

**Research Proposal**  
**Construction of a Social Policy Index (SPI)**



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## 1. Introduction

A social policy index (SPI) is needed in order to better understand the social policy regimes within the broader economic and social structures of each country. It could also be used to classify countries in terms of their social policy regimes. An SPI will be a composite index measuring the social policy of each country. This is an input-based index that quantifies each country's priorities in terms of social policy and development. There is a genuine desire for such an index on the part of policy makers, experts, and the general public, as it would enable them to assess their country's policy orientation as well as make international comparisons. An SPI can also become a useful advocacy tool for policy makers.

The construction of an SPI is the first phase of a larger research project on determining the social policy effort of countries.

In the early 1960s (when UNRISD was established), there was a strong quantitative orientation in economic development work, especially apparent in measuring economic growth by GNP and its components. In this period, one of UNRISD's major contributions was to conduct research into relationships between social development and economic development during different phases of economic growth. Early work of UNRISD involved building "social indicators of development" and introduction of social variables into econometrical development models.

Since its creation, UNRISD has done pioneering work in the field of measurement and construction of indicators of social development. It set the trend in using social variables in econometric studies in the 1960s. One of the very first reports published by UNRISD on the issue of social indicators tried to quantify the concept of a social policy in order to rigorously analyse the social elements of development (Drewnowski, 1966). Subsequently, and in line with United Nations effort to measure standards of living<sup>1</sup>, UNRISD proposed an overall level of living index (Drewnowski & Scott, 1966). It covered 20 countries and included indicators on education, health, nutrition, housing, leisure, security, and income surplus. Then, in 1972, it produced another report in attempt to come up with a socio-economic indicator measuring the development of a country (McGranahan et al., 1972). The report emphasized that the standard national income (GNP- or GDP per capita) were insufficient to gauge socio-economic development of a country. The GNP per capita (calculated on market principles and being a purely monetary concept) was heavily criticized, as it was an aggregate, which did not take into account other specific (social, geographical, structural) characteristics of a country. After careful consideration (both theoretical, statistical, and taking into account the availability of data) 73 social and economic indicators were selected. The number of these indicators was then reduced to 42 and finally to 18 core indicators. Ultimately, a general index of socio-economic development was created.

The turning point came in the 1985's Report (McGranahan et al., 1985), which proposed to assign a "development profile" to each country that would trace the

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<sup>1</sup> A United Nations Committee of Experts on an International Definition and Measurement of Standards and Levels of Living, which was set up in 1954, tried to look into the possibility of constructing a single unified index. However, this committee concluded that it was neither possible nor desirable to build such a composite index for the purpose of international comparison.

country's overall social and economic development. This profiling was considered as superior to the crude listing of the values of different indicators and offered more meaningful results than using a single indicator such as GDP per capita or a composite index (p. 48). It was emphasized that the profiles were not an evaluation device but an instrument of analysis aimed at comparing how a country is performing in relation to other countries. Such a comparison would then help diagnose and point out possible imbalances in development. It may also serve to demonstrate how countries at the same level of development adopt different development paths. After some intense breakthroughs in the measurement of social welfare in the 1960s and 1970s, the focus of the following two decades turned to purely economic issues. The pioneering research work of UNRISD on social indicators was brushed aside in favour of more politically correct country profiling and case study approaches.

In one of its last research works on indicators, UNRISD pointed out accurately that because of all the problems associated with the quality and reliability of data, it would be appropriate to improve the infrastructure and the techniques for collecting socio-economic data (Westendorff & Ghai, 1993). Such improved data should then help to monitor social progress, or identify how the most vulnerable members of a society fare from one year to the next.

Since then there has been a genuine desire by the UNRISD to regain its pioneering position in the area of social indicators. However, other international organizations, like the World Bank, OECD and the United Nations have already been active in generating and compiling socio-economic statistics. In these circumstances UNRISD's original contribution would be in the area of compiling social indicators and using them to generate an SPI. This would constitute a starting point for further analysis.

