can be embraced. Thus, this study tries to choose the plausible dimensions of poverty by delving into the various literature on the capability approach both because the position has a deep connection to freedom in its positive sense, which eventually has to be one crucial criterion to evaluate human advancement (Anand and Sen 1997; Sen 2000, 2004b), and no less importantly, because many empirical studies that examine the multidimensionality of poverty are based on this approach.

Before moving on, however, the relationship between well-being and poverty needs to be clarified because it can be understood differently with disparate theoretical positions. Here, poverty is considered as a lack of well-being following Sen's argument, which can be summarized that "being is the vector of functionings and well-being is a valuation of

[7] Sen (1992) argues that to have a choice to go without food, i.e., for religious reason, shows one has more freedom than the other one who only has a choice to eat (no matter whether it is possible), for example, people in the sub-Saharan Africa who usually cannot but live in a deprivation of food.

[8] On the contrary, Nussbaum (2003) argues enthusiastically for a list of central capabilities as a guideline.

his/her being" (Basu 1987). In other words, well-being can be measured by "what he or she manages to do or to be"(Sen 1985a), and being poor means that people experience some lack of functionings.[9] Here, the approach seems to be an alternative interpretation of poverty, but in fact, this is just a more comprehensive definition because it takes many dimensions into consideration, including economic resources as one of them.

2.2 Dimensions of Poverty

Since Townsend (1979b)'s first attempt to construct a non-monetary measure of poverty, the most serious criticism for multidimensional poverty measures has been the arbitrariness in the choice of relevant dimensions (Ringen 1995), and the debate between Nussbaum (2003) and Sen (2004a) shows that the agreement on even abstract dimensions, not to mention indicators seems implausible, and some types of value judgment are an inescapable part of this choice process (Booysen 2002; Esposito and Chiappero-Martinetti 2008; Wagle 2008). Therefore, the approach for more agreeable set of dimensions through a wide literature review seems more realistic than an endeavor for a fixed and 'universal[10]' set (Kim 2014; Sen 2004a). Based on Alkire (2002)'s contribution of comparing fifteen approaches to human development, this study looks into following four empirical approaches.

(1) In *Voices of the Poor*, Narayan et al. (2000) introduce diverse dimensions of poverty that are important to poor people themselves, based on 78 Participatory Poverty Assessment (PPA) reports covering 47 poor countries around the world.. They identify four dimensions of poverty: (i) *material well-being*, including food security and employment, (ii) *psychological well-being*, including hopelessness and humiliation, (iii) *state-provided infrastructures*, or services, such as, transportation or dependable water supply, (iv) *assets of poor*, including physical, human, social capital, and environmental assets.

(2) Describing the basic principles of the state of well-being in the Comparative Scandinavian Welfare Study, Allardt (1993) arranges basic human needs according to the three necessary conditions of human existence—having, loving, and being.[11] Having refers to material conditions necessary for survival of an individual, and it includes the consideration of economic resources, housing conditions, employment, working conditions, health, and education. Loving is the need to interact with other people and to participate in social relationships, which covers attachments to family, kin, or communities, and patterns of friendship. Finally, Being indicates the need for integration into society, possible indicators of which are political activities, opportunities for leisure-time activities, or the opportunities for a meaningful work life.

[9] "Lack of functionings" does not imply a binary distinction. With some difficulty in designing measurement system, it is entirely possible to make a measurement that can distinguish the extent of it.

[10] Commenting on the study of deprivation begun by Townsend (1979b)'s approach to non-monetary poverty index, Veit-Wilson (1987) poses a question on how a selected list of indicators by a researcher can be justified.

[11] Measuring these conditions, the author strongly recommends using both objective and subjective indicators. While objective indicators refer to the observation of factual conditions, subjective indicators stand for "measurement of attitudes" (Allardt 1993). For example, the ratio of students to teachers can be an objective indicator for an educational environment, whereas subjective indicators can be obtained by asking students' opinion about the educational environment.

(3) Cummins (1996) integrates 173 different dimensions from the literature on life satisfaction into seven 'headings' used by the Comprehensive Quality of Life Scale. He finds that 68 % of the dimensions can be integrated under seven headings: *material well-being*, *health*, *productivity*, *intimacy*, *safety*, *community*, and *emotional well-being*.

(4) Max-Neef (1993) advocates "Human Scale Development" and focuses on basic human needs, self-reliance, and organic articulation with environment. He organizes human needs into two categories: existential and axiological.[12] For exploring diverse human needs related to poverty, the axiological classification seems useful, which consists of nine different dimensions: *subsistence*, *protection*, *affection*, *understanding*, *participation*, *idleness,*[13] *creation*, *identity*, and *freedom*.[14]

On the basis of above studies, Table 1 can be constructed and the following six dimensions are identified: *economic resources, health, employment, housing, material possession, and social capital*:

Firstly, it is worthwhile to note that, strictly speaking, economic resources are not functioning per se (Brandolini and D'Alessio 1998). However, since economic resources can be directly linked to diverse functionings (e.g., buying healthy food), this dimension is usually included (Kangas and Ritakallio 1998; Lelli 2001; Whelan 1993a; Whelan 1993b). Certainly the term does not indicate income or consumption exclusively. On the contrary, as the concept of functioning includes an appropriate control over the resources, various forms of economic resources can be included as indicators. Secondly, health is one of the most basic functionings of human beings because without it proper 'function' of an individual in any society is impossible (Anand and Sen 1997; Doyal and Gough 1991; Duclos et al. 2006; Federman and Garner 1996). Therefore, this functioning is included in almost every research adopting the capability approach.[15] Thirdly, employment can be considered as an important functioning because it does not just imply having a job, but also having an opportunity to participate in social interactions ("the life of the community", according to Anand and Sen (1997)). Also, the importance of employment in obtaining proper economic resources cannot be ignored. Fourthly, housing is regarded as an inevitable factor even in consumption-based traditional approach. From Orshansky (1965) to Citro and Michael (1995), the cost for housing constitutes an important part of minimum cost-of-living. In the capability approach, not only the cost but also the conditions of housing matter because housing represents a crucial functioning of "security" or "protection" (Blank 2008; Doyal and Gough 1991). Fifthly, though it is certain that material possession itself is not a functioning,[16] some part of it—for example, having a telephone or a refrigerator—can be included as a functioning. Bauman (2003) understands those specific

[12] "Existential" categories indicate four aspects of human existence: being, having, doing, and interacting, each of which corresponds to personal or collective attribute, institutional context, actions, and locations and milieus (as times and spaces), respectively. On the other hand, "axiological" categories denote nine dimensions of human needs.

[13] Alkire (2002) replaces this term as "leisure", but I will use the original term since Max-Neef (1993) argues that this term has some productive meaning, and therefore is totally different from laziness.

[14] Specific meanings of these dimensions are not elaborated by the author, but indicators of the dimensions are fully provided.

[15] Robeyns (2000) reviews twelve researches adopting the capability approach, and all of them regard health as an important functioning.

[16] Tomer (2002) puts it in this way, "It is not about how much food one consumes; it is about eating tasty food and being well-nourished."

Table 1 Diverse dimensions of functionings

Narayan et al. (2000)	Max-Neef (1993)	Allardt (1993)	Cummins (1996)
Material well-being	Subsistence	Having	Material well-being
Food security	Protection	Economic resources	Health
Employment	Affection	Housing conditions	Productivity
Psychological well-being	Understanding	Employment	Intimacy
State services	Participation	Working conditions	Safety
Assets	Idleness	Health	Community
Physical capital	Creation	Education	Emotional well-being
Human capital	Identity	Loving	
Social capital	Freedom	Being	
Environmental assets			

possessions as "minimum standards of functioning in modern (American) society", and Boarini and d'Ercole (2006) also consider the possession of durable goods as "essential to perform every-day life activities."[17] According to Townsend (1979b), the lack of possession for certain goods can even be understood as a manifestation of poverty. Therefore, for certain types of goods, material possession can be understood as a functioning. Lastly, social capital is broadly understood to be the extent of participation in social networks (Narayan et al. 2000). This functioning emphasizes that human well-being can increase through relationships that make individuals more capable (Tomer 2002).

Since all dimensions above are abstractly defined, concrete empirical indicators for the dimensions need to be selected. Here, it should be clearly noted that this choice process of indicators cannot completely rule out arbitrariness. However, this does not mean that the scientific rigor of the study is weakened.[18] On the contrary, this presence of arbitrariness needs to be understood as unavoidable due to the basic plurality and ambiguity that surrounds the concept of poverty (Anand and Sen 1997; Foster 1984).[19] Therefore, accepting Sen (1997)'s advice on the problem that "Openness to critical scrutiny, combined with public consent, is a central requirement of non-arbitrariness of valuation in a democratic society", this study chooses each indicator based on previous empirical researches without assuming that this is a universal list.[20]

[17] These phrases indicate that there is still a room for inevitable arbitrariness in terms of choosing specific indicators, because the concept of "modern American society" or "every-day life activities" implies cultural or relative aspects of poverty.

[18] Foster and Shorrocks (1988) point that arbitrary decisions also exist in traditional poverty measurements. They identify two main sources of arbitrariness: (1) the precise functional form adopted to aggregate influences the results eventually obtained, and (2) how to set a poverty line. See also Haughton (2009); Ringen (1988).

[19] For more detailed discussion on the arbitrariness in multidimensional poverty measurement, see Qizilbash (2004).

[20] Clark and Qizilbash (2008) find that their 'supervaluationist' approach to the choice of indicators that is based on the rule of unanimity cannot yield robust results empirically. See also discussion between Sen (2004a) and Nussbaum (2003).

2.3 Time and Multidimensional Poverty

Although the multidimensional concept of poverty is hardly considered in the context of longitudinal change, certainly the relationship between time and poverty has been an important subject for the students of poverty. Since the introduction of absolute poverty line in the U.S. in 1965, there have been ceaseless criticisms on the appropriateness of the measurement with respect to time. Even the author of the absolute poverty line in the U.S., Mollie Orshansky herself acknowledges that "Even for food, social conscience and custom dictate that there be not only sufficient quantity but sufficient variety to meet recommended nutritional goals and conform to customary eating patterns" (Orshansky 1965), effectively arguing that social customs, time-varying itself, is a crucial factor in defining poverty. Also, it is notable that Blank (2008) even claims that "it is not too strong a statement to say that, 43 years after they were developed, the poverty thresholds are nonsensical numbers." because a poverty threshold grounded on a single item—namely, food—is certainly not a good way to measure poverty (Townsend 1979a), at least for the present times when the share of food in household budget gets even smaller than it was 49 years ago (Couch and Pirog 2010).

