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Prof. William E. Bertrand
Elke de Buhr

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Measuring the Quality of Life Across Cultures

Elke de Buhr
1002 Broadway
New Orleans, LA 70118
Email: elke.debuhr@gmx.net

1. Introduction

The measurement of the quality of life is difficult. There is no agreement in the scientific literature on a standard definition of either the term "quality of life" or related terms like subjective or objective "well-being". There is also no agreement on the method by which quality of life can best be measured.

First, it is difficult to distinguish between "quality of life" and "well-being". Most often both terms are used synonymously, and I also will do so. Moreover, these terms have an objective and a subjective dimension. Objective attempts to measure the quality of life tend to focus on society, while subjective ones focus on the individual. With regard to the focus, the methodology usually varies strongly. While subjective approaches to measure the quality of life most often use psychological methods (such as interviews), objective attempts prefer the tools of social science (statistics, data analysis).

Over the years, various studies have been conducted to measure the quality of life on a cross-cultural level. Most of them have chosen an objective focus based on a set of "quality of life"-indicators. Due to their specific set of indicators, the results of these studies differ strongly. A thoughtful set of indicators, therefore, is critical for each study that tries an international comparison. Beside these obstacles, cross-cultural comparisons of the quality of life are facing even more difficult problems. Some indicators might be critical in some societies but meaningless in others. And also if the chosen indicators are of concern to people worldwide, their importance is not necessarily the same for each country as well as for all people within one country. The importance and meaning of the quality of life itself might differ from one people to the other. Another and perhaps the most important problem of all international studies on the quality of life is the weakness of the available data. Even the accuracy of the most established indicators, such as GNP per capita, is in doubt¹.

In the following study I will, nevertheless, try an international comparison of the quality of life. In reference to Robert Lane, the term "quality of life" will be defined as "subjective well-being and personal growth in a healthy and prosperous environment"². Naturally, the measurement of "subjective well-being" is difficult. Individual perceptions of the quality of life differ extremely, and the degree of happiness of a single person can, if at all, only be measured individually. Social policy-makers, however, cannot be as precise. They have to focus on "average" citizens, and, even though the perception of life quality is always individual, their idea of "quality of life" has to be a general one. This study, therefore, will and has to focus on the objective dimensions of the quality of life: the *opportunity* of "subjective well-being and personal growth in a healthy and prosperous environment". Presumably, people, who live in a society, which offers these opportunities, also enjoy a better subjective life quality than others.

The purpose of this study is to develop an own approach with an own set of indicators to measure the quality of life. This set of indicators will be compared to two of the most important "quality of life"-measurements in contemporary literature, GNP per capita and the Human Development Index (HDI). My study attempts to show that these established measures lack in important respects and follow a far too narrow approach, and, thus, a more comprehensive set of indicators is needed to get a realistic picture of the quality of life across cultures.

At the beginning of the following analysis, GNP per capita and the HDI as measurements of quality of life will be portrayed and assessed. The estimation of their specific advantages and failures appears to be essential to the development of an own approach. After the assessment of this previous work, the method of my approach will be developed. It will be based on the set of "quality of life"-domains introduced by Milton I. Friedman in his 1997 study on *Improving the quality of life*³. According to Friedman the measurement of quality of life should be based on eight central domains, each of them crucial to a person's well-being. As Friedman proposes only these categories but does not apply them, an appropriate set of indicators will be developed. Afterwards, these indicators will be tested in a sample study of twenty countries, most of them developing nations. Subsequently, the results will be

compared in a ranking with the results of GNP per capita and HDI as measurements of quality of life. Finally, I will draw conclusions.

2. Approaches to measure the quality of life

2.1. GNP per capita

The *Gross National Product* (GNP) is defined by World Bank as "the sum of value added by all resident producers, plus any taxes (less subsidies) not included in the valuation of output, plus net receipts of primary income (employee compensation and property income) from nonresident sources [...] converted from national currency to current US dollars"⁴. *GNP per capita* is "GNP divided by midyear population"⁵.

It has often been argued that until the early 1970s GNP per capita (GNP/N) has been the exclusive objective of development, and only since then various approaches have been introduced to replace it⁶. All of these alternative approaches show dissatisfaction with GNP per capita as a measure of well-being in society. The reasons for the criticism are both theoretical and empirical.

"GNP/N fails to capture the distribution of the benefits of economic progress - in particular, the number and condition of persons living in poverty; and it abstracts from a multitude of specific factors that relate directly to human welfare - for example, the benefits of health, education, and political and social freedoms"⁷.

