

OECD Statistics Working Papers, 2011/09 on time distance

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New understanding and insights from time-series data based on two generic measures: S-time-distance and S-time-step

Professor Pavle Sicherl prepared a methodological paper on time distance approach that was published by OECD Publishing. It covers several additional technical points and application examples of the time distance method beyond earlier applications. The time distance approach presents a means of presentation of complex data sets that have universal appeal; it is intuitively understandable and can be usefully applied to a wide variety of substantive fields at macro and micro levels. It represents a new way of presenting and analysing indicators complementing and not replacing existing methods.Â

In summary, time distance is 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 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 are based on a time matrix that summarises information over many units and years and that provides a first-level visualization tool. The paper also introduces the concept of the "overall degree of disparity"™, defined as proximity in the indicator space as well as in time, arguing that this concept has the potential to bring new understanding in economics, management, research and statistics.Â

While the OECD "Your Better Life Index"™ is a tool that allows addressing differences in subjective opinions among fields of concern and indicators, the time distance concept opens the question about the weight that people assign to the two dimensions of disparity discussed in this paper (static measure and time distance) to arrive at a overall evaluation of their position in society and globally.Â

The empirical examples included in this paper demonstrate how the method could be applied to three indicators (life expectancy at birth, the share of the elderly population, and projections of population growth) drawn from the OECD Factbook. These examples were drawn from an earlier presentation by the author referring to 14 variables ("Visualisation of 50 years of OECD countries at a glance"™, which is available on wikiprogress.org and on "50 years of OECD countries at a glance"™). The paper has also applied the methodology for monitoring Millennium Development Goals across many indicators, either for the world regions or at the country level.Â

- Full textÂ

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