

The Limits of Well-being Measurement at Sub-regional Level

Introduction

To characterise the well-being of different regions, certain indices of the System of National Accounts (SNA) are used by the national and international literature. However, it is already evident that the informational base of the SNA and especially its most popular indicators (e.g. GDP, GNP) is very narrow. This base does not contain even basic information about the state of the natural environment, the effect of economic processes on nature, and several other aspects of social well-being (Sen 1999, van den Bergh 2007, Stiglitz et al. 2009).

Consequently, many organisations and researchers have recently attempted to create systems of indicators to represent more aspects of general well-being and sustainable development. As a result of this tendency in research projects, more than 500 sets of indicators aiming to operationalise sustainable development are mentioned in a recent study (Böhringer-Jochem 2007). Besides this fact, every significant international organisation (like the EU, UN, OECD, etc.) has its own indicator system for sustainability. In 2003, the UN, the European Commission, the IMF, the OECD and the World Bank published a proposal for a framework for integrated environmental and economic national accounts (Eurostat 2007, Hungarian Central Statistical Office 2008, OECD 2003, UN 2007, UNECE et al. 2008). These sustainability indicator sets all have their ‘well-being’ pillar, namely they all contain indicators which aim to provide information on the present level of social well-being. In our paper we concentrate on this, well-being measurement.

Recently, a committee led by Nobel laureate economists published a report on the insufficiency of the dominant welfare indicators and the desirable criteria for an alternative indicator system (Stiglitz et al. 2009). These facts suggest that there are valid arguments to use alternative indices in political decision-making in order to obtain a better understanding of the well-being of societies.

In our paper, we aim to establish a system of well-being indicators for the sub-regional level. Thus, our work contributes to a better understanding of present social well-being at this level of analysis.

Our paper consists of three parts. In the first, we describe the theoretical background and the methodology. On the basis of contemporary well-being theories, we create an overall well-being typology. This typology includes the ideal well-being measures for the sub-regional level. After that, we describe the process of the operationalisation of the well-being measures and specifically those tools which are available for the sub-regional level to determine the level of prosperity in Hungary. Lastly, the average well-being rates in Hungary are analysed at sub-regional level with the help of multivariate statistical

methods. In this part of the paper, we introduce our results in a national comparison. In the final section of the paper, we draw conclusions from our results and from our theoretical underpinning. Our main findings are that (1) well-being measurement at a sub-regional level reveals tendencies which are masked by traditional economic and competitiveness analysis; and (2) a measurement exercise like ours has serious limitations, i.e. there is a significant measurement gap between theoretical models of well-being and their operationalisation, most of all because of the current state of data availability.

Methodology and theoretical background

As the first step of our research we overviewed the current literature on well-being theories – utility-based approaches (Hausmann-McPherson 1997), basic resources (or needs) (Rawls 1971, Streeten 1979) and the capability approach (Sen 1993, 1995, 1999, Nussbaum 2011, Comim et al. 2008). The main components of these approaches can be seen in Table 1.

Table 1

Theories about well-being

Utility-based approach	Basic needs, resources	Capability approach
Income	<u>Rawls (1997):</u> Basic rights and liberties	<u>Sen (1999):</u> Real opportunities
Unemployment	Powers of offices and positions of responsibility Income and wealth Social bases of self-respect <u>Streeten (1979):</u> Means for bare survival Means for continued survival Means for productive survival Non-material needs	<u>Nussbaum (2011):</u> Life Bodily health Bodily integrity Senses, imagination and thought Emotions Practical reason Affiliation Other species Play Control over one's environment

We do not intend to choose between the different theories, which all have their own theoretical underpinning. Instead, we synthesise these contemporary theories of well-being in a new theoretical framework and use the notion of ‘dimension’, which was suggested by Alkire (2002). We define dimension as follows: *a dimension is any of the component aspects of well-being* (Alkire 2002). So a dimension is a kind of aspect or viewpoint that captures a part of well-being. While one single dimension cannot give a full picture of well-being, there is no requirement that dimensions of well-being must be free of overlap. Our aim with this notion is to interpret well-being according to the results of contemporary welfare economics from the broadest possible base of information.