Frances Stewart has pointed out that in theory GNP/N as measurement of quality of life is based on utilitarianism. To be used to measure well-being, a number of assumptions is needed, which are to some extent problematic:⁸

- that people's choices maximize their utility. Amartya Sen and others have argued that people's decisions are strongly influenced by social norms and the expectations of others and often do not reflect a person's first best position. Sen concludes that "the perfectly rational man is close to being a social moron"⁹.
- that maximization of individual utility leads to maximization of social well-being - i.e. society is no more than the sum of the individuals in it. In practice, there are numerous societal services (like communal activities, social well-fare, crime prevention, etc.) which are important to the individual but are not necessarily optimized by people's uncoordinated maximizing behavior.
- that externalities among customers are insignificant and can be ignored; public goods are absent.
- that income distribution in society is regarded as satisfactory or irrelevant to the assessment of social progress.
- that those who make the choices (spend the money) are those who use the goods and get the utility, which is not true for dependants, like children.
- that all types of consumption are potentially equally valueable.
- that prices reflect marginal social costs.

In practice, the use of GNP per capita as measure of societal well-being was challenged by developments in the Third World after 1950, when many developing countries experienced an unprecedented growth of per capita income but without significant achievements in the social arena. In fact, in many countries economical development was accompanied by high poverty, growing unemployment and huge income disparities. Although life expectancy and literacy have improved fast in average, some countries with strong economic growth (like Pakistan or Brazil) did poorly on "human" indicators, while other, very poor countries (like Sri Lanka) were nevertheless able to improve life quality significantly¹⁰. Robert Lane, therefore, concludes that "evidence set forth at length

elsewhere shows that beyond a decent minimum there is almost no relation in Western societies between higher income and higher subjective well-being"¹¹.

Thus, GNP per capita as a measure of the quality of life appears to be without a well-founded theoretical base. Nevertheless, it is still widely regarded as the single most important purpose of development, as, for example, certain World Bank publications reveal¹².

2.2. Human Development Index (HDI)

The *Human Development* approach was developed by UNDP in successive Human Development Reports. The central idea of this approach is that not the income but the people and their well-being should be in the center of development:

"People are the real wealth of a nation. The basic objective of development is to create an enabling environment for people to live long, healthy and creative lives. [...] Human development is a process of enlarging people's choices. The most critical ones are to lead a long and healthy life, to be educated and to enjoy a decent standard of living. Additional choices include political freedom, guaranteed human rights and self-respect"¹³.

The best-known creation of the *Human Development* approach is the *Human Development Index* (HDI), constructed "to measure average achievements in basic human development in one simple composite index and to produce a ranking of countries"¹⁴, published on a yearly basis by UNDP. In its initial form, the HDI consisted of three indicators: (1) life expectancy at birth, (2) adult literacy rate and (3) real GDP per capita, using Purchasing Power Parity (PPP) adjustments and including some further adjustments, which ensure that lower weight is given to income in higher developed societies. There is not any weighting of income within a country. Over time, major changes have been made to the HDI. Today, the (4) combined enrollment ratio serves as additional indicator that takes part in the complex weighting process, which results in the HDI. This weighting process, too, has changed significantly over time¹⁵.

Like all approaches that try to measure quality of life on a global level, the HDI has been criticized. Among the most important reproaches is the inclusion of the income variable in the set of indicators:

"Two of the elements in the HDI - life expectancy and literacy - are important decent-life characteristics. The problem, from a BN [Basic Needs] perspective, arises with the income variable, which does not capture people's ability to meet BN because it is societal average and not sensitive to income distribution. Hence it could be high when many people were unable to meet their basic needs"¹⁶.

That disparities within countries can be extreme, reveals, for example, Shyam Thapas very interesting study on regional human development (HDI per district) in Nepal. According to Thapas enjoys Nepal's most developed district (Kathmandu) a regional HDI that is 83 times higher than that of the last developed region (Mugu)¹⁷.

In addition to the selection of indicators, the weighting process of the HDI indicators appeared "arbitrary" to quite a number of critics¹⁸. Srinivasan concludes in his critical essay on the *Human Development* approach:

"In sum, the HDI is conceptionally weak and empirically unsound, involving serious problems of non-comparability over time and space, measurement errors and biases. Meaningful inferences about the process of development and performance as well as policy implications could hardly be drawn from variations in HDI"¹⁹.

Nevertheless, the HDI as measure of quality of life has been judged positively in comparison with the even more wanting GNP per capita:

"The HDI [...] great merits, however, are that it is comprehensive accross countries and has come to be recognized internationally as an alternative measure of well-being, beginning to replace GNP per capita in some situations"²⁰.

Although its theoretical justification is weak, the HDI, therefore, has at least shifted attention from GNP/N to alternative and more sophisticated measurements of the quality of life.

