

Pavle Sicherl – Gaptimer concept to measuring inequalities

The question for online discussion on statistical capacity was “how statisticians can take advantage of innovations in data production and dissemination to get information more quickly into the hands of users and policy makers, while maintaining quality and accountability standards.” We shall examine the issue in the broader context involving also dissemination for policy use and transparency for broader participation of stakeholders pointing to the need for innovations in **introducing statistical measures that are transparent and easily understood by everyone**.

In the chain of reasoning: statistics – knowledge – policy in measuring inequalities and dissemination of such information in addition to indicators **we need also more work on which measures and methods to use to build perception about inequalities** (measures to present and to communicate the topics also for decision making). Measurement is costly and it is important how efficiently we exploit data for such purposes.

Time distance is such an innovative approach for looking at time-series data. Expressed in time units, the approach is easy to understand and provides a useful complement to existing mostly static methods. The time distance approach compares time series in the horizontal dimension, i.e. for a given level of the variable, based on two generic statistical measures: S-time-distance and S-time-step. These measures can be applied as descriptive tools especially for benchmarking and monitoring of implementation to provide new additional understanding and insights from existing data.

The approach is universal, easy to understand and applicable to a wide variety of fields at both the macro and micro levels. The strength of the time-distance concept is that it enables additional exploitation of data and visualization of time-series. The second aim is to better understand the information contained in statistical data, to build knowledge and to allow discussing policy and business issues in a new perspective. The methodological paper *New Understanding and Insights from Time-Series Data Based on Two Generic Measures: S-Time-Distance and S-Time-Step* can be freely downloaded from OECD at <http://dx.doi.org/10.1787/5kg1zpzzl1tg-en>.

Since time distance view **provides an additional dimension of temporal disparity, results by other methods are left unchanged but new conclusions can be reached**. The time-distance approach has two advantages: firstly, in time units it is intuitively understood by policy-makers, professionals, managers, media and the general public; secondly, time distance measure can be compared across variables, fields of concern, and units of comparison.

Comparing across many indicators and fields of concern is **the essence of quantitative work in forming perceptions assessing the overall “position” and “progress”**. It has been shown that comparing across indicators S-time-distance in many cases produces different results than the usual static relative measures and sometimes very surprising new qualitative conclusions.

For instance, in **analysing the degree of inequality**, both absolute and relative static disparities in HDI and its components appeared small while time distances in HDI gave an impression of large degree of disparity and difficulty in decreasing the degree of disparity in HDI. This also raises the question how to treat and interpret intertemporal changes in composite indicators. Using only one group of measures might lead to biased conclusions.

The long-term data by Maddison on GDP per capita describe the story for 2008 through the time distance lens: One half of the countries (80 countries) were lagging Sweden by more than 74 years (26 countries even for more than 150 years). A conventional statistic measure of world disparity Gini coefficient would be around 0.53. Both are valid, yet the time distance picture tells a more understandable perspective of the situation.

Using the example of **monitoring the implementation of MDGs** S-time-distance can help us to form a new perception of the magnitude of the gap between the implementation and proclaimed targets for a given indicator as well as across more indicators. Describing the implementation as lead or lag in time against own targets is the application of the concept that gaps can be measured also in the time dimension. Thus it is an operationally transparent measure for the evaluation of the degree of the implementation of the ongoing situation that would give a clear political message both to policy makers at the international, national and local levels as well as to the general public.

The **Gaptimer Progress Chart** enables the reader to grasp the world situation at a glance from 100 time distance results across 10 MDG indicators and 10 units (7 world regions, Developing Regions, China, and India) to facilitate debate for the past and the post-2015 era. The study is available on the [OECD wikiprogress page](http://www.oecd.org/dataoecd/1/1/44652312.pdf) and on The Guardian Global Development site <http://www.guardian.co.uk/global-development-professionals-network/research> or <http://www.guardian.co.uk/global-development-professionals-network/2013/feb/28/measuring-mdgs>.

To facilitate the understanding and use of this method SICENTER has developed a **free web tool to monitor implementation of targets with the S-time-distance measure** available to international and national organisations, NGOs, experts, businesses, managers, educators, students, interest groups, media, and the general public. It can be used for monitoring implementation in many areas beyond MDGs, like adding a second dimension to comparing actual values with target values, forecast, budget, plan, etc., both at macro and business levels. It is available on http://www.gaptimer.eu/s-t-d_monitoring_tool.html.

Another question on statistical capacity was “what country examples and good practices in statistical innovation are there, and how can they be replicated.” For the example of time distance monitoring implementation of the MDG targets National Statistical Co-ordination Board, Philippines, used the time distance measure together with other measures showing how nicely the time distance implementation measures can be incorporated in the overall discussion of the MDG progress. It is an excellent example for other countries to follow. http://www.nscb.gov.ph/headlines/StatsSpeak/2011/111411_rav_joe_mv.asp

In short, the time distance measure can present one of the measures that produce knowledge and policy messages in a **very understandable way to build both objective and subjective perceptions of the overall degree of inequality**. The time distance concept can influence the perception and decisions of people when they are assessing their relative position in their surroundings, in the society and across countries over time. In the information age this additional view of the existing data should be evaluated as an **important contribution to the more efficient utilisation of the available information in many fields**.

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