According to the aforementioned well-being theories, we compiled the following list of dimensions (Table 2).

Table 2

Dimensions of well-being

1. Financial goods	All of the theories about well-being admit that we need certain material and financial goods to survive. But both the basic resources approaches and the capability approach emphasise that financial and material goods are just means to achieve well-being and not goals in themselves.
2. Rights for freedom	Some of the authors on well-being (Rawls 1971, Nussbaum 2011) attribute significance to basic human rights for freedom (like freedom of movement, free choice among a wide range of occupations, freedom to take part in decision-making, etc.), which cannot be alienated from both intrinsic and instrumental reasons.
3. Physical well-being	To live a long life, people <i>prima facie</i> need health. Things which are needed for survival and for being healthy belong to this dimension, like drinking water, food, shelter, sanitation, etc. According to the capability approach, health is the most important means of achieving valuable goals in life (Sen 1999).
4. Relationship with family/friends	Having relationships with other members of society, playing with them, having emotions about them are among the most important capabilities according to Nussbaum (2011), but this is mentioned in basic goods theories as well.
5. Quality of environment	The quality of the environment is neglected by the mainstream economic theories. However, this important factor is not just intrinsically valuable, but it is also the basis for other elements of well-being like clean drinking water, healthy food, safe environment, etc.
6. Leisure activity	Being able to play is mostly emphasised by Nussbaum. According to the capability approach, life is more valuable if people have a wide variety of leisure activities, like cinema and theatre going, sports, civil activities, etc.
7. Labour	Labour, as one of the factors of production, has an important role in economic theories and competitiveness analysis. However, having a job also gives people self-esteem, thus it is another important dimension (Sen 1999).
8. Forms of social care	Forms of social care are services which are provided by the community. These services cannot be created by individuals on their own.
9. Education	Education has prior importance in widening the capabilities of individuals. More educated people produce more value-added products and services, and have a better chance of getting a job (Sen 1999).
10. Information access	According to the capability approach, to live a valuable life, people need to get information about the world in general, such as about job opportunities, political actions, etc. (Sen 1999). But Rawls also emphasises the right to be informed (1971).
11. Basis of social self-respect	The basis of social self-respect means recognition by social institutions that gives a sense of self-worth to citizens. People need certain goods to be full members of society, like appropriate clothing, communication devices, etc. (Rawls 1971).

Source: Own illustration.

In the second step of our research, we established our set of indicators. To grasp the sub-regional dimension of the statistical indicators of well-being, our database relied on data from TeIR and, most of all, on the data of the Hungarian Central Statistical Office. Exceptions are income data, which originate from the tax authority. The resultant

database of potential well-being indicators consists of 58 welfare indicators, all of which can be linked to a dimension of well-being (Appendix 1).

The concept of dimension according to Alkire (2002) is then divided into three levels in order to classify potential well-being indicators. These are: (1) Theoretical main dimension, (2) Dimension and (3) Sub-dimension. The theoretical main dimensions refer to the 11 dimensions based on theory. The other two levels (dimension and sub-dimension) represent a more detailed conceptual analysis, virtually a group of indicators. These were created by using factor analysis.

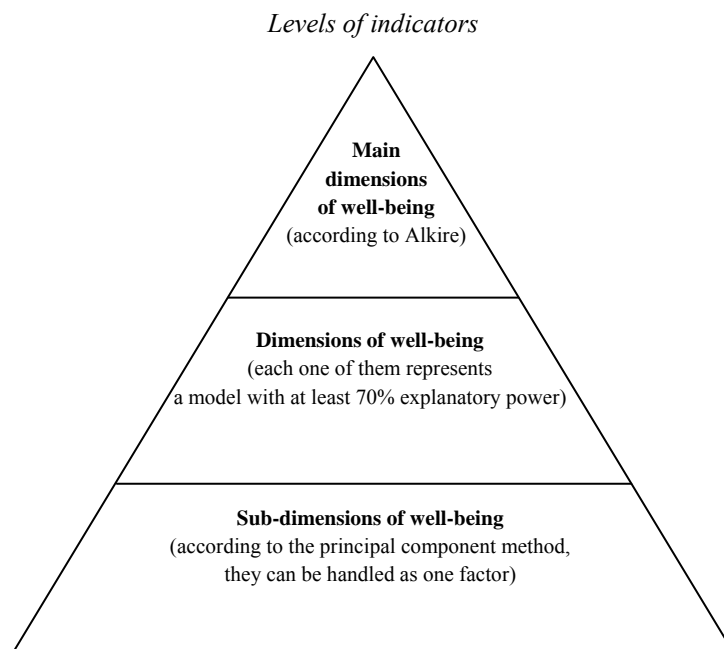
The indicators we actually used for our analysis were selected after a multi-step process. All of the 58 indicators were classified into one of the theoretical main dimensions on the basis of well-being theories. Unfortunately, we did not manage to find indicators for 5 of the previously defined 11 theoretical well-being dimensions. Thus indicators were available in the following six theoretical main dimensions:

1. Financial goods
2. Physical well-being
3. Leisure activities
4. Labour
5. Forms of social care
6. Education

We standardised our variables, and created specific and rate indicators to be able to compare the results of the sub-regions. After standardising the variables, we made different factors (sub-dimensions) by principal component analysis from the standardised variables in the theoretical main dimensions. Our set of indicators consists of three levels, as mentioned above, which can be seen in Figure 1. The theoretical main dimensions are lined up according to the theoretical literature and are in accordance with Alkire's dimensions of well-being. The sub-dimensions represent one given aspect of well-being and they can be handled as single factors in our model because of their empirical connection.

We created the level of dimensions in our analysis, which is between the level of main dimensions and sub-dimensions (Figure 1). From a theoretical perspective, this level reflects the constituents of well-being, which are narrower than the theoretical main dimensions, but broader than the sub-dimensions. Moreover, when analysing the indicators in one dimension by the principal component method, we found that the indicators within one dimension were part of the same model with at least 70% explanatory power, thus one dimension can be considered as one single unit. Accordingly, the actually used set of indicators consists of standardised variables, which are connected strongly and unequivocally to the factors (or main components) from the principal component method. Thus we have 47 indicators, classified into 23 sub-dimensions (factors).

Figure 1



Source: Own illustration.

In the third step of our analysis we specified the output of the measurement exercise. The actually used indicators were the basis for two kinds of output. The first are factors or sub-dimensions themselves. According to the process interpreted above, we saved the factor values and used them later in the evaluation. To use this process, it is a basic requirement that the artificial variables or factors should have real – close to reality – meaning (see Table 3).

The second kind of output is dimensions. Dimensions were made not from the belonging factors, but from the variables themselves related to the factors with a weighting process. The factor analysis attributes a communality value to each variable. These values show the weight of the variable in the hypothetical or artificial variable. Therefore this is one kind of weighting which is offered by the applied method.

As a consequence, the value of one dimension is the average of the included standardised variables where the weights are the square root of the communalities. It is important to emphasise that not every main dimension was divided into dimensions (some of the main dimensions had 70% explanatory power in themselves).¹ During the analysis, the main dimensions with high explanatory power were counted as one of the

¹ For instance, the theoretical main dimension of Financial goods was kept as a single dimension, because the three indicators in them (Inland incomes, Poverty rate, Sub-regional Gini index) have more than 70% explanatory power (see Appendix 1).

dimensions of well-being. Thus in the analysis for well-being at sub-regional level, we had the following 11 dimensions:

- Financial goods (3 indicators)
- Physical well-being (4 indicators)
- Leisure activities – culture (7 indicators)
- Leisure activities – recreation (4 indicators)
- Labour (1 indicator)
- Forms of basic social care (5 indicators)
- Forms of social care – healthcare (4 indicators)
- Forms of social care – childcare (6 indicators)
- Forms of social care – basic education (5 indicators)
- Forms of social care – safety (5 indicators)
- Education (3 indicators)