2.3. My approach

To measure quality of life on a cross-cultural level, aspects of Myles I. Friedman's "quality of life"-approach appear to be useful. According to Friedman, the measurement of quality of life should focus on eight general areas of interest: government, health, work, education, remote access, recreation, protection and provision (see table 1).

TABLE 1: Quality of life in society²¹

[insert table: Friedman 80]

With reference to Friedman, each of these central domains has an objective and a subjective dimension. Politics, therefore, can be aimed to increase the quality of life of the individual on the one hand as well as those in society on the other (see tables 2 and 3).

TABLE 2: Guidelines for improving the quality of life in a society²²

[insert: Friedman 72-73]

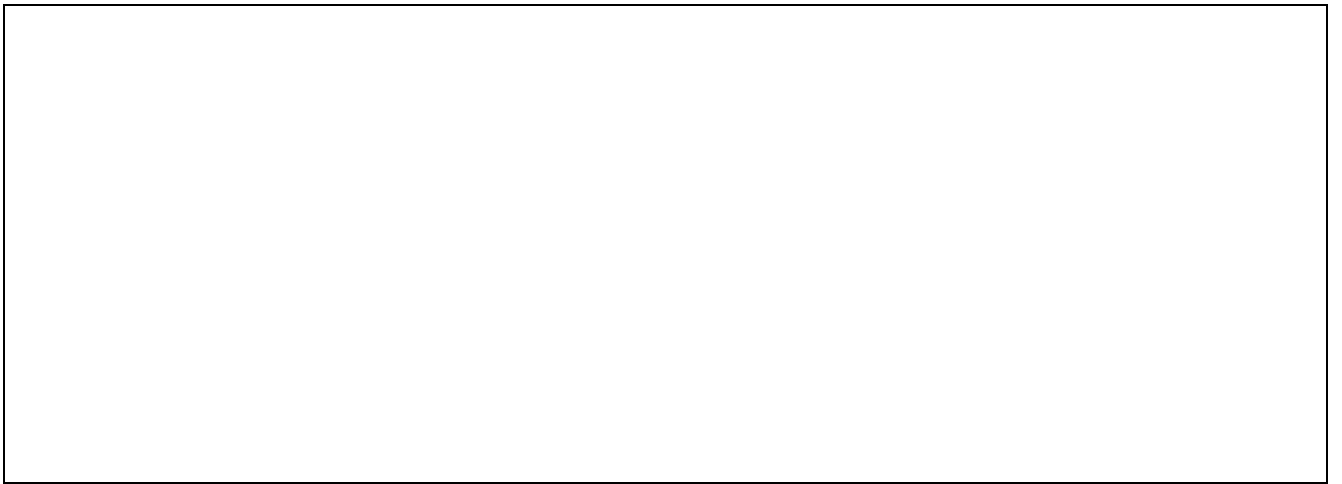


TABLE 3: Guidelines for improving the quality of life of individuals²³

[insert: Friedman 78-79]

My approach will utilize Friedman's division of quality of life into eight central domains. Each of these domains will be represented by two or three indicators. Hence my measurement is, in difference to GNP per capita and HDI, aimed to be a comprehensive one. Some authors have argued that "the more variables that are added, the more data deficiencies appear and the greater the difficulty of choosing appropriate weights"²⁴. But on the other hand, a comprehensive set of indicators appears to be the only way to develop a measurement that is sensitive to more than one to four major aspects of quality of life as used in the established measures, and, thus, offers a more comprehensive picture of societal well-being on a cross-cultural level. As also the GNP per capita data as well as the HDI indicator data are weak²⁵, the inclusion of many indicators gives less weight to the single number. Wrong data among a long list of indicators, therefore, might be less disastrous to the final outcome than they would be in

case of only a few indicators.

To use Friedman's "quality of life"-approach in practice, a relevant set of indicators is needed for each "quality of life"-domain. Each of these indicators (1) must be of central importance to the category, it should represent, (2) should be able to achieve universal consent as being fundamental to every human being, (3) should be a precondition for the enjoyment of other less basic aspects of quality of life, (4) has to be chosen out of the available data. As these data are limited, not the ideal but only the best possible indicators can be used. Under the given circumstances, I suggest the following list of indicators:

1) Government: Opportunity for free choice and political participation

- a. *Political Rights Index*
- b. *Women in government at all levels*

The *Political Rights Index*, developed by Freedom House, will be used as assessment of the situation of political freedom in a country. *Women in government at all levels* should reveal to what extent a country's political rights offer in practice equal opportunities to all citizens.

2) Health: Control of disease, functional ability and pain

- a. *Life expectancy at birth*
- b. *Access to safe water*

Life expectancy at birth is regarded as the best indicator to measure health conditions in a country. *Access to safe water* should deepen and reconfirm this insight by assessing the availability of this basic good to the people.