The greater interest in the longitudinal aspect of poverty, however, starts when it is recognized that poverty can be a life-course event that happens many times and more so for the people who have previous experience, which in fact renders a vast body of literature on static poverty, accumulated since the 1960s, only a part of knowledge necessary for a good policy (Cellini et al. 2008; Jäntti 2009; Lichter and Crowley 2002; Rank and Hirschl 2001). In other words, it is more willingly accepted that knowing that most of people are not poor at one time point could not be as critical information for policy as it seems, because it could be just a transitory event due to a random misfortune. As a matter of fact, Bane and Ellwood (1986), who is considered to start the dynamic analysis of poverty, find that most of the poor in the U.S. are only temporarily so, while there is small number of people whose poverty duration is extremely long, which has been corroborated by many other studies (Antolin et al. 2000; Duncan et al. 1993; Lichter and Crowley 2002; Stevens 1994, 1999). Also, the infamous problem of income measurement error only makes the problem worse because there are not many ways to distinguish a poverty status change due to a measurement error from a really transient one.[21]

It is certain that the consideration of time dimension really complicates a traditional poverty analysis as shown above, but in the context of multidimensional poverty, it can really help us to put things in perspective because as some scholars maintain, such as Dewilde (2004), Betti and Verma (1998), or Thorbecke (2005), the dynamic aspect can be considered as one 'face' of multidimensionality. According to Addison et al. (2009), there are two ways to introduce time into conceptualizing multidimensional poverty. The first involves treating time as one other dimension of well-being, or poverty as the lack thereof. For example, a person can be thought of poor if the person does not have time to achieve things of value, such as being with family. The second way to take time into account is to focus on the transformation of well-being or poverty over time, which in effect emphasizes the investigation of how different patterns of evolution are to be evaluated for policy. By the approach, it becomes possible to distinguish a certain time-consistent measures from ones that are not. This paper follows the latter, and tries to demonstrate how different

[21] Due to the difficulty in distinction, researchers such as Bane and Ellwood (1986), or Stevens (1999) try some ad-hoc method, like attributing a change smaller than ±10 % of poverty line to measurement error.

factors of multidimensional poverty have changed over time, and come up with a way to conceptualize it.

3 Methodology

3.1 Data

The data used in this study is the British Household Panel Survey (henceforth, BHPS data), collected from 1991 to 2008, and then integrated into the "Understanding Society" project.[22] The survey, conducted by the Economic and Social Research Council UK Longitudinal Studies Centre with the Institute for Social and Economic Research at the University of Essex, has been carried out as an annual survey of each adult (older than sixteen years old) member of a nationally representative sample which includes more than 5000 households, totaling over 10,000 individuals (Taylor et al. 2010). As its main objective is to understand social and economic change at the individual and household level in the country, it contains information on diverse issues like the presence of housing problems (e.g., lack of space, insufficient natural light or leaks and damp), ownership (car, color television, washing machine, telephone), and the frequency of social interactions (with friends, relatives, or neighbors), along with information on important socio-economic and demographic variables like income, savings, employment, and health. Since the survey has followed all the children once they reach the age of 16 as well as the split-off adults members from original household, the sample can be regarded broadly representative of the population of the country through the period (Taylor et al. 2010). Though this study tries to trace the changes longitudinally as much as possible, there is a nontrivial discrepancy between the data before 1996 and after the year. For instance, before 1996, there are no questions on housing conditions and social capital. Thus, I use data set from the sixth wave, 1996 to the latest wave, 2008, for the analysis.

When a longitudinal analysis is conducted, one of the most serious concern is the problem of attrition. Since the analysis only utilizes the secondary data, there are not many options to control possible biases. As a weak treatment, this study applies the longitudinal weight provided with the BHPS data. It is true that this cannot address all the problem, but this can be argued as a reasonable approach because the focus of the analysis is not to find a causal relationship between variables (Cellini et al. 2008). In addition, multiple imputation method is applied to investigate whether the missing data pattern in the data could cause serious biases. As it can be seen in Appendices 4 and 5, it turns out that missingness in the data does not influence the results in a substantive way.[23]

[22] See https://www.understandingsociety.ac.uk/about/bhps-in-understanding-society.

[23] Since the multiple imputation method generally stands on the assumption of missing at random (MAR), this should not be understood as concluding that missingness is irrelevant. However, as van Buuren (2012) shows, the multiple imputation method is "remarkably robust against not missing at random (NMAR)" situation. Besides, I utilize the fully conditional specification (FCS) which are known to provide multiple imputation results minimal bias and maximal efficiency (Meng 1994; Collins et al. 2001). Also, the examination of 'relative bias'—according to Graham (2012), it can be assessed by looking into the residual covariance matrix in SEM context—displays that the bias introduced by missingness is not great.

3.2 Indicators

From the dataset, I take thirty-four indicators that can be considered measuring the six dimensions mentioned above (see table in Appendix 1). However, due to the complexity of the model and many missing observations for each variable, it is quite a tough job to get a successful estimation result. In addition, since many variables in the table A are binary, especially 'durable goods' and 'housing' dimensions, it is difficult even to get a positive definite correlation matrix, or covariance matrix for that matter, that is an informational basis of structural equation modeling. Thus, it is an indispensable choice to reduce the number of variables as well as adjust the level of measurement for the variables that cause a problem in the estimation procedure. In particular, I convert the variables in housing and durable goods dimension into one continuous variable respectively which is a simple average of the binary variables in each dimension, which makes final indicators for analysis fifteen. Since all the indicators in the two dimensions are about the possession of goods (durable goods) or the lack of undesirable conditions (housing), both of which can be unequivocally regarded as improving well-being of a person, the problem of same-weight assumption built in the average process is expected to make no big problem in the analysis. Following Table 2 details the indicators.

As there have been several changes in specific questions across each wave as well as the questionnaire itself, following points have to be clarified: (1) questions concerning cell-phone only appears after 2006, and (2) the questions on local group activity participation

Table 2 Indicators for the six dimensions of poverty

Dimension	Indicators	Dimension	Indicators
Economic resources	Household annual income	Durable goods (as one variable)	Color TV
	Financial situation		VCR
Health	Health status		Freezer
	Satisfaction with health		Washing machine
	Health inhibits activities		Dish washer
Employment	Permanent job		Microwave
	Job satisfaction: security		Home computer
	Job satisfaction: overall		CD player
Housing (as one variable)	Lack of adequate heating		Phone
	Leaky roof		Cellphone
	Shortage of space		Internet
	Neighbors noise		Car
	Street noise	Social capital	Feed visitors
	Not enough light		Talking to neighbors
	Condensation		Meeting people
	Damp walls		Local group activities
	Rot in floors		Voluntary works

Table 3 Descriptive statistics

	1996		1997		1998		1999		2000		2001		2002	
	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.
Income	1.25	0.30	1.26	0.36	1.28	0.37	1.27	0.39	1.30	0.37	1.24	0.27	1.29	0.33
Financial situation	3.78	1.05	3.81	1.04	3.86	0.99	3.80	1.04	3.81	0.97	3.89	0.95	3.94	0.90
Permanent job	2.85	0.24	2.84	0.23	2.85	0.22	1.91	0.08	1.92	0.07	1.92	0.07	1.93	0.07
Job satisf. security	5.20	2.50	5.38	2.42	5.42	2.14	5.38	2.42	5.45	2.05	5.47	2.16	5.53	2.01
Job satisf. overall	5.32	1.80	5.46	1.71	5.35	1.63	5.31	1.89	5.34	1.63	5.40	1.61	5.39	1.59
Health status	3.78	0.90	3.79	0.96	3.77	0.94	3.37	1.17	3.75	0.94	3.80	0.96	3.80	0.95
Satisf. health	4.93	2.84	5.05	2.79	5.10	2.65	4.97	2.83	4.84	2.66			4.93	2.65
Health inhibits activities	0.83	0.14	0.83	0.14	1.83	0.14	2.74	0.35	1.82	0.15	1.81	0.16	1.82	0.15
Feed visitors	0.67	0.22	0.72	0.20	0.73	0.20	0.73	0.19	0.74	0.19			0.76	0.18
Talking to neighbors			4.00	1.09	4.18	0.88	4.06	1.06	4.03	1.03	4.05	1.04	4.04	1.02
Meeting people			4.31	0.60	4.31	0.60	4.33	0.60	4.27	0.61	4.33	0.59	4.29	0.60
Local group activities	1.69	1.63	0.14	0.15	1.63	1.53	0.12	0.13	1.63	1.54	0.10	0.11	1.73	1.54
Voluntary works	1.54	1.47	0.04	0.04	1.48	1.32	0.04	0.04	1.49	1.34	0.04	0.04	1.59	1.37
Housing	1.87	0.02	1.88	0.02	1.89	0.02	1.88	0.04	1.89	0.02	1.89	0.02	1.90	0.02
Durable goods	0.73	0.06	0.78	0.04	0.82	0.05	0.82	0.05	0.83	0.04	0.87	0.04	0.87	0.04

	2003		2004		2005		2006		2007		2008	
	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.
Income	1.31	0.37	1.33	0.36	1.37	0.40	1.39	0.41	1.42	0.47	1.45	0.51
Financial situation	3.99	0.86	3.97	0.89	3.93	0.89	3.94	0.91	3.95	0.88	3.82	0.98
Permanent job	1.92	0.07	1.93	0.06	1.93	0.06	1.94	0.06	1.94	0.06	1.96	0.04
Job satisf. security	5.56	1.94	5.59	1.92	5.57	1.91	5.52	1.93	5.58	1.82	5.44	1.86
Job satisf. overall	5.37	1.57	5.42	1.60	5.41	1.52	5.40	1.51	5.44	1.41	5.42	1.30
Health status	3.80	0.91	3.81	0.89	3.82	0.87	3.84	0.92	3.83	0.89	3.75	0.88

Table 3 continued

	2003		2004		2005		2006		2007		2008	
	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.	Mean	var.
Satisf. health	5.07	2.52	4.92	2.51	4.80	2.61	4.92	2.39	4.98	2.30	4.97	2.29
Health inhibits activities	1.82	0.15	2.41	0.59	1.82	0.15	1.81	0.16	1.82	0.15	1.80	0.16
Feed visitors	0.78	0.17	0.77	0.18	0.78	0.17	0.79	0.17	1.79	0.17	1.78	0.17
Talking to neighbors	4.03	1.01	4.00	1.07	4.02	1.01	4.04	1.04	4.02	1.02	4.04	1.00
Meeting people	4.33	0.57	4.28	0.60	4.34	0.55	4.30	0.60	4.34	0.54	4.29	0.59
Local group activities	0.09	0.10	1.66	1.58	0.09	0.10	1.65	1.57	0.09	0.09	1.76	2.10
Voluntary works	0.03	0.03	1.51	1.37	0.04	0.04	1.50	1.35	0.04	0.03	1.63	1.53
Housing	1.91	0.02	1.91	0.02	1.92	0.02	1.92	0.02	1.92	0.02	1.92	0.02
Durable goods	0.88	0.04	0.89	0.04	0.92	0.07	0.91	0.08	0.92	0.09	0.96	0.09

change its form biennially, for example, in 1996 survey, a question is asked as "how often do you attend local groups meetings?" but in 1997 research, it appears as several Yes/No questions, such as, "Are you a member of an environmental group?", or "Are you a member of a parents association?". So there can be a difference between odd and even number years, due to this difference in questions. Following Table 3 shows a descriptive statistics for the entire data set (for detailed information on measurement, see Appendix 1).

3.3 Methods

The fundamental interest of the paper is to look into the longitudinal changes in the concept of poverty, which can only be measured indirectly, through instrument variables, or indicators. Thus, the structural equation modeling (SEM) is adopted for this study. Since the method is intended to reveal the hidden structure behind data, using the concept of 'latent variable'(Brown 2006; Kaplan 2000; Kline 2011), the analysis can show both which dimension has changed and how much it has at the same time. In fact, it is hardly a new approach to multidimensional poverty based on the capability approach because the issues in functionings measurement, including (1) the absence of an established measurement unit for each functionings, (2) missing natural aggregator to summarize different functionings in a composite standard of living measure, and (3) measurement errors,[24] make it a perfect candidate for an analytical approach (Ballon and Krishnakumar 2010; Kuklys 2005; Wagle 2005).