Table 3

Main dimensions, sub-dimensions and their connection to actual meaning

Theoretical main dimension	Dimension	Sub-dimension (factor)
Financial goods	<i>Financial or material well-being</i>	Income deprivation
		Income distribution
Physical well-being	<i>Physical well-being</i>	Cancer-type illness
		Other long-term illness
Leisure activities	<i>Culture</i>	Opportunities for public culture Opportunities to visit cinema/theatre Opportunities to visit museums
	<i>Recreation</i>	Availability of recreation facilities in town Quality of recreation facilities
Labour	<i>Labour</i>	Unemployment
Forms of social care	<i>Forms of basic social care</i>	Sewage system Sanitation Availability of post offices in town
	<i>Healthcare</i>	Availability of basic health care services Hospitals
	<i>Child care</i>	Quality of kindergartens Availability of kindergartens Endangered minors
	<i>Basic education</i>	Availability of primary schools Quality of primary school education
	<i>Safety</i>	Crime Safety of travelling
Education	<i>Education</i>	Availability of education

Results

To analyse the well-being situation of sub-regions, we made clusters along the examined dimensions and made groups from sub-regions in similar situations. The result of our cluster analysis is shown in Tables 4 and 5.

Table 4

Cluster centres

Well-being dimensions	Clusters			
	1	2	3	4
	Final cluster centres			
Financial goods (inverse)	-0.110	0.509	-0.341	-0.363
Physical well-being (inverse)	0.061	0.279	-0.363	-0.337
Leisure activities – culture	0.069	-0.320	0.133	1.537
Leisure activities – recreation	-0.084	-0.183	0.323	-0.060
Labour (inverse)	-0.330	1.279	-0.784	-0.730
Forms of basic social care	-0.062	-0.418	0.565	-0.570
Forms of social care	-0.179	-0.400	0.745	-0.877
Forms of social care – childcare	0.061	-0.454	0.367	0.200
Forms of social care – basic education	0.062	-0.058	-0.187	2.463
Forms of social care – safety	-0.087	-0.270	0.473	-0.937
Education	0.142	-1.026	0.861	-0.143

Table 5

Size of the clusters

Cluster	Number of sub-regions in the cluster
1	73
2	50
3	48
4	3
All	174

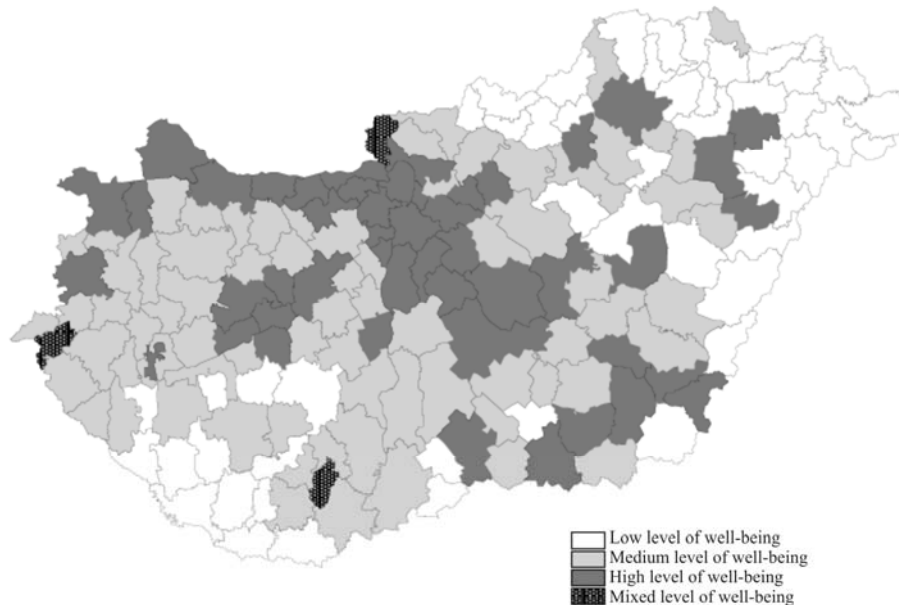
As we can see, there are only three sub-regions in the fourth cluster (Őrízentspéter, Pécsvárad, Szob). Here well-being seems to be mixed and diverse. These sub-regions prosper in some of the dimensions (Financial goods, Physical well-being, Leisure activities, Labour, Basic education) compared to other sub-regions in the country. However, in other dimensions (Recreation, Education) these regions are slightly below average, while well-being is poor as regards some dimensions (Forms of basic social care, Healthcare, Safety).