3) Work: Opportunity to increase purchasing power and work satisfaction

- a. *Real GDP per capita (PPP\$)*
- b. *Percentage share of income or consumption: lowest 20%*
- c. *Female economic activity rate*

As work satisfaction has to do with income, *Real GDP per capita (PPP\$)* has been chosen as one indicator of this domain. In difference to GNP per capita and HDI as measures of quality of life, also the distribution of wealth will be taken into account. Therefore, *Percentage share of income or consumption: lowest 20%* will be part of my set of indicators. *Female economic activity rate* should serve as indicator to what extent women, too, have the possibility to increase their purchasing power and work satisfaction. Unfortunately, reliable data that measure workers rights, social security and other crucial fields of work satisfaction are not available on a global level.

4) Education: Opportunity to acquire knowledge and skills

- a. *Adult literacy rate*
- b. *Secondary net enrollment ratio*

Similar to the HDI, I will use the *Adult literacy rate* as basic indicator to measure the opportunity to acquire knowledge and skills. As the literacy rate is an extremely basic indicator, the *Secondary net enrollment ratio* will be used to measure advanced education. The secondary net enrollment ratio has also been chosen, because secondary education is a prerequisite to access universities.

5) Remote access: Opportunity for remote transportation and communication

- a. *Telephone main lines per 1,000 people*
- b. *Internet hosts per 10.000 people*

Telephone main lines per 1,000 people and *Internet hosts per 10.000 people* appear to be the most

reliable among the available indicators for the measurement of remote access. *Telephone main lines per 1,000 people* is a good basic indicator to measure communication. *Internet hosts per 10,000 people* reveal about the future perspectives of communication in a country. This indicator is - because it requires rather expensive information technology - also a good measurement for remote access in general, which is primarily a question of wealth. Unfortunately, no reliable indicators to measure transportation are available.

6) Recreation: Opportunity to participate in games, hobbies, arts and entertainment

a. *Television sets per 1,000 people*

b. *Daily newspapers per 1,000 people*

In the area of recreation, too, the data available on a global level is very limited. *Television sets per 1,000 people* have been chosen as indicator of entertainment, because the TV is after the radio often the second major investment in entertainment by private households with growing income in developing countries. In comparison with the radio data, the television data were found to be more reliable. *Daily newspapers per 1,000 people* have been chosen as indicator of cultural diversity in a country.

7) Protection: Control of crime and foreign incursion

a. *Civil Liberties Index*

b. *Intentional homicides per 100,000 people*

In difference to Friedman, who suggests to "increase the number of law enforcement officers, jails, and crime prevention programs" as well as to "upgrade the equipment of the armed forces" (see table 2) to strengthen "protection" in society, I have interpreted this "quality of life"-domain differently. In my opinion, Friedman's proposals could also serve as indicators for a very restrictive society and an internationally aggressive state. Instead of them, Freedom House's *Civil Liberties Index* has been chosen to measure human rights and the protection of the individual from despotism and the denial of basic freedoms by the government. *Intentional homicides per 100,000 people* should serve as indicator for the extent of crime in society. Unfortunately, data are missing for many countries, and data on "foreign incursion" are not available at all.

8) Provision: Opportunity to acquire food, clothing and housing

a. *Population below \$1 a day (1985 PPP\$)*

b. *Child malnutrition*

c. *Per capita supply of protein*

As in industrial countries almost all people should have the opportunity to acquire food, clothing and housing, this "quality of life"-domain should measure human poverty especially in developing countries. Therefore, the chosen indicators are meant to measure very basic human needs. *Population below \$1 a day* is aimed to assess poverty. People, who have to live from less than \$1 a day (1985 PPP\$), normally cannot maintain a minimum standard of living. *Child malnutrition* and *Per capita supply of protein* focus on food as the most general human need. As people normally care first about the well-being of their children, a high percentage of child malnutrition reveals that a high percentage of a country's population has no access to the most essential basic goods. The per capita supply of protein will serve as an additional indicator to measure the availability of sufficient and healthy food. This second indicator has been chosen to reconfirm and supplement the child malnutrition data, which are missing for many countries. The ideal daily supply of protein for an average person is 90 grams.

3. Sample study of twenty countries

In the following, the 18 "quality of life"-indicators chosen in the last chapter will be applied to twenty

sample countries of differing cultural background and level of development (table 4). Subsequently, the GNP per capita data (table 5) and the HDI indicator data (table 6) will be presented for the same twenty sample countries.