Using the notations from matrix algebra, the modeling method can be expressed as following Eq. 1.

$$\eta = \mathrm{B}\eta + \Gamma\xi + \zeta \tag{1}$$

here η is a vector of endogenous latent variables, ξ is a vector of exogenous latent variables, whose covariance matrix is called Φ, B is a matrix of coefficients relating the latent variables to each other, Γ is a matrix which presents the relationship between endogenous variables and exogenous variables, and ζ is a vector of disturbances, with a covariance martrix Ψ. The latent variables, which is immeasurable by definition, are linked to observable variables via measurement equations, defined as follows:

$$y = \Lambda_y\eta + \varepsilon \tag{2}$$

$$x = \Lambda_x\xi + \delta \tag{3}$$

More specifically, this paper's take on the analysis can be described as two-stage process. Firstly, through the measurement model, the concept of poverty, a latent variable, can be constructed as Fig. 1. The latent variable in Fig. 1 is named as "well-being" because poverty can be conceptualized as the lack of well-being. Thus, a positive coefficient of each dimension for well-being can be interpreted as decreasing poverty and vice versa. In the second stage, the coefficients for each constructing dimension of poverty are depicted and compared to examine how the concept of poverty and the influence of its elements has changed over time period from 1996 to 2008.

[24] There are two points involving measurement error. The first is that no single variable represents appropriately a functioning, and the second is that a subjective evaluation often implies the "anchoring" problem, different connotations due to a reference group (Kuklys 2005; Kuklys and Robeyns 2004).

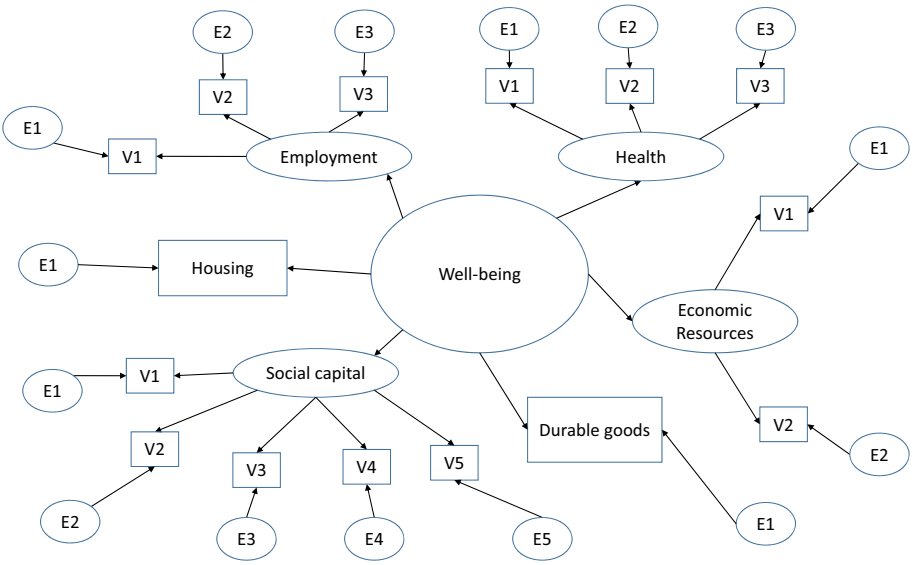


Fig. 1 Poverty measurement model

4 Results

4.1 Model Estimation Example—Year 1996

Figure 2 shows a simplified estimation result for year 1996 (For a more detailed coefficients and other model fit examinations, see figure in Appendix 2).

From the standardized coefficients and disturbances as well as model fit statistics, the first thing that has to be noted is that it fails to pass the Chi square test of model fit, which indicates the model corresponds to the data relatively poorly. However, since the Chi square statistic is very sensitive to the sample size (Brown 2006; Kaplan 2000; Wang and Wang 2012), the failure does not necessarily mean that the model should be rejected. In addition, Kline (2011) asserts that for the Chi square test where accepting null hypothesis supports a researcher's argument, the researcher should pay more attention to Type II error because a false claim that has to be avoided can come from rejecting a true null hypothesis. Thus, it is necessary to examine other model fit statistics. The widely-used root mean square error of approximation (RMSEA) appears to be less than .05, which is a rule-of-thumb criterion for a good model fit. Also the test of the so-called "close-fit hypothesis" indicates that the model is fitted appropriately. Besides, the comparative fit index (CFI) and the Tucker-Lewis index (sometimes called non-normed fit index (NNFI)) provide the information that the model has a close fit as both of them are greater than .90, which is a practical criterion suggested by Hu and Bentler (1999).[25] Finally, as one way to examine the model fit more thoroughly, it is recommended to go through a correlation residual

[25] Kline (2011) categorizes the indices other than Chi square statistic as "approximate fit indexes" because these statistics do not take sampling error into account and they can vary across samples for a same model. He further points that the thresholds for the indexes would not be justified because models with an acceptable model fit can still account for a part of model very poorly.

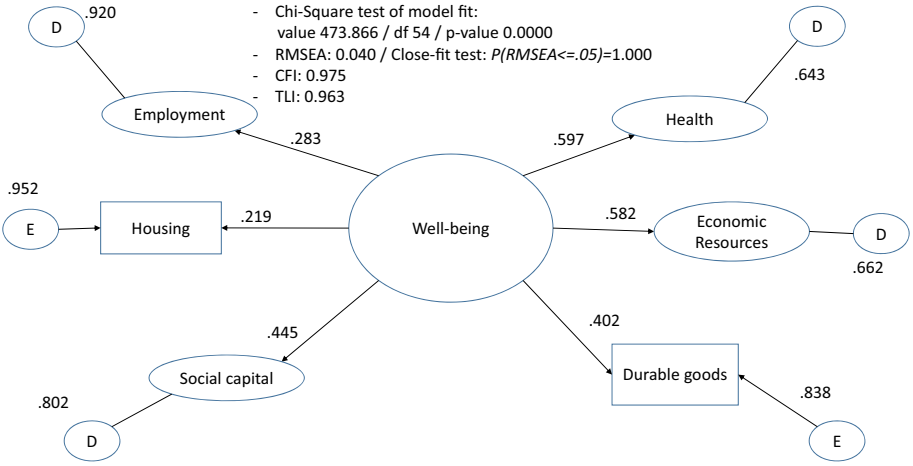


Fig. 2 Simplified result for 1996

which is the difference between observed and predicted correlation coefficients. According to Kline (2011), those with absolute values >.10 need to be considered thoughtfully. In Appendix 2, there is a correlation residual matrix between indicators, and according to the rule of .10, it seems that the model in general has an acceptable fit.

In terms of factor loading, the first noticeable finding from Fig. 2 would be that 'health' dimension has a bigger factor loading than economic resources for the well-being, which indicates that the claim of multidimensional poverty does have a significance. Of course, this does not mean by any means that economic resources are not important. As it turns out, the economic resources dimension does show a higher factor loading than the other dimensions. Also, it is interesting that a dimension of employment, which is usually considered as one of the most important dimension in explaining "social exclusion"(Bradshaw and Finch 2003; Brady 2003; Demeyer and Farrell 2005), shows a

Table 4 Standardized result for 1996

		Estimate	S.E.	Est./S.E.	*P* value
Economic resources	Income	0.528	0.038	14.032	0.000
	Financial situation	0.723	0.048	15.163	0.000
Employment	Permanent job	0.222	0.048	4.593	0.000
	Job satisfaction: security	0.747	0.059	12.646	0.000
	Job satisfaction: overall	0.698	0.057	12.274	0.000
Health	Health status	0.916	0.009	100.510	0.000
	Satisfaction: health	0.763	0.010	76.668	0.000
	Health inhibits activities	0.829	0.012	71.516	0.000
Social capital	Feeding visitors	0.229	0.025	9.324	0.000
	Local group acitvities	0.476	0.069	6.922	0.000
	Voluntary works	0.601	0.074	8.071	0.000
Durable goods	9 indicators combined	0.402	0.025	9.324	0.000
Housing	12 indicators combined	0.219	0.025	8.725	0.000

relatively low factor loading. Although the extremely high disturbance variance of the dimension does imply that there is a non-trivial variation that this model cannot account for, it appears to support Øyen (1996)'s claim that the concept of social exclusion is a "watered down" version of poverty. Since 'durable goods' and 'housing' indicators are introduced to the model as direct measurement variables for "well-being", their standardized coefficients have a slightly different meaning from other factor loadings of latent variables. Nonetheless, it seems that the factor loadings demonstrate that they cannot be ignored as a simple function of economic resources. In spite of the high measurement errors, the two indicators show a substantially meaningful relationship with the latent variable of "well-being".

In order to investigate the importance of each indicator, Table 4 shows a standardized result for the model. It appears that income indicator still has a very strong factor loading, which confirms that the traditional economic approach still has a relevance. Also, it is certainly notable that the 'financial situation', which is a self-evaluation of one's finance, shows a significant level of factor loading higher than income indicator. With respect to employment dimension, it is interesting that whether one has a permanent job or not is not so significant as job satisfaction for explaining well-being. However, it is not a good interpretation to argue that a permanent employment does not do much for increasing well-being. It would be more appropriate to read an unavoidable subjective element in explicating well-being, and hence, poverty. The indicators of health, as expected, show quite high factor loadings. Considering the fact that the data is of U.K., a highly advanced country, it seems that more directly-related dimension to well-being like health has a higher factor loading than income, which is a typical example of indirect measurement (Muffels 1993; Ringen 1988, 1995). Within the dimension of social capital, it is noticeable that more active aspects of social capital has high factor loadings in general. It is likely to be influenced by the fact that only very small number of people are actually engaged in those activities. For instance, only 19.6 % of the sample in 1996 have participated in a voluntary work, regardless of the frequency. The other two dimensions, durable goods and

Table 5 Total variance explained by Well-being for 1996

Indicator	Factor loading on dimension	Factor loading on well being	Total variance explained
Income	0.528	0.582	0.094
Financial situation	0.723	0.582	0.177
Permanent job	0.222	0.283	0.004
Job satisf. security	0.747	0.283	0.045
Job satisf. overall	0.698	0.283	0.039
Health status	0.916	0.597	0.299
Satisf. health	0.763	0.597	0.207
Health inhibits activities	0.829	0.597	0.245
Feed visitors	0.229	0.445	0.010
Local group activities	0.476	0.445	0.045
Voluntary works	0.601	0.445	0.072
Durable goods	1.000	0.402	0.162
Housing	1.000	0.582	0.339

housing, turn out to be relatively important factors, presumably for the same reason as health.

Although it is certain that above tables reveal most of the information on the contribution of each indicator, still there is a way to present it in a more intuitive way. As an OLS regression has the R^2 to show how much variation in the dependent variable it could explain, some analogous numbers can be calculated from the factor loading table. This method—suggested by Schmid and Leiman (1957), so it is called Schmid and Leiman transformation—is originally intended to be utilized in exploratory factor analysis context, but it turns out that it works quite well in confirmatory factor analysis case (Brown 2006; Wang and Wang 2012). In essence, it shows that the square of the multiplication between the first order factor loading and the second order factor loading can be considered as the variance in each indicator that can be explained by the second order factor, well-being, which is exactly the same interpretation as R^2.

Following Table 5 displays the total variance in each indicator that is explained by the concept of well-being. It turns out that the variance explained by well-being in general seems relatively low. However, it should be noted that the factor loadings are computed from a cross-sectionally and longitudinally representative survey, which implies a lot of measurement errors for the indicators due to the sampling and weight process. Thus, it would be more helpful to interpret the relative magnitude of the explained variance. It seems that the indicators in health dimension, as can be easily conjectured from their first and second factor loadings,[26] have relatively higher explained variance, while other indicators are poorly explained by the latent variable. The fact that the highest explained variance in the Table 4 is just under .339 seems to imply that the model assumed in this paper still has much room to improve, though all the indicators in the table have statistically significant impact on well-being. It is true that having diverse durable goods or proper housing are explained by well-being relatively well, but the indicators are assumed to be the direct measurements of the concept, which makes it necessary to interpret cautiously.