The other three clusters are much more homogenous. In the first cluster, we find sub-regions where the employment situation is relatively good and overall well-being is about average. The exception is the dimension of Healthcare, because here the cluster is below average. Sub-regions in the second cluster have a relatively low level of well-being, while for those in the third cluster the level is relatively high. In the third cluster every dimension has higher values than those in the second cluster, except Basic education. The same is true for the first and third cluster. This simple relationship between the clusters

becomes more complicated and less homogenous when we analyse the variance between the values. In the case of the second cluster, the variance of Physical well-being around the centre of the cluster is high; the sub-regions in this cluster vary greatly compared to the value attributed to the centre of the cluster. In the case of the third cluster, the same can be said about the dimensions of Leisure activities – recreation and Forms of social care – Healthcare.

Figure 2

Clusters of well-being at sub-regional level



Source: Own illustration.

If we analyse the results in a national comparison (see Figure 2), we find that the sub-regions with relatively high well-being are located around a north-west and south-east axis. The regions around Lake Balaton with high well-being and some of the bigger cities in the eastern part of Hungary (Eger, Miskolc, Nyiregyháza, Debrecen) are outside this axis. It seems that the distribution of sub-regions with higher well-being is influenced by the route of highways, because there is a significant spatial concentration alongside the most important roads. It is important to emphasise that there is a concentration of sub-regions with high well-being in the agglomeration of Budapest. In contrast, we find sub-regions with the lowest well-being in the north-eastern and south-western parts of Hungary, primarily in the North Hungary and South Transdanubia regions.

Discussion

As aforementioned, our main aim was to create a synthesis between different theories of well-being in our study. We tried to include as many aspects of well-being as possible. Consequently, we included much more information in our research than conventional

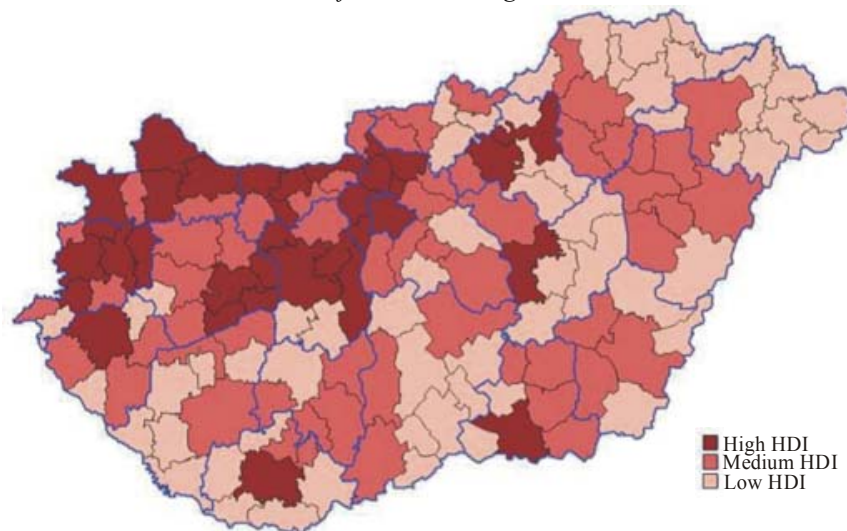
welfare or competitiveness analyses, which usually use only price-based SNA indicators and/or employment/unemployment levels. Although we also used income-related indices and unemployment rates, these are not the only indicators but rather only one of the components in our complex analysis of well-being. We claim that this type of multidimensionality and the resultant wide informational base are the main advantages of our research perspective.

Therefore, it is small wonder that our outcome shows differences compared to the results of the traditional economic or competitiveness measurement.² Not only do the single dimensions differ (which are obviously different, because they measure different things), but also our analysis gives a more detailed and diverse picture of sub-regional well-being compared to SNA and competitiveness results (Lukovics–Kovács 2011) or HDI results (Garami 2009).

Although here we do not have the opportunity to give a detailed analysis of these differences, we illustrate them by a brief comparison. Figure 3 shows sub-regional HDI results (Garami 2009). By comparing the two maps (Figures 2 and 3), one can see that they give a somewhat different picture of sub-regional well-being in Hungary. While a north-west south-east axis is present in our results, the HDI analysis implies a better developed north-western part of Hungary – which is more nuanced in our analysis shown in Figure 2.