Table 4: Measuring quality of life on 18 indicators

	<i>USA</i>	<i>Ger- many</i>	<i>Ma- lay- sia</i>	<i>Co- lom- bia</i>	<i>Cu-ba</i>	<i>Thai- land</i>	<i>Russian Fede- ration</i>	<i>Saudi Ara- bia</i>	<i>Tur- key</i>	<i>Sri Lan- ka</i>	<i>Iran</i>	<i>Chi- na</i>	<i>Egypt</i>	<i>Le- so- tho</i>	<i>India</i>	<i>Ken- ya</i>	<i>Su- dan</i>	<i>Nepal</i>	<i>Haiti</i>	<i>Ethio- pia</i>
1. Government																				
Political Rights Index (1998-99) (1=best, 7=worst) ²⁶	1	1	5	3	7	2	4	7	4	3	6	7	6	4	2	6	7	3	5	4
Women in government at all levels (% ²⁷ , 1996)	33.1	6.1	8.1	20.5	9.1	2.1	2.6	0.0	5.0	10.2	0.4	4.3	4.0	14.6	5.8	5.8	1.7	0.0	22.2	8.9
2. Health																				
Life expectancy at birth (1997) ²⁸	76.7	77.2	72	70.4	75.7	68.8	66.6	71.4	69.0	73.1	69.2	69.8	66.3	65.0	62.6	52	55.0	57.3	53.7	43.3
Access to safe water (1995) ²⁹	73	..	89	75	..	89	..	93	69	70	90	83	84	62	85	45	..	59	39	26
3. Work																				
Real GDP per capita (PPPS, 1997) ³⁰	29010	21260	8140	6810	3100	6690	4370	10120	6350	2490	5817	3130	3050	1860	1670	1190	1560	1090	1270	510
Percentage share of income or consumption: lowest 20% ³¹	4.8	9.0	4.6	3.1	..	5.6	4.2	..	..	8.9	..	5.5	8.7	2.8	9.2	5	..	7.6	..	7.1
Female economic activity rate (age 15+, % ³² , 1997)	45.7	41.1	30.5	32.1	37.8	55.5	48.1	10.6	34.9	30.5	15.8	55.7	22.2	29.7	29.0	46.8	22.8	37.9	37.3	35.6
4. Education																				
Adult literacy rate (% ³³ , 1997)	99.0	99.0	85.7	90.9	95.9	94.7	99.0	73.4	83.2	90.7	73.3	82.9	52.7	82.3	53.5	79.3	53.3	38.1	45.8	35.4
Secondary net enrollment ratio (as % of relevant age group ³⁴ , 1997)	96.3	95.3	64.0	76.4	69.9	47.6	87.6	58.7	58.4	76.0	81.2	70.0	75.1	72.9	..	61.1	..	54.6	34.2	24.8

Table 4: Measuring quality of life on 18 indicators (cont.)

<i>USA</i>	<i>Ger- many</i>	<i>Ma- lay- sia</i>	<i>Co- lom- bia</i>	<i>Cu-ba</i>	<i>Thai- land</i>	<i>Rus- sian Fede- ration</i>	<i>Saudi Ara- bia</i>	<i>Tur- key</i>	<i>Sri Lan- ka</i>	<i>Iran</i>	<i>Chi- na</i>	<i>Egypt</i>	<i>Le- so- tho</i>	<i>India</i>	<i>Kenya</i>	<i>Su- dan</i>	<i>Nepal</i>	<i>Haiti</i>	<i>Ethio- pia</i>
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5. Remote access																				
Telephone main lines per 1,000 people (1997) ³⁵	466	550	195	148	..	80	183	117	250	17	107	56	56	10	19	8	..	8	8	3
Internet hosts per 10,000 people (1/1999) ³⁶	1132.52	160.23	21.36	3.93	..	3.35	10.04	0.15	4.30	0.29	0.04	0.14	0.31	0.09	0.13	0.23	..	0.07	0.0	0.01
6. Recreation																				
Television sets per 1,000 people (1997) ³⁷	647	570	166	217	..	234	390	260	286	91	148	270	127	24	69	19	..	4	5	5
Daily newspapers per 1,000 people (1996) ³⁸	212	311	163	49	..	65	105	59	111	29	24	..	38	7	..	9	..	11	3	2
7. Protection																				
Civil Liberties Index (1998-99) (1=best, 7=worst) ³⁹	1	2	5	4	7	3	4	7	5	4	6	6	6	4	3	5	7	4	5	4
Intentional homicides per 100,000 people (1994) ⁴⁰	..	..	2	75.9	..	9.7	21.8	..	..	11.5	..	..	1.3	70.4	7.5	..	3.2	..	..	6.2
										(90)										(90)
8. Provision																				
Population below \$1 a day (% , 1985 PPP\$) 1989-97 ^{41,42}	..	..	5.6	7.4	..	0.1	..	..	..	4.0	..	29.4	7.6	50.4	52.5	50.2	..	53.1	..	33.8
Child malnutrition (% of children under 5, 1992-97) ^{43,44}	1.1	..	3.1	8	..	..	3	..	10	38	16	16	15	16	53	23	..	47	28	48
Per capita supply of protein (grams, 1996) ⁴⁵	111.4	95.1	74.4	66.6	52.1	52.2	85.9	77.9	100.9	48.8	74.5	76.0	87.9	62.2	49.4	51.5	73.5	60.0	41.1	58.6