4.2 Model Estimation Result Over Time, 1996–2008

Interesting as it is, the results in above section does not provide us much information on how to sort out the dimensions of poverty. It just shows us which dimension matters more in year 1996 at best. Thus, in order to get a better understanding of the construct, it is inevitable to examine the longitudinal change in the structural model. Following Table 6 and Fig. 3 illustrate the change in standardized ssss dimension of well-being over thirteen-year time period.

It turns out that most of the year ‘economic resources’ dimension has the highest weight, which does confirm the well-accepted idea that economic means are an essential part of well- being. However, the next dimension, health, shows a reason why it is not desirable to consider only economic means when we measure well-being, or poverty as the lack thereof. The health dimension in Table 6 and Fig. 3 shows a consistently high weight for a latent dimension ‘well-being’. Though the effect size of the dimension is only half of the economic resources, still it is fair to conclude that the dimension reveals some of the unique information on people’s well-being other than economic resources. Thirdly, it is an interesting discovery to see that employment has only modest weight in measuring well-

[26] As a matter of fact, Brown (2006) points that the transformation would not change the explanatory power of the original solution.

Table 6 Standardized factor loadings

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Economic resources	0.562*** (0.012)	0.736*** (0.029)	0.661*** (0.051)	0568*** (0.0131)	0.896*** (0.046)	0.871*** (01)32)	0.875*** (0.024)	0.829*** (0.024)	0524*** (0.0127)	0.615*** (0.037)	0506*** (0.022)	0.769*** (0.045)	0.790*** (0.025)
Employment	0.283*** (0.040)	0.367*** (0.024)	0.167*** (0.030)	0.275*** (0.027)	0.267*** (0.032)	0.257*** (01)26)	0.285*** (0.033)	0.428*** (0.021)	0.347*** (0.0120)	0421*** (0.028)	0.322*** (0.026)	0.303*** (0.027)	0.340*** (0.034)
Health	0.597*** (0.034)	0.515*** (0.018)	0.230*** (0.028)	0444*** (0.016)	0431*** (0.024)	0.524*** (0.0122)	0.532*** (0.015)	0.468*** (0.013)	0430*** (0.013)	0.586*** (0.026)	0.451*** (0.018)	0.570*** (0.030)	0.618*** (0.025)
Social capital	0.445*** (0.047)	0.104*** (0.015)	0.356*** (0.031)	0.379*** (0.020)	0.245*** (0.022)	0.450*** (0.055)	0.348*** (0.020)	0.233*** (0.026)	0252*** (0.030)	0 277*** (0.030)	0.3 60*** (0.033)	0.350*** (0.037)	0.445*** (0.032)
Durable goods	0.402*** (0.025)	0.387*** (0.015)	0.423*** (0.034)	0504*** (0.021)	0.198*** (0.025)	0.410*** (0.0120)	0.371*** (0.012)	0.331*** (0.012)	0.281*** (0.012)	0207*** (0.018)	0434*** (0.018)	0.402*** (0.026)	0.468*** (0.018)
Housing	0.219*** (0.025)	0.217*** (0.016)	0.438*** (0.036)	0.235*** (0.012)	0.286*** (0.018)	0.285*** (0.0018)	0.227** * (0.013)	0.253*** (0.014)	0.313*** (0.012)	0.212*** (0.021)	0.291*** (0.017)	0 217*** (0.020)	0.194*** (0.025)

Standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

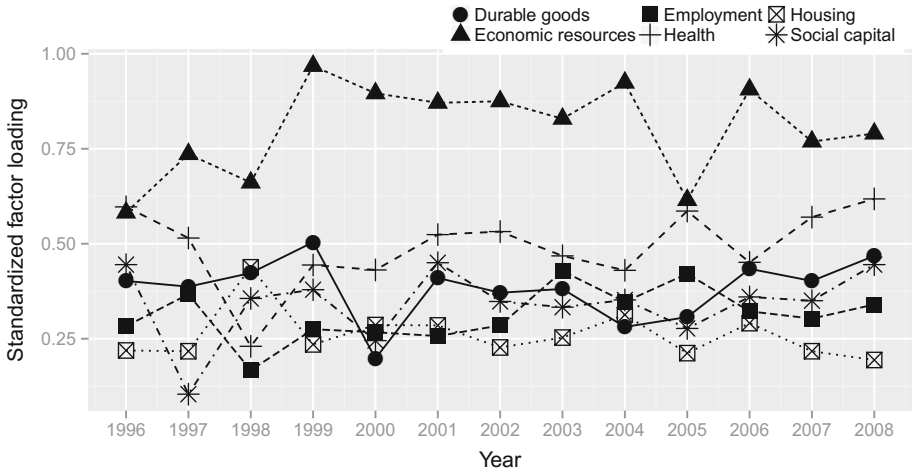


Fig. 3 Trends in factor loadings over time, 1996–2008

being because it is generally considered that being employed is an important condition for well-being, not just due to the income from it, but also due to the self-achievement, relationships, and a meaningful social participation through work, which is the basic corollary for the social exclusion approach (Bossert et al. 2009, 2007; Bradshaw and Finch 2003; Millar 2003). It can be conjectured, nevertheless, that the coefficients in the table may represent only the latter part of employment, as we already take 'economic resources' dimension into account. Also, it can be conjectured that most of the effect correlated to employment in social exclusion approach is already captured by 'social capital' dimension. The dimension of 'social capital', which includes diverse aspects spanning from feeding visitors at least once a month to doing voluntary works, appears to be in mid-range of the pile. Nevertheless, it is not a far-fetched statement that the dimension of social capital cannot be considered just a matter of choice, or preference with respect to defining a well-being because it shows a consistently significant contribution to the concept of well-being over time, also it is worthwhile to note that the effect size of social capital dimension is at least a third of that of economic resources. In addition, it is interesting to find that the factor loading of social capital seems to move in accordance with that of durable goods, which makes sense in that it is not unreasonable to say that 'durable goods' dimension represents an easily 'visible' part of everyday life influencing 'social capital' dimension. The movement of 'durable goods' factor loading in Fig. 3, though it is not a latent variable, indicates that having durable goods is not just a matter of possession, but an expression of well-being, seeing that the factor loading is non-trivial, both substantially and statistically over the period. When it comes to the dimension of 'housing', not a latent variable either, the movement seems to suggest that the influence of the dimension on well-being is quite consistent as the factor loading follows the factor loading of the dimension moves along the value of .25.[27]

[27] For the purpose of model evaluation, Kline (2011) argues for reporting the unstandardized factor loadings as well. The table as well as model fit statistics for each year can be found in Appendix 3.

Overall, it turns out that each dimension measuring the concept of well-being or poverty, is quite stable over time in that their factor loadings remain within a certain range. For instance, the dimension of economic resources leads in terms of effect size all the time other than year 1996, and the other dimensions change their position within a short range between .25 and .50. Though the order of dimensions vary year by year except economic resources, it seems natural since the social environments as well as individual circumstances should change from time to time over the period. Besides, it is worthwhile to emphasize that the importance of economic resources appears to be diminishing, though very slowly, while some of the other dimensions show an upward movement, for example, 'health' and' social capital' dimension, which is compatible with the arguments that the erosion of social capital can be attributed to the lower well-being (Benner and Pastor 2012; Pastor and Benner 2008). Although it is very hard to predict a future trend accurately with only thirteen data points, many arguments for multidimensional poverty seem to suggest that the trend in Fig. 3 may continue slowly yet steadily.

Moreover, it seems reasonable to conclude that there can be two rough distinctions among dimensions that affect well-being with respect to their effect: an economic dimension and the other dimensions, which is previously suggested by Desai (1991), or Betti et al. (2005). Though the critiques on this type of economic-centered perspective has been made widely (Carr-Hill 1986; Seccombe 2000; Sen 1979b, 1985c), it is undeniable that in a world that the economic transaction takes up most of the life experience, denying the importance of economic aspect of the life is not an appropriate approach to make a widely acceptable measurement of poverty. Nonetheless, it must be clearly stated that admitting the importance of economic dimension cannot be equated with accepting the superiority of 'income' indicator, since the capability approach, the theoretical basis of this paper, is all about acknowledging diverse achievements that a person can make with the income. Also it has to be noted that mentioning 'non-economic' dimension by no means indicate that we definitely need a binary distinction between two dimensions, as Benner and Pastor (2012) do in the discussion of 'economic' and 'social' indicators. In fact, I would argue that distinguishing diverse aspects within the non-economic dimension is the key to coming closer to the clearer definition of well-being, or poverty as the lack thereof. In order to reach the goal, we will examine the factor loadings of each indicator in the dimensions next section.

4.3 Factor Loadings of Each Indicator Over Time, 1996–2008

Figure 4 and Table 7 shows the movement of the indicators for economic resources dimension, and it turns out that 'Financial Situation' indicator, which is a self-evaluation of financial status, has more loading than the income indicator except 3 years. Although it would be too much if I argue that this proves the relative strength of subjective indicator over objective indicator, it clearly shows that perception is at least as important as existing conditions of an individual when it comes to measuring the person's well-being, which has been consistently argued by many scholars, such as, Anand et al. (2009); Max-Neef (1993); Stiglitz et al. (2009), or Kahneman et al. (2004). In addition, it is notable that until 2002, the importance of income indicator seems to be increasing while financial situation indicator is moving in the opposite direction, but the trend reverses since then.

Secondly, following Table 8 and Fig. 5 depicts the changes of indicators for employment dimension. Here, the indicators are changing within a narrower range than economic resources indicators. In general, job security satisfaction shows the highest factor loading, while having a permanent job has the lowest impact on well-being, with overall job

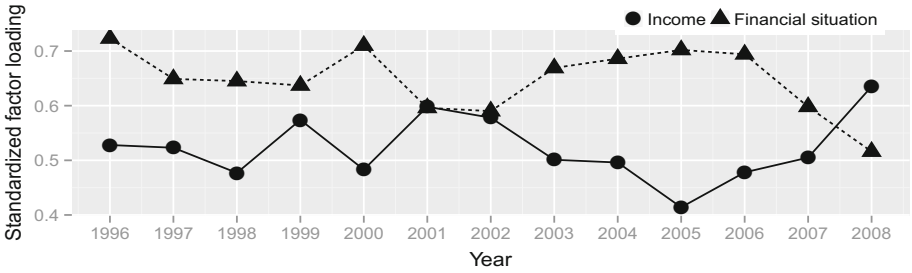


Fig. 4 Trends in factor loadings of economic indicators over time, 1996–2008

satisfaction behaving rather radically in two years during the period. It appears to suggest that job security is the most influential aspect of employment that affects a person's well-being, which makes sense in that more globalized economy of the country generally translates into a less job stability for workers. In addition, it can be pointed that many researchers such as Qizilbash (1997), Anand et al. (2010), Nussbaum (2000), and Clark (2003) have argued that the the insecurity in multiple dimensions, including employment as one of the most important aspect, becomes an increasingly bigger concern for well-being. Also, the coefficients in Table 7 clearly show that 'job security' implies more than just a job held for a long time, since the separate 'permanent job' indicator is consistently significant, too. It can be conjectured that a 'job security' can incorporate an economic security, such as income stability, as well as a personal security like having a stable relationship with other people (Alkire 2008; Stiglitz et al. 2009).