Figure 3

Clusters of HDI at sub-regional level



Source: Garami 2009.

During our research we realised that we had to face serious limitations and possible biases if we wanted to keep the broad informational base of our analysis. We think that these limitations and their consequences on scientific work regarding well-being

² For a detailed discussion of our results on sub-regional well-being see Málóvics et al. 2010.

measurement (in Hungary) are at least as important from a scientific point of view as our results related to Hungarian sub-regional well-being are. The reason is that biases similar to the ones we encountered are likely to occur with any well-being measurement using a wide informational basis. Therefore we discuss these biases below in detail.

The biases are: (1) the arbitrariness of choosing dimensions and statistical tools; (2) the operational gap between the foundational level and the practical level of our research; and (3) the constraints caused by data availability.

(1) It can be argued that our research suffers from arbitrariness in two ways. First of all, there is the uncertainty of the statistical methods used. Both the results of factor analysis and clustering depend very much on the decisions of the researcher. In factor analysis the researcher decides which factor should be filtered out, and how to rotate or iterate the variables. The same can be said about clustering: the characterisation of the different clusters depends on the researcher's choices.

The other form of arbitrariness, often mentioned in the literature of contemporary welfare economics as well (Alkire 2002, Alkire et al. 2008), is that the choice of dimensions is arbitrary and depends only and exclusively on the evaluation of the researcher³. It is also debatable whether the dimensions we created are constituents of well-being or not. Also, there may be aspects which are missing from our study but may be deemed important by another evaluation. However, as Sen (1999) argues, we can avoid the overgeneralisation of an arbitrary view of well-being if we make these limitations and decisions explicit and do not claim that the results are general, exclusive and objective.

(2) A significant limitation of our research results from the operational gap between the foundational or conceptualised level and the empirical level of analysis in the study. After creating the list of dimensions, we had to face the fact that some of them were difficult or even impossible to quantify or measure. Five main dimensions had to be ruled out (Rights for freedom, Information access, Relationship with family/friends, Basis of social self-respect and Quality of environment) because they were considered as immeasurable (Berg-Schlosser 2004). Although there are techniques to operationalise these notions, like rights for freedom (see for instance Berg-Schlosser 2004), there are no indicators available on them for the Hungarian sub-regions at the moment. Thus to measure them would involve a whole new research project demanding significant financial resources.

(3) The last significant constraint (bias) of our research is data availability. We realised that databases which are available in Hungary at the moment are of poor quality if one is to operationalise sub-regional well-being. This is true for even those dimensions of well-being where we managed to find some related data (indicators). Although some of the dimensions – like Financial status or Forms of social care – are theoretically easier to quantify than for example Rights for freedom or Information access, even for these dimensions we found a very low number of indicators to represent them.

³ This arbitrariness is true even if the selected dimensions have theoretical underpinning. First of all, the list of dimensions of well-being is - and will always be - incomplete. One can always add another important dimension. Thus, choosing the relevant dimensions incorporates the decision of the researcher. Second, dimensions are normative notions and not prescriptive in any sense.

For instance, in the case of basic education, we measured the quality of education with the available five indicators: primary school performance, the number of classes per 1 000 pupils, the number of full-time primary school teachers per 1 000 pupils, the number of computers and the number of primary schools per settlement. It is not hard to see that, for example, to measure the quality of education to a better extent we could include other indices as well, e.g. performance indices revealing skills gained from education (Stiglitz et al. 2009).

As we chose our indicators from existing databases, our research was constrained by already existing measures. As a consequence, our study has become less theory-driven since we could not measure well-being in a way contemporary well-being theory would suggest. Instead, because we relied on available indicators, our research is rather information/data-driven. This means that we had to adjust our measurement to the data currently available and rely less on theory. As a result, our study might show a significantly biased and/or limited picture of well-being from a theoretical point of view. However, after reviewing the literature (van den Bergh 2007, Stiglitz et al. 2009, Comim et al. 2008, Robeyns 2006) it seems that basically almost all well-being measures and indicator systems face similar problems.