Table 5: GNP per capita as measurement of quality of life

USA Ger-many Ma-lay-sia lom-bia Co-lom-bia Cuba Thai-land Rus-sian Fed-eration Sau-di Ara-bia Tur-key Sri Lan-ka Iran Chi-na Egypt Le-so-tho-dia In-dia Ken-ya Su-dan Nepal Haiti Ethio-pia

GNP

GNP per capita (US\$) 1997 ⁴⁶	29080	28280	4530	2180	..	2740	2680	7150	3130	800	1780	860	1200	680	370	340	290	220	380	110
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Table 6: HDI as measurement of quality of life

	<i>USA</i>	<i>Ger-many</i>	<i>Ma-lay-sia</i>	<i>Co-lom-bia</i>	<i>Cuba</i>	<i>Thai-land</i>	<i>Rus-sian Fed-eration</i>	<i>Sau-di Ara-bia</i>	<i>Tur-key</i>	<i>Sri Lan-ka</i>	<i>Iran</i>	<i>Chi-na</i>	<i>Egypt</i>	<i>Le-so-tho</i>	<i>In-dia</i>	<i>Ken-ya</i>	<i>Su-dan</i>	<i>Nepal</i>	<i>Haiti</i>	<i>Ethio-pia</i>
HDI																				
HDI value (1997) ⁴⁷	0.927	0.906	0.768	0.768	0.765	0.753	0.747	0.740	0.728	0.721	0.715	0.710	0.616	0.582	0.545	0.519	0.475	0.463	0.430	0.298
HDI rank ⁴⁸	3	14	56	57	58	67	71	78	86	90	95	98	120	127	132	136	142	144	152	172
1. Longevity																				
Life expectancy at birth (1997) ⁴⁹	76.7	77.2	72	70.4	75.7	68.8	66.6	71.4	69.0	73.1	69.2	69.8	66.3	65.0	62.6	52	55.0	57.3	53.7	43.3
2. Knowledge																				
Adult literacy rate (%; 1997) ⁵⁰	99.0	99.0	85.7	90.9	95.9	94.7	99.0	73.4	83.2	90.7	73.3	82.9	52.7	82.3	53.5	79.3	53.3	38.1	45.8	35.4
Combined first-, second- and third level gross enrollment ratio (%; 1997) ⁵¹	94	88	65	71	72	59	77	56	61	66	72	69	72	58	55	50	34	59	24	24
3. Decent standard of living																				
Real GDP per capita (PPP\$; 1997) ⁵²	29010	21260	8140	6810	3100	6690	4370	10120	6350	2490	5817	3130	3050	1860	1670	1190	1560	1090	1270	510

4. Rankings

To make the comparison of the set of indicators developed in this study with GNP per capita and the HDI easier, the results of my sample study will be ranked. As I do not have the infrastructure to use sophisticated ranking methods, this ranking can only be a very simple one. The eight introduced "quality of life"-domains are treated equally. For each domain the countries are ranked according to their performance from 1=best to 20=worst, the final results are added, and the resulting value determines the final rank of a country.

Obviously, this method is questionable as it ignores whether the gap between two countries in a "quality of life"-domain is big or small. Furthermore, while the eight "quality of life"-domains are regarded as equal, the two or three indicators which compose each domain are not necessarily treated as the same. The indicator *Political rights*, for example, has been regarded as more important than *Women in government at all levels* to assess the domain *government*, because the political system appears to be more important than the gender of the people in power. Regarding the domain *work satisfaction*, the indicator *Real GDP per capita* has been treated as more important than *Percentage*

share of income or consumption: lowest 20%, because, even though the distribution of income should not be overlooked, being poor in a rich country and being poor in a poor country is not the same. For missing data numerous assessments had to be made, which make the final outcome even further contestable.

The following ranking, therefore, is not a perfect one (table 7). Its only purpose is to assess to what extent the outcome of my set of indicators differs from the GNP per capita and HDI results (tables 8 and 9).