## **2. Why an SPI?**

Most indicators focus on measuring the outcome or performance, as these are the main objectives of any policy. As such, social performance indicators are predominantly concerned with the output (Atkinson et al., 2002). In contrast, the emphasis here is not on the outcome, but on the *policy* or the government's response to a given social situation. *Most of these policy interventions take the form of social expenditure, fiscal policy, or a regulatory regime.* Hence, one way to proceed would be to look at the government's social spending, tax policy, social security regime and government quality. The actual spending on such services may be an indication of government's priorities in this area.

There has been a phenomenal increase in the amount of social and economic statistical information available during the past decades. This increase in the data collection strengthened the need for data interpretation and consolidation. Statistical indicators of development have become a popular tool to present data and great progress towards a normative measure has been made.

The use of statistical techniques to quantify complex issues in development such as health, human development, and environment has also increased. There has been an growing focus on the use of numerical assessments of progress or state of a society based on values of such categories. For example, in the 1980s, GDP per capita was

considered to be the best indicator for measuring development and related issues such as health, and social well being. In the 1990s, there was a shift from this reductionism towards more multi-dimensional indicators of well being, such as the Human Development Index (HDI). However, shifts towards such a multi-dimensional component analysis and consolidation of variables into fewer numerical components require the development of a statistically sound methodology of index construction.

Statistics and indicators are very useful tools for decision-making. There has been an increased demand on timely indicators to complement policymaking process. Researchers, the media, civil society and leaders are demanding more and more information in order to assess the current trends of various policies and decisions. There are numerous statistics already available but policy makers are not able to put these statistics together into a meaningful policy making tool. Policy makers are not able to absorb separate social indicators that are pointing in diverse directions. In this complex world, we need simple, yet rigorous indicators, rather than a set of different statistics for decision-making, comparisons and benchmarking.

Any useful composite indicator has to be based on a sound methodology, which would be easy to understand by experts and non-experts alike. At present there are over 130 indices worldwide measuring components of the economy, society, environment, globalisation, and technology<sup>2</sup>. It is worth to mention three initiatives on social indicators: the OECD Social Indicators, the OECD Social Expenditure Database, the World Bank's Country Policy and Institutional Assessment (CPIA). However there is no index, which measures social policies of countries.

### **3. Objectives of an SPI**

The main objectives of an SPI are to impact policy decisions on social development, use it as an advocacy tool, and initiate academic inquiries on social policy. One of the basic purpose of an SPI is to allow policy makers to draw a picture of their country's level of social policy. This should facilitate the planning process and reflect the social policy objectives.

Such an indicator should be able to change the way how social development and social policy is perceived and analysed. Publication of an SPI, ranking the countries according to their social policy efforts should ignite some kind of a healthy competition among countries, especially at a regional level. The SPI should also serve as a powerful tool for public communication and initiate policy and intellectual debates. This exercise should also provoke the creation of more reliable disaggregated data on social policy issues, including social spending. Finally, we expect to observe serious academic and empirical research on social development and policy issues. This exercise requires a "*willingness to entertain interminable intellectual engagement*" in order to refine the methodology and the theoretical concept.

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<sup>2</sup> UNDP, Measuring Country Performance and State Behaviour: a Survey of Composite Indices, Background Paper prepared for "The New Public Finance: Responding to Global Challenges", forthcoming, <http://www.thenewpublicfinance.org> .

The specific objectives of an SPI are:

1. To compile statistics on social policy in a maximum number of countries.
2. To construct an SPI and subsequently:
  - Rank countries and compare them in terms of their social policies,
  - Assess a country's social policy over time,
  - Compare this index (input) with outcome measures in order to evaluate policy relevancy.
3. To initiate general public- and intellectual debate on social development and the usefulness of relevant policies.
4. Classify countries according to the type of their social policy regime.

It should be noted that social policy is a very broad area, and an SPI cannot replace the rich socio-economic and political indicators for understanding the real situation in any country. An SPI should be considered as a policy tool, which will be supplemented by detailed socio-economic indicators.

This initial endeavour to quantify social policy elements is just a beginning and is open for revisions. The SPI is chosen as an instrument for public communication for its simplicity and transparency. However, the construction of such an index masks more rigorous theoretical grounds and the policy implications on societal goals. Indicators could be changed, added or eliminated, different weighting methods could be proposed, various normalization techniques envisaged, all based on an open and informed discussion. An SPI is proposed because there is a need for such index for policy making.