The three indicators for health dimension, as shown in Table 9 and Fig. 6, show a very stable pattern over time. Except year 2001, when the variable "satisfaction for health" is not measured, "health status[28]" has the highest factor loading for the dimension, which is consistent with the findings of Volkert (2006) or Danziger and Haveman (2001), and the indicator "health problem inhibits activities" is mostly the second highest, though there is an anomaly in 2004 for the indicator. The fact that this indicator has a relatively higher factor loading is interesting because it clearly represents a situation of 'capability deprivation', where one's freedom to do what one wants is infringed, and the result appears to show that capability deprivation can be a strong predictor of well-being in practice, not just in theory. The indicator "satisfaction for health" has in general the lowest factor loading in this dimension, but if we compare it to the indicators in other dimensions, it is fair to assume that the indicator is still highly important in measuring well-being. Also, it has to be noted that the indicators in this dimension shows a high level of stability during the period, which implies that the dimension of "Health" is a quite reliable indicator of the concept "well-being". In fact, this is the most frequent conclusion of the proponents of the Capability approach (Nussbaum 2003; Sen 1992; Wagle 2005).

Finally, below Table 10 and Fig. 7 reveal how much the indicators of social capital dimension contribute to the concept of well-being. It clearly shows that the concept of

[28] Meyer and Sullivan (2012) delve into the diverse measures of poverty to understand how different people are categorized as poor by those measurements. They find that a 'health spending' indicator, which is the proxy for health status in the newly-developed "Supplemental Poverty Measurement (SPM)" in the U.S., has a rather complex relationship with health status. It does not necessarily mean that health spending is not a reliable observation, but it does suggest that we need to consider health status itself whenever it is available.

Table 7 Factor loadings of economic resources dimension indicators

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income	0.528*** (0.0138)	0.523*** (0.0122)	0.477*** (0.0122)	0.574*** (0.017)	0.483*** (0.021)	0.598*** (0.0123)	0.578*** (0.0115)	0.501*** (0.0J16)	0.496*** (0.014)	0.414*** (0.025)	0.478*** (0.018)	0.505*** (0.023)	0.635*** (0.027)
Financial situation	0.723*** (0.0148)	0.649*** (0.0124)	0.645*** (0.0128)	0.637*** (0.017)	0.710*** (0.026)	0596*** (0.0122)	0590*** (0.0115)	0.669*** (0.019)	0.686*** (0.017)	0.702*** (0.038)	0.694*** (0.024)	0.598*** (0.026)	0.516*** (0.025)

Standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 8 Factor loadings of employment dimension indicators

	1396	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Permanent job	0 222* (0.048)	0.476*** (0.037)	0.180*** (0.029)	0.530*** (0.047)	0.090 (0.050)	0.276*** (0.034)	0430*** (0.049)	0.115*** (0.028)	0.537*** (0.038)	0.214*** (0.036)	0.225*** (0.039)	0.132** (0.046)	0.226*** (0.065)
Job satisf. security	0.747*** (0.059)	0.603*** (0.026)	0.910*** (0.052)	0.717*** (0.060)	0.813*** (0.069)	0.761*** (0.041)	0.846*** (0.088)	0.599*** (0.021)	0.584*** (0.023)	0.771 (0.031)	0.680*** (0.031)	0.708*** (0.041)	0.657*** (0.042)
Job satisf. overall	0.698*** (0.057)	0.838*** (0.036)	0.584*** (0.034)	0.128*** (0.036)	0.622*** (0.052)	0.662*** (0.036)	0.150** (0.044)	0.815*** (0.028)	0541*** (0.032)	0.682*** (0.028)	0.728*** (0.033)	0.731*** (0.042)	0539*** (0.050)

Standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

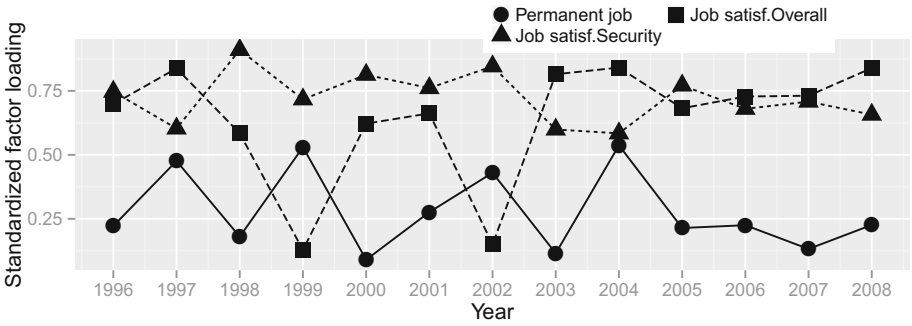


Fig. 5 Trends in factor loadings of employment indicators over time, 1996–2008

'social capital' is not a very reliable indicators for well-being in that all the indicators appear to behave rather in a stochastic way. Nevertheless, it should not be ignored that three out of the five indicators consistently exert relatively high influence on the well-being, and the other two indicators' contribution is evidently far from zero. Also, it has to be emphasized that both 'doing a volunteer work' and 'participating local group activities', which are typical examples of "civic inclusion"(Wagle 2005) as well as a good proxy for social capital, have fairly high factor loadings over .50 on average. It can be conjectured that the Fig. 7 suggests that the social capital, in spite of the difficulty to measure, has a significant role in measuring well-being, or poverty as the lack thereof.

As shown above Table 4, Table 11 demonstrates the result of Schmid-Lieman transformation, specifically the variance explained by the second-order latent variable, well-being. It also supports the consistent finding that income, financial situation, health status, satisfaction for health, and 'health inhibits activities' are the most influential observed indicators of well-being while 'local group activities' and 'voluntary works' indicators have rather higher variance explained by the concept. Nevertheless, it cannot be ignored that the income indicator, which is the most fundamental variable in economics-centered perspective is not the most significant variable in this analysis. Besides, it turns out that maintaining a proper housing condition has an enormously important bearing on well-being, though it has to be cautiously noted since the indicator is used as a direct measurement of well-being. Still, compared with the "Durable goods" indicator, which is also a direct measurement, the non-trivial difference needs to be recognized.

5 Discussion

After the first attempt by Orshansky (1965) to measure poverty strictly in terms of monetary units, it has been a nagging question for anyone who ever tries to understand this crucial social phenomenon—what is it? As a small endeavor to answer the question, this paper takes the capability approach as a starting point, and then proceeds with an eye on the dimension of time. Utilizing the multidimensional perspective inherent in the approach, I specifically look into how different dimensions of well-being change and intertwine over time by the structural equation modeling.

It turns out that the dimension of "economic resources", including traditionally important indicators, such as, income or financial situation, has the highest loading on the

Table 9 Factor Loadings of Health dimension indicators

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Health status	0.916*** (0.009)	0.892*** (0.005)	0.909*** (0.007)	0.911*** (0.005)	0.917*** (0.008)	0.831*** (0.019)	0.910*** (0.004)	0.931*** (0.005)	0.934*** (0.010)	0.901*** (0.007)	0.902*** (0.007)	0.918*** (0.007)	0.898*** (0.010)
Satisf. health	0.763*** (0.010)	0.792*** (0.006)	0.762*** (0.008)	0.746*** (0.006)	0.744*** (0.008)		0.747*** (0.005)	0.750*** (0.005)	0.743*** (0.009)	0.763*** (0.008)	0.763*** (0.008)	0.770*** (0.007)	0.746*** (0.011)
Health inhibits activities	0.829*** (0.012)	0.838*** (0.007)	0.819*** (0.009)	0.723*** (0.007)	0.795*** (0.010)	0.898*** (0.021)	0.848*** (0.006)	0.829*** (0.006)	0.492*** (0.011)	0.836*** (0.009)	0.820*** (0.009)	0.829*** (0.010)	0.842*** (0.013)

Standard errors in parenthesis

In year 2001, "Satisfaction for Health" variable is not measured

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

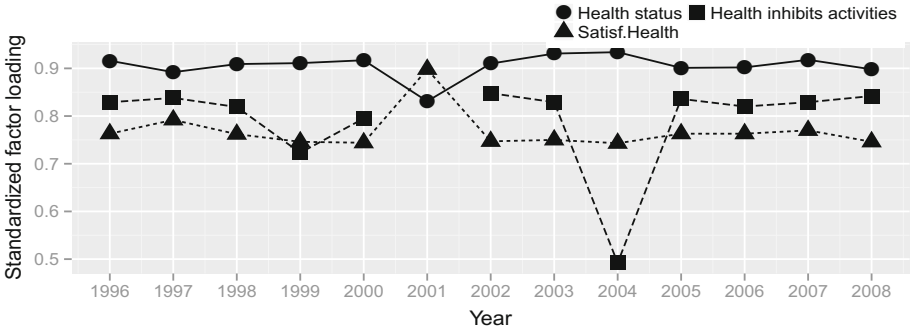


Fig. 6 Trends in factor loadings of health indicators over time, 1996–2008

concept of well-being, and implicitly, poverty. However, the conclusion does not provide any supports for the traditional economic approach, in which only income variable is considered. Within the dimension, it appears that 'financial situation' indicator, which is a self-evaluation of one's own financial status is at least as important as the income, and it is found that it becomes more important than income recently. It can be conjectured that in a society like the U.K., where the most basic necessity for life is not a serious problem for most of the citizen, the perceptional aspect of economic well-being would become more important with time passing by and thus needs to be considered seriously in policy-making process. The second finding of the analysis is that, most of the time, 'health' dimension is the second important dimensions of well-being. Although the fact that health is a crucial dimension of capability is not exactly a new information (Lichter and Crowley 2002; Morduch 1994; Seccombe 2000), this study supports the finding with a slightly increasing trend throughout the period, which suggests that not only health is an important dimension, but also it is increasingly so. Considering the maturity of the population aging process now the U.K. has reached, it can be argued that it is highly likely that the weight of health for well-being would draw an upward trend line. Besides, it is worthwhile to mention that within the dimension, "health inhibits activities" indicator, which is a direct measurement of capability deprivation, turns out to be quite important. This seems to imply that the capability approach has a certain empirical ground, in addition to the theoretical justification. Thus, it is recommendable to emphasize the 'enabling' functions of policy, such as increasing accessibility to medical services or in-home assistance with daily living activities for elderly and people with disabilities in policy discussion. About the employment dimension, it is quite intriguing to see that the dimension itself is not a crucial factor for well-being, contrary to the expectation otherwise. It also warrants some attention that having a permanent job turns out to have the least weighting for well-being, while job satisfaction pertaining to job security appears to be the most important indicator in the dimension. For social capital dimension, the first noticeable finding is that it is very hard to have a reliable measurement for the concept. Most of the indicators in this analysis for the dimension do not behave reliably, and there are great variations for each indicator, both of which makes interpretation less confident. However, it needs to be emphasized that most of the indicators, though they can be regarded as not so reliable measurements, have a statistically significant factor loading, which at least implies that the dimension itself certainly have a crucial role in measuring well-being. In addition, it is worth to mention that the indicators that measure a more active aspect of social capital appear to be more important indicators of the dimension, which corroborates the argument by Carr-Hill

