

Combining Growth and Level Data: An Estimation of the Population of Belgian Cities Between 1880 and 1970.

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ABSTRACT

Economic historians that study long-term changes during the 19th and 20th century are fundamentally restricted by the availability of qualitative data. This problem stems from the fact that data quality is often inversely proportional to its availability, which is further compounded by administrative changes that alter what exactly is being measured over time and an overall decrease of data availability the further we go back in time. As a result, researchers are forced to either impute qualitative data, or otherwise combine dataset of varying quality in some way. In this article, we demonstrate the versatility of state-space models in addressing these problems, enabling us to compose large data series of a high quality. Moreover, unlike more simple technique it also provides an estimate of the reliability of the results, allowing any subsequent analyses to take this into account. We illustrate this by combining growth and level data on the population of Belgian cities into a dataset that contains yearly estimates of the population of over 2000 cities from 1880 to 1970.

Key words: Population, state-space model

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