#### **4. Methodology on Composite Indicators**

Composite indicators are increasingly used by statistical offices and national or international organizations to convey information on the status of countries in various areas such as economy, society, technology and environment. Such indices capture mostly the outcome component of certain policy variables. In this exercise, our focus will be on the policy or input variable.

Composite indicators have the capacity of integrating large amounts of information into simple formats, easily understood by a general audience. These indicators provide simple illustrations of complex and sometimes abstract issues in a wide range on areas such as the economy, society, environment and technology. They are often easier to interpret as compared to finding the general trend of the various separate indicators. They are increasingly recognized as a useful tool in policy analysis and public communication.

However, if the indicators are poorly constructed, the interpretation will tend to be erroneous, and may lead to a bad policy advice. Therefore, the indicators should not be used to draw simplistic analytical or policy conclusions. Apart from comparing, benchmarking and ranking the countries, they should be considered as a starting point for initiating discussions and attracting public interest on selected topics. In other words, they are of use in identifying the trends and drawing attention to certain issues. They are helpful in setting policy priorities and in benchmarking or monitoring

performance. When evaluated at regular intervals, an indicator can show the direction of change across different countries through time.

The HDI presents a classic example. It has been criticized for aggregating indicators of education, health and income, which tend to be correlated and for the arbitrary weights attached to the indicators. However, HDI is the best-known composite indicator. The top and bottom ranking countries capture media attention. This would not have been possible with a set of indicators. It is worth noting that Amartya Sen (the designer of the concept of human development) was originally sceptic, if not opposed to the idea of combining different indicators into a composite index. This point of view applies to all composite indices, including that of GNP. As Mahbub ul Haq (the pioneer of HDI) puts it: *“For any useful policy index, some compromises must be made.”* When questioned about the data reliability/quality of the HDI, Haq said, *“It should be used to improve data quality, rather than to abandon the exercise. To stop the production of the HDI on this reasoning would be to throw out the baby rather than change the bath water”* (Haq, M., 1995, p. 59-60).

Sen preferred to have different separate indicators on social, economic and political features. He now considers that his earlier view was mistaken as it was too purist. All the debate on development and public policy and media attention would not have been possible if the idea had been aborted at the indicators level, without coming to a composite index (Fukuda-Parr & Kumar, 2003).

An *indicator* is a quantitative or a qualitative measure derived from a series of observed facts that can reveal relative positions of a country in a given area. A composite indicator is constructed by combining individual indicators into a compiled single index based on an underlying mathematical or computational model. Therefore modelling is primordial to the construction of this index. A composite indicator measures a multi-dimensional concept, which is difficult to capture in a single indicator alone.

Those who construct such indicators believe that there is a value in combining indicators in some manner to produce a “bottom line”. Such summary statistic can capture reality in a meaningful way and generating a bottom line is helpful in popularising complex issues and attracting the attention of policy makers.

## **5. Measuring Social Policy**

In order to achieve policy objectives, there are two public policy instruments that are broadly used by governments: expenditure policy and tax policy. Another policy instrument could be regulatory policy (which is more difficult to measure). Each of these policy instruments depends on the overall development strategy of a country, but most countries have growth, equity or employment creation, and poverty reduction as their primary objectives. In order to deliver such goals institutional quality is important as it determines the ability of a government to translate its objectives into reality.

A typical composite indicator (I) can take the following form:

$$I = \sum_{i=1}^n w_i X_i$$

where:

$X_i$  are normalized variables,

$w_i$  are weights assigned to  $X_i$ , where  $\sum_{i=1}^n w_i = 1$  with  $0 \leq w_i \leq 1$  and  $i: 1, \dots, n$ .