Summary

In our study, we analysed the level of well-being in the sub-regions of Hungary. At the foundational level we started with conceptualising the notion of well-being according to the theories in contemporary welfare economics. Next we identified different dimensions on three levels of analysis to explain even more aspects of well-being and thus deal with its complexity. After that, we chose indicators from already existing databases to cover these dimensions. We used factor analysis and clustering to scrutinise the well-being level of the sub-regions.

Besides providing different results to earlier Hungarian economic and well-being analyses, our main contribution is a new theoretical conceptualisation of well-being measurement previously unknown in the Hungarian literature. We do not just aggregate different indicators but assign them to different theoretical dimensions of well-being. The advantages of such an analysis are twofold. First, this concept may help to understand the complexity of well-being. Second, it helps to categorise indices into theoretically based broader well-being categories.

Both of these advantages have consequences for policy-making. Local (or sub-regional) policy-making is generally strongly driven by price-based SNA indicators and/or unemployment levels (Bajmócy 2011) although the well-being of a sub-region is a more complex phenomenon. Therefore our indicator system enables the informational base of policy-making to be broadened. A common problem with such exercises is that they imply a tension between theoretical grounding and practical applicability (Steinbuka et al., n.d.). While it is important for political decision-makers to have simple and easy-to-understand indicator sets, this understandability and simplicity may result in a reduced theoretical grounding. Our indicator set is a first attempt to overcome this dilemma. By creating an indicator set based on welfare economic theory, we provide a theoretical grounding. By introducing three levels of aggregation, we create a reduced set of

relatively easily understandable well-being dimensions. Thus we contribute to practical applicability while retaining a theoretical grounding.

Our main conclusions are twofold. First, our research reveals a much more detailed picture about sub-regional well-being than SNA or competitiveness studies do. One of the main novelties of our research is the broadening of the information base of sub-regional well-being measurement. Second, we state that well-being measurement in general is quite constrained at the moment, and this is especially true of the opportunities for well-being measurement in Hungary at a sub-regional level. The reasons for this are: (1) the arbitrariness of choosing dimensions and statistical tools; (2) the gap between well-being theory and practical measurement; and (3) constraints resulting from data availability. It seems to us that statistical data availability has to improve considerably for researchers to be able to give a comprehensive, theoretically sound and non-data-driven picture of sub-regional well-being in Hungary.

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Keywords: well-being, sub-regions, measurement.

Abstract

Well-being measurement has been an intensively discussed topic in recent economic literature. It has become clear that the informational base of the System of National Accounts (SNA) is far too narrow to include many aspects of well-being. Many economists emphasise that new economic measures which are more sensitive to the social and environmental aspects of decision-making are needed (van den Bergh 2007, Stiglitz et al. 2009) in order to make social decision-making itself sensitive to such aspects. It is small wonder that we encounter a great many sustainability and well-being indicators in economic literature (Böhringer-Jochem 2007).

In our paper, we establish a model for the well-being measurement of sub-regions based on contemporary welfare economics. Based on our model we operationalise and measure well-being at a sub-regional level within Hungary using statistical data. Our research shows that (1) well-being measurement at a sub-regional level reveals tendencies which are masked by traditional economic and competitiveness analysis and (2) well-being measurement has serious limitations, i.e. there is a significant measurement gap between the theoretical models of well-being and their operationalisation based on statistical data sets.