Table 7: Ranking of sample study (1=best, 20=worst, estimated)

	USA	Ger-many	Ma-lay-sia	Co-lom-bia	Cu-ba	Thai-land	Rus-sian Fed-eration	Sau-di Ara-bia	Tur-key	Sri Lan-ka	Iran	Chi-na	Egypt	Le-so-tho	In-dia	Ken-ya	Su-dan	Ne-pal	Haiti	Ethio-pia
1. Govern-ment	1	2	13	4	16	4	11	20	10	6	16	18	15	7	3	14	19	7	11	9
2. Health	2	1	5	9	3	10	12	5	11	4	7	7	13	14	15	19	17	16	18	20
3. Work	1	1	4	6	11	5	9	3	7	13	8	10	12	15	14	18	16	18	17	20
4. Edu-cation	1	2	8	5	4	5	3	14	11	5	13	10	17	9	15	12	16	19	18	20
5. Remote access	1	2	3	6	8	7	5	8	4	13	10	12	11	16	14	15	17	17	19	20
6. Recre-ation	2	1	5	9	10	6	3	7	4	13	12	7	11	15	14	16	17	17	19	20
7. Protec-tion	1	1	7	15	18	4	9	18	10	7	16	16	11	11	3	11	18	5	11	5
8. Pro- vision	1	1	4	8	12	10	3	4	4	13	9	10	7	15	20	16	14	18	18	17
Total	10	11	49	62	82	51	55	79	61	74	91	90	97	102	98	121	134	117	131	131
Rank	1	2	3	7	10	4	5	9	6	8	12	11	13	15	14	17	20	16	18	18

Table 8: GNP per capita ranking (E=estimated)

	USA	Ger-many	Ma-lay-sia	Co-lom-bia	Cu-ba	Thai-land	Rus-sian Fed-eration	Sau-di Ara-bia	Tur-key	Sri Lan-ka	Iran	Chi-na	Egypt	Le-so-tho	In-dia	Ken-ya	Su-dan	Ne-pal	Haiti	Ethio-pia
GNP rank	1	2	4	8	E10	6	7	3	5	13	9	12	11	14	16	17	18	19	15	20

Table 9: HDI ranking

	USA	Ger-many	Ma-lay-sia	Co-lom-bia	Cu-ba	Thai-land	Rus-sian Fed-eration	Sau-di Ara-bia	Tur-key	Sri Lan-ka	Iran	Chi-na	Egypt	Le-so-tho	In-dia	Ken-ya	Su-dan	Ne-pal	Haiti	Ethio-pia
HDI rank	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

5. Comparison

The comparison of the three measurements reveals overall similarities but huge differences in detail (table 10).

Table 10: Comparison of ranking results (E=estimated)

	USA	Ger-many	Ma-lay-sia	Co-lom-bia	Cu-ba	Thai-land	Rus-sian Fed-eration	Sau-di Ara-bia	Tur-key	Sri Lan-ka	Iran	Chi-na	Egypt	Le-so-tho	In-dia	Ken-ya	Su-dan	Ne-pal	Haiti	Ethio-pia
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		<i>sia</i>	<i>bia</i>		<i>ration</i>	<i>bia</i>		<i>ka</i>		<i>tho</i>										
GNP rank	1	2	4	8	E10	6	7	3	5	13	9	12	11	14	16	17	18	19	15	20
HDI rank	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sample study rank	1	2	3	7	10	4	5	9	6	8	12	11	13	15	14	17	20	16	18	18

All three approaches agree that the US and Germany are much more developed than the other countries, and that the situation in the least developed societies is worst (table 10). This is just obvious and does not require any further comparison. Hence of interest are not the big but the small differences. When, for example, the GNP/N of two countries is the same - as those of India and Haiti (table 5) - the indicator data of the HDI as well as of my study, which measure more than income, show huge differences. When countries score equal on the HDI - as Malaysia, Colombia and Cuba (table 6) - the 18 indicators of my study reveal that differences in the eight areas of life quality are nevertheless immense (table 4).

Regarding the ranking results (table 10), differences appear to be slightly bigger between my study and GNP/N as well as HDI results than between GNP/N and HDI. As the income variable is one of four indicators that lead to the HDI but only one of 18 in my study, the greater similarities between GNP/N and HDI are not too surprising. Moreover, the HDI indicators and GNP/N are meant to measure basic development rather than quality of life. All HDI indicators, therefore, are usually high in developed countries and low in developing countries. My study, however, includes variables - such as the Freedom House indices - which have to do little with the level of development in a country.

Differences, therefore, between the results of the established measures and my approach appear to be primarily due to indicators that are ignored by GNP/N and the HDI and correlate little with the wealth of a nation: political rights, civil liberties and crime. However, some traditional BN indicators, too, have caused shifts in the outcome of the sample study compared to GNP/N and HDI: education, nutrition and health (table 11).