Before the method of standardization to a z-score is applied, re-scaled values are created in order to assign an identical range for the standardized scores for every indicator. Re-scaling ensures that the transformed indicators are given a value relative to the global maximum and that the re-scaled index takes a value from 0 (worst) to 1 (best) as follows:

$$y_{in} = \frac{x_{in} - \min(x_i)}{\max(x_i) - \min(x_i)}$$

In this example standardization is based on the range rather than on the standard deviation and the extreme values (minimum and maximum) may in fact be unreliable outliers. While the method may be more robust where there are numerous outliers, the range for indicators with very little variation will increase and these will contribute more to the composite indicator than they would if the un-scaled method was used. This technique is therefore more dependent on the value of the weights for each indicator than the un-scaled method where the contribution of each indicator to the composite depends on both the weighting and the variance of the indicator. Thus the re-scaling method is linked to the issue of choice of weights. In other words, the overall index will be affected by the performance of the worst and best country.

Therefore the SPI will be constructed as follows:

$$SPI_{it} = \beta(SSI_{it}) + \alpha(TaxI_{it}) + \delta(SoSecI) + \gamma(InsI)$$

where:

#### Social Spending Index

$$SSI_{it} = \beta_1 H_{it} + \beta_2 E_{it} + \beta_3 HS_{it} + \beta_4 SPW_{it}$$

SSI is a Social spending index that includes health (H), education (E), housing & sanitation (HS), social protection and social welfare (SPW). This is then normalized using a min-max method.



### Tax index

TaxI is the tax progressivity index, which is calculated as follows:

$Tax\ Progressivity = \frac{Direct\ Taxation}{Total\ Taxation}$ , which is then normalized using a min-max method.

### Social security index

SoSecI is a codified social security index.

This exercise consisted in creating an index for social security. We have the major categories of social security programs:

- Old age, Disability and Survivors
- Sickness and Maternity
- Work Injury
- Unemployment

This index measures the coverage and redistribution of social policy. The table below shows how scores were assigned to each social policy.

Score	Type of Social Policy
9	Universal
8	Compulsory social insurance with state subsidy
7.5	Compulsory social insurance with no state subsidy
7	Compulsory social insurance with state subsidy, but one or more groups excluded
6.5	Compulsory social insurance with no state subsidy, with one or more groups exclude
6	Contributory social insurance, but risk based differentiation with state subsidy
5.5	Contributory social insurance, but risk based differentiation with no state subsidy
5	Private (mandatory) with no state subsidy
4	Provident fund
3	Employer liability
2	Social assistance (means tested)
1	Voluntary private insurance
0	No social policy

Therefore the maximum score a country can have is 36 (9\*4). These scores are then normalized.

### Institutional quality

This indicator assesses the quality of the public administration in terms of delivering the social policy objectives. Here, it is assumed that good institutions are important for achieving the policy objectives. The institutional quality is a perception-based indicator ranging from 0 (worst) to 4 (best), which are then normalized.

## **6. Data**

Most of the data that are used in the construction of the SPI come from international agencies. This ensures that the data are globally comparable and have reliable quality. However, some of the data used in the construction may still be weak and unreliable. This exercise should be used to improve data quality rather than encourage aborting the process of constructing an SPI (*“throw out the baby rather than change the bath water”*). There are also inherent problems when comparing international data. This is due to differences in definitions used, sampling techniques, methodology, social and political environments, and of course the motivation of researchers. The SPI rankings should encourage countries to invest more resources in gathering high quality data. Several countries may be embarrassed with their rankings due to data quality, which should naturally lead to putting more resources into statistics.

The social spending data comes from the IMF Government Financial Statistics (GFS). The GFS is a standardized collection of annual accounts for a number of countries. The data on social data on tax regimes comes from the World Development Indicators. Data for social security index comes from the International Social Security Association and the USA Social Security Administration. Data for the institutional quality originates from the International Country Risk Guide.

## **7. Research components**

After drafting the background and issues papers, a set of research and methodological papers will be commissioned. These will include:

1. The need for a social policy index and theoretical framework
2. Methodology on constructing a social policy index
3. Social policy index: main findings
4. Sensitivity analysis
5. Construction of social policy effort.

## **8. Output**

Our ultimate goal is an internal publication: Social Policy Index. A commercial publisher will also publish this book.

## **9. Timing**

The construction of an SPI is the first phase of this project. This stage of the research project will take place from 2006 to 2007. The first report should be published in 2007. Subsequent reports will follow every 2-3 years.

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