Table 10 Factor loadings of social capital dimension indicators

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Feed visitors	0.229*** (0.025)	0.769*** (0.108)	0.267*** (0.027)	0.297*** (0.018)	0.172*** (0.018)		0.213*** (0.012)	0.221*** (0.017)	0.153*** (0.014)	0.315*** (0.032)	0.367*** (0.033)	0.364*** (0.039)	0.323*** (0.023)
Talking to neighbors		−0.007 (0.018)	0.201*** (0.030)	0.098*** (0.019)	0.108*** (0.018)	0.199*** (0.024)	0.086*** (0.017)	0.185*** (0.025)	0.232*** (0.024)	0.182*** (0.034)	0.189*** (0.033)	0.157*** (0.035)	−0.003 (0.031)
Meeting people		0.172*** (0.028)	0.109*** (0.029)	−0.027 (0.020)	0.025 (0.019)	−0.054 (0.032)	−0.006 (0.017)	−0.051* (0.025)	0.033 (0.022)	0.097** (0.034)	0.158*** (0.034)	0.133*** (0.035)	0.117** (0.034)
Local group activities	0.476*** (0.069)	0.121*** (0.030)	0.435*** (0.054)	0.644*** (0.039)	0.815*** (0.035)	0.522*** (0.060)	0.556*** (0.040)	0.589*** (0.053)	0.452*** (0.043)	0.588*** (0.064)	0.364*** (0.045)	0.473*** (0.064)	0.743*** (0.053)
Voluntary works	0.601*** (0.074)	0.125** (0.041)	0.521*** (0.057)	0.357*** (0.038)	0.923*** (0.040)	0.278*** (0.076)	0.575*** (0.041)	0.234** (0.069)	0.429*** (0.043)	0.370*** (0.061)	0.396*** (0.049)	0.345*** (0.064)	0.363*** (0.040)

Standard errors in parenthesis

Blanks in the table represents no measurement of the variables

'Feed visitors' variable for 2001 is eliminated due to the convergence problem in estimation

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

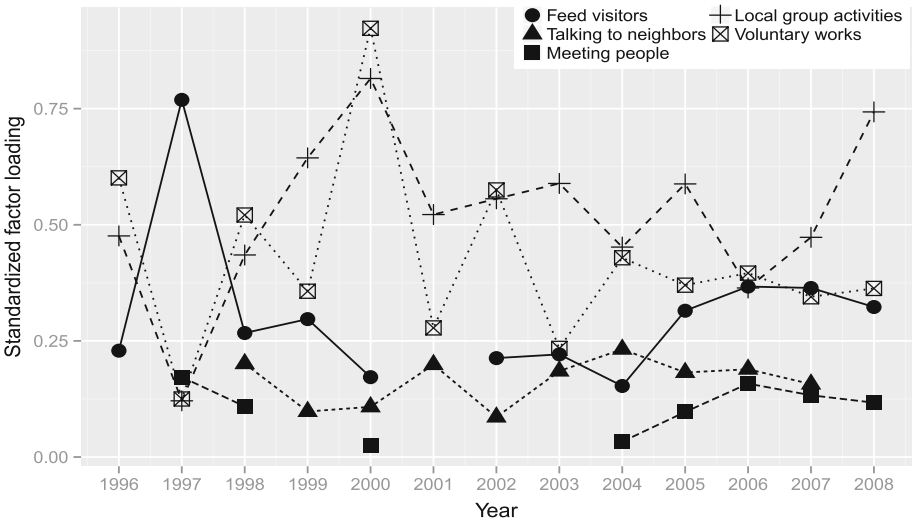


Fig. 7 Trends in factor loadings of social capital indicators over time, 1996–2008

(1986), or Clark (2003). Finally, it should be noted that though both the indicators of 'having durable goods' and 'living in a house that lacks various sources of discomfort' have relatively low factor loadings compared to the other dimensions, a high proportion of their variation can be explained by the concept of well-being, housing dimension in particular. This suggests that they are at least crucial necessary conditions for well-being, though not sufficient conditions.

In terms of time dimension, it turns out that all the dimensions exhibit quite a level of consistency. Especially when we classify them into two groups, economic and non-economic factor, for instance, both of the groups exhibit a very stable pattern over time. It is certain we cannot argue that the elements of poverty hardly change throughout time from the analysis, but the observation does seem to suggest that it is reasonable to assume that there are some reliable elements of well-being independent from the longitudinal changes of a society. This is a promising finding because the result provides an empirical justification for the multidimensional approach to poverty that there can be reliable indicators that are both necessary and sufficient conditions of well-being over time. It cannot be ignored, however, that there are so dynamic changes within non-economic elements that it is very doubtful to conclude that we are looking at all the dimensions that are necessary to measure well-being. But it does not reduce the relevancy of the paper at all because the multidimensional approach to poverty via the capability approach, in its essence, is a way to leave lots of room "to value diverse things in mapping out people's plan of life"(Nussbaum 2003).[29]

After all, the measurement of well-being, or poverty as the lack thereof, is not an objectively rigorous process in that we have to go through a 'valuation'[30] process. Also, it

[29] Anand et al. (2005) argue that it is better for policymakers to try to enhance the choice set available to people rather than to point out what people choose to do accurately.

[30] This point is epitomized by Sen (1979a)'s Cambridge University lecture title "Equality of What?" If measuring poverty is an evaluation of a situation, we have an agreement on neither what kind of situation we should look into nor what criteria we should be based on. Sen calls this "a valuation problem".

Table 11 Total variance explained by well-being during 1998–2008

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income	0.094	0.148	0.099	0.309	0.187	0.271	0.256	0.172	0.210	0.065	0.188	0.151	0.252
Financial situation	0.177	0.228	0.182	0.380	0.405	0.269	0.267	0.308	0.402	0.186	0.395	0.211	0.166
Permanent job	0.004	0.031	0.001	0.021	0.001	0.005	0.015	0.002	0.035	0.008	0.005	0.002	0.006
Job satisf. security	0.045	0.049	0.023	0.039	0.047	0.038	0.058	0.066	0.041	0.105	0.048	0.046	0.050
Job satisf. overall	0.039	0.095	0.010	0.001	0.028	0.029	0.002	0.122	0.085	0.082	0.055	0.049	0.081
Health status	0.299	0.211	0.044	0.164	0.156	0.190	0.234	0.190	0.161	0.279	0.165	0.274	0.308
Satisf. health	0.207	0.166	0.031	0.110	0.103		0.158	0.123	0.102	0.200	0.118	0.193	0.213
Inhibited activities	0.245	0.186	0.035	0.103	0.117	0.221	0.204	0.151	0.045	0.240	0.137	0.223	0.271
Feed visitors	0.010	0.006	0.009	0.013	0.002		0.005	0.005	0.003	0.008	0.017	0.016	0.021
Talking to neighbors			0.005	0.001	0.001	0.008	0.001	0.004	0.007	0.003	0.005	0.003	
Meeting people		0.000	0.002		0.000				0.000	0.001	0.003	0.002	0.003
Local activities	0.045	0.000	0.024	0.060	0.040	0.055	0.037	0.038	0.025	0.027	0.017	0.027	0.109
Voluntary works	0.072	0.000	0.034	0.018	0.051	0.016	0.040	0.006	0.023	0.011	0.020	0.015	0.026
Durable goods	0.162	0.150	0.179	0.254	0.039	0.168	0.138	0.145	0.079	0.094	0.188	0.162	0.219
Housing	0.339	0.542	0.437	0.937	0.803	0.759	0.766	0.687	0.854	0.378	0.821	0.591	0.624

Blanks in the table are either non measurement or non-significance

seems that the process only becomes more difficult when we take time as one dimension into account. Nevertheless, this study finds that though there are plenty of problems to come up with an accurate measurement, still time consistency can show us the way how we will proceed about the problems. Since it turns out that most of the theoretical elements of well-being show quite a consistency over time, we can argue that it is now possible to make a more reasonable choice about the elements of well-being. However, the question of exactly what elements we have to delve into still warrants further investigation.

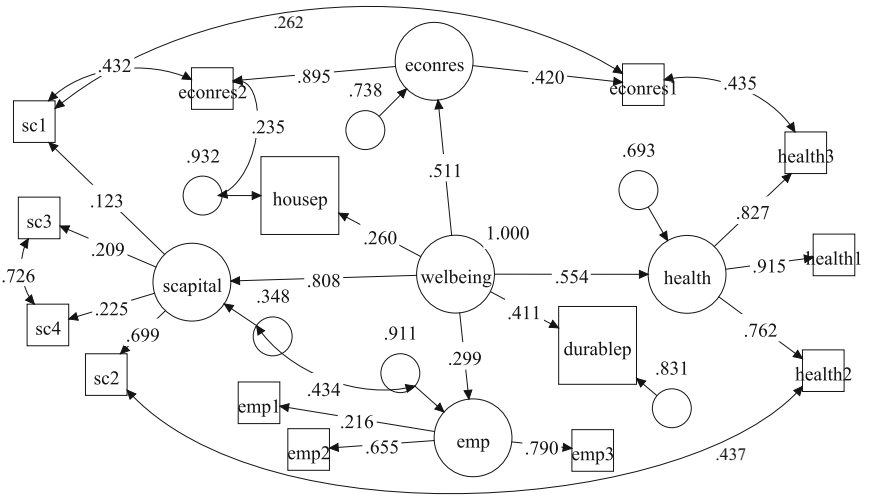
Appendix 1: Indicators for Each Dimension and their Measurement

Dimension	Name	Description
Economic resources	Household income	Annual household income for year 2005
	Financial situation	Self-evaluation of personal financial situation
Healtht	Health status	Health status over last 12 months
	Satisfaction with health	How satisfied with current health
	Health inhibits activities	Whether health prohibits respondents from doing things they want to do
Employment	Permanent job	Current job status: permanent, temporary or no job
	Job security satisfaction	How satisfied with job security
	Overall job satisfaction	Overall, how satisfied with job
Housing	Lack of adequate heating	Y/N question
	Leaky roof/Shortage of space Noise from neighbors Street noise/Condensation Not enough light/Damp walls Rot in windows and floors	Y/N question
Durable goods	TV/VCR/Freezer/Washer Dishwasher/ Microwave/Computer/CDP Phone/Cellphone/ Internet/Cars	Y/N question
Social capital	Feed visitors once a month	Intention of feeding visitors once a month
	Talking to neighbors	Frequency of talking to neighbors
	Meeting people	Frequency of meeting people (friends or relatives) at home or elsewhere
	Local group activities	Frequency of attending meetings for local groups/vol- untary organizations
	Voluntary works	Frequency of doing unpaid voluntary work

Indicators	Measurement
Income	Eight-fold income bracket (based on 15, 30, 45, 60, 75, 90 percentiles)
Financial situation	1 (Very difficult)—5 (living comfortably)
Permanent job	1 (Contractual), 2(seasonal), 3 (permanent)
Job satisf. security	1 (Not satisfied at all)–7 (completely satisfied)
Job satisf. overall	1 (Not satisfied at all)–7 (completely satisfied)
Health status	1 (Very poor)–5 (excellent)
Satisf. health	1 (Not satisfied at all)–7 (completely satisfied)
Health inhibits activities	1 (Yes), 2 (no)
Feed visitors	1 (No), 2 (yes)
Talking to neighbors	1 (Never)–5 (on most days)
Meeting people	1 (Never)–5 (on most days)
Local group activities	1(Never)–5 (at least once a week)
Voluntary works	1(Never)–5 (at least once a week)
Housing	Average over 9 binary indicators
Durable goods	Average over 12 binary indicators

Appendix 2: Detailed Result for 1996

Model diagram



∗1. All the coefficients and variances are statistically significant

∗2. For visibility, some of the arrows for correlated variables in table below are omitted