Appendix 1

	Numerator	Reference year	Denominator
	Material welfare		
1	Inland incomes	2007	Population of the sub-region
2	Poverty rate (Number of inhabitants with incomes less than 60% of the compulsory minimum wage)	2007	Number of personal tax payers
3	Sub-regional Gini index*	2007	
	Physical well-being		
4	Malignant tumours of lungs and bronchial tubes	2008	100 000 inhabitants
5	Malignant tumours	2008	100 000 inhabitants
6	Diseases of the respiratory system	2008	100 000 inhabitants
7	Diseases of the digestive system	2008	100 000 inhabitants
8	Malignant breast tumours	2008	100 000 inhabitants
9	Diseases of the circulatory system	2008	100 000 inhabitants
10	Infant mortality (Infant death)	2008	1 000 births
	Cultural services		
11	Seating capacity of cinemas	2008	100 000 inhabitants
12	Number of cinema performances	2008	100 000 inhabitants
13	Number of museums	2008	100 000 inhabitants
14	Number of museum exhibitions	2008	100 000 inhabitants
15	Number of creative cultural communities	2008	100 000 inhabitants
16	Number of regular cultural activities	2008	100 000 inhabitants
17	Number of municipalities with cultural institutions	2008	Number of municipalities in the sub-region
18	Number of municipalities with a public library	2008	Number of municipalities in the sub-region
19	Number of cultural institutions	2008	100 000 inhabitants
	Recreation services		
20	Number of municipalities with sports halls, sports grounds	2008	Number of municipalities in the sub-region
21	Number of municipalities with baths/swimming pool	2008	Number of municipalities in the sub-region
22	Number of playgrounds, sports grounds and picnic areas	2008	100 000 inhabitants
23	Surface of playgrounds, sports grounds and picnic areas	2008	1 000 inhabitants
	Labour opportunities		
24	Number of persons seeking employment for over 180 days	2008	Population aged 15–59
	Forms of social care – Basic forms		
25	Number of flats connected to public drainage	2008	Number of flats in the sub-region
26	Number of municipalities with public sewage disposal	2008	Number of municipalities in the sub-region
27	Number of flats connected to drinking water system	2008	Number of flats in the sub-region
28	Number of flats involved in regular waste collection	2008	Number of flats in the sub-region

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	Numerator	Reference year	Denominator
29	Number of municipalities with post office(s)	2008	Number of municipalities in the sub-region
30	Number of inhabitants involved in water delivery because of unsatisfactory quality of drinking water from the aspect of public health	2008	10 000 inhabitants
31	Number of public wells	2008	1 000 km ² within municipality boundaries
Forms of social care – health			
32	Number of municipalities with family doctor	2008	Number of municipalities in the sub-region
33	Number of municipalities with outpatient medical attendance	2008	Number of municipalities in the sub-region
34	Number of municipalities with pharmacy	2008	Number of municipalities in the sub-region
35	Number of functioning hospital beds	2008	100 000 inhabitants
36	Number of family doctor services	2008	100 000 inhabitants
37	Number of paediatric services	2008	100 000 inhabitants between age 0–17
38	Number of pharmacies	2008	100 000 inhabitants
Forms of social care – child care			
39	Number of places in kindergartens (including special education)	2008	1 000 children of kindergarten age
40	Number of kindergartens (including special education)	2008	1 000 children of kindergarten age
41	Number of municipalities with kindergartens	2008	Number of municipalities in the sub-region
42	Number of municipalities with day care	2008	Number of municipalities in the sub-region
43	Number of children (from age 0-17) placed under child protection	2008	Number of children from age 0 to 17
44	Number of endangered children (from age 0 to 17)	2008	Number of children from age 0 to 17
45	Number of children applying for day care but rejected due to the lack of day care places	2008	1 000 children of day care age
Forms of social care – basic education			
46	Number of municipalities with primary school	2008	Number of municipalities in the sub-region
47	Number of primary schools (including special education)	2008	1 000 children of primary school age
48	Number of primary school classes (including special education)	2008	1 000 children of primary school age
49	Number of full-time teachers (including special education)	2008	1 000 children of primary school age
50	Number of computers in primary schools (including special education)	2008	1 000 children of primary school age

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	Numerator	Reference year	Denominator
	Forms of social care – security		
51	Number of assaults	2008	100 000 inhabitants
52	Reported crimes	2008	1 000 inhabitants
53	Accidents caused by vehicles	2008	100 000 inhabitants
54	Number of casualties and serious road accidents	2008	100 000 inhabitants
55	Number of people seriously injured or killed in road accidents	2008	100 000 inhabitants
	Education		
56	Average number of completed years of schooling of inhabitants over 7 years old	2001	
57	Number of inhabitants who did not complete the first year of primary school	2001	Inhabitants over 7 years old
58	Number of inhabitants with primary qualification only	2001	Inhabitants from age 18 to 24