Table 11: Winners and losers (Sample study in comparison to GNP per capita and HDI)

Life quality	<i>Ranking points</i>	<i>Difference to GDP & HDI</i>	<i>Difference primarily due to*</i>	Life quality	<i>Ranking points</i>	<i>Difference to GDP & HDI</i>	<i>Difference primarily due to*</i>
USA	10	+/-		China	90	+/-	
Germany	11	+/-		Iran	91	-	rights& lib
Malaysia	49	+/-		Egypt	97	+/-	
Thailand	51	+	rights& lib	India	98	+	rights& lib
Russia	55	+	edu, inf, nut	Lesotho	102	+/-	
Turkey	61	+	inf, nut	Nepal	117	+	rights& lib, health
Colombia	62	-	crime	Kenya	121	+/-	
Sri Lanka	74	+	rights& lib, health, edu	Ethiopia	131	+	rights& lib
Saudi Arabia	79	-	rights& lib, edu	Haiti	131	+/-	
Cuba	82	-	rights& lib	Sudan	134	-	rights& lib

* *rights&lib*=political rights & civil liberties, *edu*=education, *inf*=infrastructure, *nut*=nutrition

The winners of my country ranking, therefore, are especially those countries that perform well in "quality of life"-domains, which do not belong to the traditional set of core indicators of development indices. Thailand, Sri Lanka, India, Nepal and Ethiopia directly profit from their performance in political rights and civil liberties. Saudi Arabia, Cuba, Iran and Sudan, on the other side, are ranked worse in my ranking than in the GNP/N and the HDI ratings, because their situation of rights and liberties is wanting. Infrastructure and nutrition, which are also not included in GNP/N and HDI, help Russia and Turkey to increase their ranking results. Crime, however, leads to the decline of Colombia. Good performance in traditional BN categories - education and health - helped Russia, Sri Lanka and Nepal, in particular, to further increase their rank. Saudi Arabia, on the other side, lost ground due to

its performance in education.

However, the inclusion of both the Political Rights Index and the Civil Liberties Index in my set of indicators is the most important source of the differences between my ranking results and those of HDI and GNP/N. In my opinion this shift is important. Political rights and civil liberties contribute strongly to life quality in a country. They often are prerequisites for protection and participation in society. Free societies normally offer more room for own decisions and, thus, enlarge people's choices. In democratic countries people have much better opportunities to increase their well-being and to strengthen the development of their country. The emphasis on political and civil rights in this study, therefore, seems to be justified.

6. Conclusions

The question arises, which of the introduced approaches - GNP/N, HDI or my approach - performs the best in measuring the quality of life across cultures. In my opinion, the perspective of the established measures is far too narrow. Critics have always accused both approaches of being selective and ignoring many important "quality of life"-domains (see chapter 2). My approach has tried to react to this criticism in looking on eight domains and 18 indicators to offer a more comprehensive picture of quality of life in society. It has also included variables that are meant to measure the distribution of wealth in society, an area in which the HDI was found lacking. My study, therefore, gives better attention than GNP/N and HDI to the fact that life quality is effected by an endless list of social conditions, and, thus, can be improved in all these areas of life as well.

Friedman's division into eight "quality of life"-domains seems to be overall justified. As the ranking results of each domain differs from those of the others (table 10), there is reason for the maintenance of all eight domains. Only *remote access* and *recreation* show many parallels and perhaps should be combined in one single domain to measure *infrastructure*. An additional domain could be *environment*, which is, although ignored by Friedman, another area of life that effects individual well-being and might increasingly do so in future.

For the international comparison of quality of life, raw data series are of prime importance. While country rankings can only compare, raw data can explain. Countries that are, according to the HDI, on the same level of development or that enjoy, according to my study, a comparable life quality are usually still very different. As a ranking is just a tool to make comparisons easier, only raw data can reveal, how a country performs in which area of life quality. This knowledge alone can serve as a guide to further improvement.

Consequently, the major problem for the measurement of quality of life is the weakness and selectivity of the available data. All global data appear to be unreliable and some indicators published by World Bank and UNDP are simply useless. Furthermore, the published data are highly selective. While there is much data on basic needs, such as health and education, and on economic performance, there is hardly anything on culture, politics and social rights. Data on political rights and civil liberties can be only obtained from independent NGO's, such as Freedom House, but are excluded from World Bank and UNDP reports. One reason for this unequal representation of the "quality of life"-domains might be the greater difficulty to measure the neglected areas, another one is political. UNDP, for example, was not able to maintain a measurement on freedom in its Human Development Report, because it has disturbed the political elites of countries with an unsatisfactory outcome. Measurements of quality of life on a cross-cultural level, however, cannot be better than the data, on which they are based. Hence the improvement of "quality of life"-measurements, like the one I have introduced above, requires first of all the improvement of the available data.

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