Unstandardized result

	Estimate	S.E.	Est./S.E.	*P* value
Economic resources (econres)				
Income (econres1)	0.730	0.092	7.955	0.000
Financial situation (econres2)	1.000	0.000	999.000	999.000
Employment (emp)				
Permanent job (emp1)	1.000	0.000	999.000	999.000
Job satisfaction: security (emp2)	3.359	0.801	4.196	0.000
Job satisfaction: overall (emp3)	3.135	0.712	4.401	0.000
Health (health)				
Health status (health1)	1.000	0.000	999.000	999.000
Satisfaction: health (health2)	0.833	0.016	50.555	0.000
Health inhibits activities (health3)	0.905	0.017	53.598	0.000
Social capital (scapital)				
Feeding visitors (sc1)	1.000	0.000	999.000	999.000
Local group acitvities (sc3)	2.081	0.312	6.678	0.000
Voluntary works (sc4)	2.624	0.339	7.745	0.000
Well-being				
Durable goods (durablep)	1.000	0.000	999.000	999.000
Housing (housep)	0.328	0.044	7.458	0.000
Social Capital	1.000	0.000	999.000	999.000
Economic resources	4.128	0.374	11.028	0.000
Health	5.369	0.531	10.117	0.000
Employment	0.617	0.167	3.699	0.000

	Estimate	S.E.	Est./S.E.	*P* value
Correlated variables				
Scapital with emp	−0.002	0.003	−0.560	0.576
Sc3 with sc4	0.444	0.068	6.520	0.000
Durablep with econres1	0.077	0.006	12.045	0.000
Durablep with sc1	0.050	0.005	9.887	0.000
Sc1 with econres2	0.187	0.021	9.016	0.000
Sc1 with econres1	0.258	0.027	9.617	0.000
Housep with econres2	0.022	0.003	8.410	0.000
Health3 with econres1	0.211	0.029	7.188	0.000

Standardized result

	Estimate	S.E.	Est./S.E.	*P* value
Economic resources (econrres)				
Income (econres1)	0.528	0.038	14.032	0.000
Financial situation (econres2)	0.723	0.048	15.163	0.000
Employment (emp)				
Permanent job (emp1)	0.222	0.048	4.593	0.000
Job satisfaction: security (emp2)	0.747	0.059	12.646	0.000
Job satisfaction: overall (emp3)	0.698	0.057	12.274	0.000
Health (health)				
Health status (health1)	0.916	0.009	100.510	0.000
Satisfaction: health (health2)	0.763	0.010	76.668	0.000
Health inhibits activities (health3)	0.829	0.012	71.516	0.000
Social capital (scapital)				
Feeding visitors (sc1)	0.229	0.025	9.324	0.000
Local group acitvities (sc3)0.476	0.069	6.922	0.000	

	Estimate	S.E.	Est./S.E.	*P* value
Voluntary works(sc4)	0.601	0.074	8.071	0.000
Well-being				
Durable goods (durablep)	0.402	0.025	16.319	0.000
Housing (housep)	0.219	0.025	8.725	0.000
Social capital	0.445	0.047	9.556	0.000
Economic resources	0.582	0.042	13.800	0.000
Health	0.597	0.034	17.768	0.000
Employment	0.283	0.040	7.031	0.000
Correlated variables				
Scapital with emp	−0.041	0.073	−0.561	0.575
Sc3 with sc4	0.631	0.038	16.643	0.000
Durablep with econres1	0.390	0.026	14.781	0.000
Durablep with sc1	0.222	0.022	10.089	0.000
Sc1 with econres2	0.278	0.038	7.300	0.000
Sc1 with econres1	0.312	0.033	9.399	0.000
Housep with econres2	0.212	0.026	8.266	0.000
Health3 with econres1	0.445	0.062	7.172	0.000

Correlation residual

	Econres1	Econres2	Health1	Health2	Health3	Emp1	Emp2	Emp3	Sc1	Sc3	Sc4	Housep
Econres1												
Econres2	0.000											
Health1	0.068	0.001										
Health2	−0.017	0.017	0.001									
Health3	0.000	−0.052	−0.008	0.009								
Emp1	0.098	0.076	−0.004	−0.003	0.003							
Emp2	−0.093	0.007	−0.005	0.087	−0.029	0.072						

	Econres1	Econres2	Health1	Health2	Health3	Emp1	Emp2	Emp3	Sc1	Sc3	Sc4	Housep
Emp3	−0.123	0.062	0.023	0.142	−0.078	−0.180	0.003					
Sc1	0.000	0.000	0.091	0.073	0.126	0.030	0.006	0.038				
Sc3	0.015	0.040	0.023	−0.055	−0.047	−0.083	−0.026	0.049	−0.004			
Sc4	−0.046	−0.009	0.019	−0.044	0.018	−0.132	−0.031	0.021	0.003	0.000		
Housep	0.005	0.000	−0.003	0.003	−0.011	0.019	0.007	0.005	0.020	0.008	−0.002	0.000
Durablep	0.000	0.006	−0.002	−0.022	0.029	0.023	−0.032	−0.031	0.000	−0.003	0.011	−0.001

Appendix 3: Unstandardized Factor Loadings

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income	0.730*** (0.092)	0.807*** (0.056)	0.738*** (0.056)	0.900*** (0.043)	0.680*** (0.047)	1.003*** (0.063)	0.978*** (0.041)	0.749*** (0.040)	0.723*** (0.034)	0.589*** (0.060)	0.689*** (0.041)	0.844*** (0.063)	1.231*** (0.084)
Financial situation	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)(0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000	1.000 (0.000)
Permanent job	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	0.278*** (0.048)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)
Job satisf.Security	3.359*** (0.801)	1.266*** (0.135)	5.065*** (0.935)	1.353*** (0.223)	9.012 (4.915)	2.756*** (0.395)	1.967*** (0.418)	5.203*** (1.220)	1.088*** (0.103)	1.000 (0.000)	3.025*** (0.537)	5.358** (1.822)	2.911** (0.839)
Job satisf.Overall	3.135*** (0.712)	1.759*** (0.128)	3.247*** (0.522)	0.242** (0.076)	6.893 (4.020)	2.400*** (0.311)	0.348** (0.118)	7.075*** (1.762)	1.566*** (0.101)	0.885*** (0.071)	3.237*** (0.588)	5.532** (2.016)	3.717** (1.111)
Health status	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)
Satisf.Health	0.833*** (0.016)	0.887*** (0.010)	0.838*** (0.013)	0.819*** (0.010)	0.811*** (0.014)		0.821*** (0.008)	0.805*** (0.008)	0.796*** (0.018)	0.846*** (0.013)	0.846*** (0.014)	0.839*** (0.013)	0.831*** (0.019)
Health inhibits activities	0.905*** (0.017)	0.939*** (0.010)	0.901*** (0.013)	0.794*** (0.010)	0.866*** (0.015)	1.080*** (0.049)	0.932*** (0.009)	0.890*** (0.009)	0.527*** (0.015)	0.928*** (0.013)	0.910*** (0.014)	0.903*** (0.014)	0.938*** (0.019)
Feed visitors	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)		1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)	1.000 (0.000)
Talking to neighbors		−0.009 (0.024)	0.752*** (0.133)	0.330*** (0.068)	0.629*** (0.126)	1.000 (0.000)	0.402*** (0.085)	0.839*** (0.133)	1.522*** (0.226)	0.578*** (0.124)	0.515*** (0.102)	0.430*** (0.109)	−0.008 (0.097)
Meeting people		0.224*** (0.063)	0.406*** (0.115)	−0.090 (0.068)	0.145 (0.107)	−0.273 (0.164)	−0.029 (0.082)	−0.229* (0.113)	0.215 (0.148)	0.310** (0.115)	0.430*** (0.099)	0.366*** (0.105)	0.362** (0.109)
Local group activities	2.081*** (0.312)	0.157** (0.053)	1.627*** (0.270)	2.168*** (0.185)	4.739*** (0.545)	2.628*** (0.330)	2.611*** (0.202)	2.670*** (0.281)	2.963*** (0.289)	1.868*** (0.297)	0.992*** (0.154)	1.299*** (0.227)	2.302*** (0.216)
Voluntary works	2.624*** (0.339)	0.162* (0.064)	1.949*** (0.305)	1.203*** (0.150)	5.367*** (0.614)	1.397*** (0.397)	2.699*** (0.215)	1.062** (0.317)	2.812*** (0.302)	1.176*** (0.229)	1.081*** (0.168)	0.949*** (0.208)	1.124*** (0.158)
Economic resources	4.128*** (0.374)	5.997*** (0.341)	4.488*** (0.632)	5.480*** (0.221)	15.127*** (2.021)	5.809*** (0.405)	6.959*** (0.320)	7.548*** (0.361)	11.826*** (0.647)	4.956*** (0.375)	4.767*** (0.279)	3.612*** (0.246)	2.835*** (0.222)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Employment	0.617***	2.191***	0.315***	1.296***	0.573	0.795***	1.652***	0.670***	3.474***	3.720***	0.549***	0.315**	0.533**
	(0.167)	(0.218)	(0.083)	(0.216)	(0.331)	(0.139)	(0.360)	(0.167)	(0.307)	(0.354)	(0.108)	(0.116)	(0.162)
Health	5.369***	5.772***	2.202***	3.588***	9.397***	4.876***	6.529***	5.930***	7.491***	6.065***	3.086***	4.112***	3.859***
	(0.531)	(0.340)	(0.374)	(0.249)	(1.309)	(0.348)	(0.300)	(0.267)	(0.378)	(0.525)	(0.191)	(0.438)	(0.232)
Social capital	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durable goods	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Housing	0.328***	0.427***	0.645***	0.399***	0.920***	0.439***	0.437***	0.454***	0.788***	0.322***	0.283***	0.229***	0.198***
	(0.044)	(0.036)	(0.054)	(0.023)	(0.128)	(0.035)	(0.029)	(0.030)	(0.044)	0.036)	(0.020)	(0.024)	(0.027)

Standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Model fit statistics

Year	Sample size	$\chi 2$	D.F.	*P* value	CFI[a]	TLI	RMSEA	Test[b]	WRMR[c]
1996	4850	473.87	54	0.00	0.97	0.96	0.04	1.00	1.87
1997	11,193	1041.95	71	0.00	0.98	0.97	0.04	1.00	2.54
1998	10,906	823.11	72	0.00	0.98	0.96	0.03	1.00	2.26
1999	15,623	975.41	65	0.00	0.98	0.97	0.03	1.00	2.44
2000	15,603	548.00	68	0.00	0.98	0.97	0.02	1.00	1.86
2001	18,867	685.23	55	0.00	0.95	0.93	0.02	1.00	2.33
2002	16,597	893.57	66	0.00	0.99	0.98	0.03	1.00	2.32
2003	16,238	837.38	66	0.00	0.99	0.98	0.03	1.00	2.26
2004	15,791	685.50	66	0.00	0.99	0.98	0.02	1.00	2.05
2005	15,617	851.13	78	0.00	0.97	0.96	0.02	1.00	2.32
2006	15,392	859.47	77	0.00	0.97	0.96	0.03	1.00	2.33
2007	14,873	782.83	74	0.00	0.97	0.96	0.02	1.00	2.21
2008	7746	726.37	81	0.00	0.95	0.94	0.03	1.00	2.12

[a] According to Hu and Bentler (1999) larger than .90 implies a good model fit

[b] Close-fit test', the probability of RMSEA $< .05$

[c] Weighted root mean square residual

Appendix 4: Unstandardized Factor Loadings After Multiple Imputation

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income	0.656***	0.750***	0.674***	0.882***	0.637***	0.845***	0.854***	0.681***	0.691***	0.468***	0.667***	0.739***	0.945***
	(0.095)	(0.056)	(0.060)	(0.041)	(0.034)	(0.038)	(0.061)	(0.038)	(0.035)	(0.051)	(0.044)	(0.063)	(0.056)
Financial situation	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Permanent job	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.408***	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.036)	(0.000)	(0.000)	(0.000)
Job satisf. security	2.567***	1.222***	4.001***	2.032***	3.241***	1.902***	2.774	3.204***	1.143***	1.000	2.357***	3.064**	1.366***
	(0.565)	(0.134)	(0.763)	(0.538)	(0.460)	(0.098)	(1.617)	(0.538)	(0.118)	(0.000)	(0.383)	(0.881)	(0.197)
Job satisf. overall	2.039***	1.589***	2.531***	0.892**	3.371***	1.468***	1.210	4.289***	1.523***	0.913***	2.766***	3.391**	1.536***
	(0.499)	(0.126)	(0.388)	(0.273)	(0.584)	(0.101)	(0.881)	(0.983)	(0.087)	(0.050)	(0.500)	(1.084)	(0.288)
Health status	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Satisf. health	0.852***	0.900***	0.846***	0.818***	0.823***		0.833***	0.820***	0.822***	0.854***	0.867***	0.853***	0.854***
	(0.018)	(0.010)	(0.014)	(0.010)	(0.009)		(0.008)	(0.009)	(0.018)	(0.013)	(0.014)	(0.013)	(0.016)
Health inhibits activities	0.912***	0.943***	0.902***	0.790***	0.913***	1.053***	0.941***	0.900***	0.620***	0.928***	0.920***	0.911***	0.946***
	(0.018)	(0.010)	(0.013)	(0.010)	(0.009)	(0.032)	(0.008)	(0.010)	(0.018)	(0.013)	(0.014)	(0.015)	(0.023)
Feed visitors	1.000	1.000	1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Talking to neighbors		−0.006	0.789***	0.416***	(0.026)	(0.148)	(0.081)	0.499*	(0.080)	1.000	(0.000)	0.450***	0.930**
		(0.092)	(0.153)	1.673**	(0.267)	0.573***	0.431***	0.478**	0.108	(0.127)	(0.109)	(0.149)	(0.106)
Meeting people		0.242***	0.448**	−0.024	0.104	−0.378***	0.046***	−0.105***	0.378***	0.247***	0.405**	0.484***	0.105***
		(0.065)	(0.141)	(0.079)	(0.072)	(0.120)	(0.099)	(0.125)	(0.179)	(0.115)	(0.123)	(0.131)	(0.111)
Local group activities	2.358***	0.158**	1.882***	2.524***	4.708***	2.474***	2.595***	2.422***	2.841***	2.135***	1.244***	1.283***	2.493***
	(0.429)	(0.055)	(0.310)	(0.224)	(0.387)	(0.229)	(0.209)	(0.307)	(0.320)	(0.294)	(0.177)	(0.285)	(0.238)
Voluntary works	3.020***	0.175*	2.277***	1.403***	5.032***	1.477***	2.659***	1.100**	2.770***	1.368***	1.497***	0.959***	1.438***
	(0.449)	(0.069)	(0.348)	(0.176)	(0.407)	(0.285)	(0.220)	(0.332)	(0.328)	(0.253)	(0.206)	(0.247)	(0.168)
Economic resources	5.008***	6.767***	6.911***	6.253***	14.796***	7.212***	7.398***	7.995***	11.709***	5.705***	4.695***	3.957***	3.689***
	(0.606)	(0.444)	(1.021)	(0.326)	(1.647)	(0.335)	(0.382)	(0.398)	(0.772)	(0.407)	(0.331)	(0.281)	(0.314)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Employment	1.286**	2.750***	0.670*	1.456***	1.909***	1.473***	1.788*	1.441***	4.464***	3.767***	0.836***	0.863**	1.760***
	(0.456)	(0.266)	(0.260)	(0.351)	(0.374)	(0.114)	(0.787)	(0.303)	(0.384)	(0.311)	(0.148)	(0.274)	(0.327)
Health	6.308***	6.285***	3.293***	4.933***	10.824***	5.176***	7.386***	6.709***	8.314***	5.646***	3.414***	5.573***	4.507***
	(0.920)	(0.401)	(0.546)	(0.411)	(1.221)	(0.217)	(0.395)	(0.400)	(0.460)	(0.420)	(0.338)	(0.655)	(0.447)
Social capital	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durable goods	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Housing	0.391***	0.460***	0.679***	0.481***	1.163***	0.552***	0.466***	0.450***	0.780***	0.376***	0.261***	0.242***	0.241***
	(0.065)	(0.042)	(0.059)	(0.029)	(0.132)	(0.025)	(0.033)	(0.031)	(0.054)	(0.036)	(0.024)	(0.029)	(0.036)

Standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Appendix 5: Standardized Factor Loadings after Multiple Imputation

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income	0.500*** (0.040)	0.504*** (0.023)	0.458*** (0.025)	0.567*** (0.016)	0.474*** (0.015)	0.570*** (0.015)	0.539** (0.022)	0.476*** (0.016)	0.484*** (0.015)	0.372*** (0.024)	0.471*** (0.019)	0.473*** (0.025)	0.570*** (0.023)
Financial situation	0.764** (0.056)	0.672*** (0.026)	0.679*** (0.032)	0.643*** (0.016)	0.744*** (0.020)	0.674*** (0.017)	0.632*** (0.023)	0.698*** (0.021)	0.701*** (0.020)	0.795*** (0.044)	0.707*** (0.027)	0.640*** (0.030)	0.604*** (0.025)
Permanent job	0.319** (0.056)	0.510*** (0.040)	0.230*** (0.037)	0.451*** (0.061)	0.210*** (0.031)	0.423*** (0.021)	0.378*** (0.104)	0.192** (0.035)	0.536*** (0.039)	0.308*** (0.025)	0.281*** (0.049)	0.235*** (0.059)	0.505*** (0.079)
Job satisf.Security	0.805*** (0.112)	0.621*** (0.026)	0.913*** (0.061)	0.900*** (0.119)	0.677*** (0.034)	0.803*** (0.023)	0.999** (0.311)	0.607*** (0.027)	0.610*** (0.022)	0.756*** (0.021)	0.652*** (0.032)	0.692*** (0.035)	0.681*** (0.040)
Job satisf.Overall	0.636*** (0.084)	0.808*** (0.035)	0.579*** (0.045)	0.394*** (0.074)	0.702*** (0.031)	0.619*** (0.021)	0.430* (0.204)	0.806*** (0.031)	0.815*** (0.031)	0.690*** (0.020)	0.763*** (0.036)	0.762*** (0.038)	0.760*** (0.045)
Health status	0.908*** (0.010)	0.887*** (0.005)	0.907*** (0.007)	0.912*** (0.006)	0.913*** (0.005)	0.856*** (0.013)	0.905*** (0.004)	0.925*** (0.005)	0.921*** (0.010)	0.899*** (0.007)	0.894*** (0.007)	0.912*** (0.007)	0.903*** (0.011)
Satisf.Health	0.774*** (0.011)	0.799*** (0.006)	0.767*** (0.008)	0.746*** (0.006)	0.751*** (0.006)		0.754*** (0.005)	0.758*** (0.006)	0.757*** (0.009)	0.767*** (0.008)	0.775*** (0.008)	0.778*** (0.007)	0.771*** (0.011)
Health inhibits activities	0.828*** (0.012)	0.837*** (0.007)	0.818*** (0.009)	0.721*** (0.007)	0.833*** (0.006)	0.902*** (0.014)	0.852*** (0.006)	0.832*** (0.006)	0.571*** (0.018)	0.834*** (0.009)	0.822*** (0.010)	0.831*** (0.010)	0.854*** (0.016)
Feed visitors	0.213*** (0.025)	0.747*** (0.103)	0.240*** (0.025)	0.267*** (0.017)	0.180*** (0.013)	0.193***	0.206*** (0.012)	0.217*** (0.020)	0.143*** (0.016)	0.288*** (0.028)	0.315*** (0.028)	0.340*** (0.039)	0.291*** (0.021)
Talking to neighbors		−0.004 (0.019)	0.190*** (0.030)	0.111*** (0.020)	0.090*** (0.012)	(0.017)	0.093*** (0.018)	0.202*** (0.028)	0.238*** (0.025)	0.165*** (0.032)	0.136*** (0.033)	0.163** (0.047)	0.032 (0.031)
Meeting people		0.181*** (0.028)	0.107** (0.031)	−0.006 (0.021)	0.019 (0.013)	−0.073** (0.022)	0.009 (0.020)	−0.023 (0.027)	0.054* (0.024)	0.071* (0.032)	0.128** (0.040)	0.165*** (0.041)	0.031 (0.032)
Local group activities	0.500*** (0.079)	0.118*** (0.031)	0.452*** (0.058)	0.673*** (0.043)	0.845*** (0.027)	0.477*** (0.043)	0.536*** (0.040)	0.525*** (0.054)	0.404*** (0.041)	0.615*** (0.061)	0.391*** (0.048)	0.435*** (0.075)	0.726*** (0.051)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Voluntary works	0.641*** (0.084)	0.130** (0.042)	0.547*** (0.062)	0.374*** (0.039)	0.904*** (0.029)	0.285*** (0.052)	0.549*** (0.041)	0.239** (0.070)	0.394*** (0.042)	0.394*** (0.060)	0.471*** (0.054)	0.326*** (0.074)	0.419*** (0.038)
Economic resources	0.572*** (0.049)	0.741*** (0.033)	0.773*** (0.052)	0.891*** (0.037)	0.801*** (0.030)	0.886*** (0.022)	0.812*** (0.023)	0.784*** (0.028)	0.860*** (0.029)	0.618*** (0.037)	0.859*** (0.036)	0.669*** (0.045)	0.781*** (0.043)
Employment	0.343*** (0.066)	0.397*** (0.021)	0.219*** (0.054)	0.294*** (0.038)	0.366*** (0.026)	0.289*** (0.021)	0.324*** (0.061)	0.511*** (0.024)	0.430*** (0.025)	0.429*** (0.022)	0.387*** (0.036)	0.392*** (0.033)	0.446*** (0.037)
Health	0.604*** (0.044)	0.522*** (0.022)	0.276*** (0.031)	0.495*** (0.021)	0.477*** (0.019)	0.501*** (0.013)	0.566*** (0.017)	0.497*** (0.016)	0.465*** (0.017)	0.540*** (0.021)	0.493*** (0.027)	0.659*** (0.037)	0.638*** (0.035)
Social capital	0.412*** (0.050)	0.099*** (0.014)	0.317*** (0.032)	0.344*** (0.022)	0.225*** (0.016)	0.430*** (0.039)	0.336*** (0.021)	0.316*** (0.028)	0.362*** (0.035)	0.299*** (0.029)	0.411*** (0.046)	0.318*** (0.041)	0.440*** (0.034)
Durable goods	0.375*** (0.033)	0.358*** (0.015)	0.339*** (0.032)	0.411*** (0.021)	0.205*** (0.021)	0.395*** (0.012)	0.346*** (0.012)	0.355*** (0.014)	0.270*** (0.014)	0.303*** (0.017)	0.426*** (0.026)	0.342*** (0.025)	0.412*** (0.021)
Housing	0.223*** (0.027)	0.217*** (0.017)	0.369*** (0.031)	0.230*** (0.012)	0.320*** (0.013)	0.311*** (0.011)	0.226*** (0.012)	0.233*** (0.014)	0.298*** (0.013)	0.246*** (0.020)	0.264*** (0.018)	0.195*** (0.022)	0.218*** (0.030)

standard errors in parenthesis

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

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