

Abstract for “PWT 8.0 – A User Guide”

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The introduction of a substantially revised version of the Penn World Table (PWT) is a useful moment to introduce or reintroduce this dataset to its users. The aim of this user guide is to provide a non-technical overview of PWT version 8.0: what are the new concepts, how is the dataset constructed, how can it be best used in research and what are some of the main limitations.

The central element of PWT has always been real GDP per capita, a measure of relative living standards across countries at different points in time. This measure requires information on GDP per capita in national currency and purchasing power parities (PPPs) to correct for differences in prices across countries. Many of the choices necessary for constructing PWT are related to estimating PPPs and we will use this guide to motivate these choices and discuss their consequences. GDP data are readily available from National Accounts (NA) statistics, and so require fewer choices. However, revisions of NA data by statistical offices are often substantial, with GDP increasing by half or even doubling in some cases.

In version 8.0, we make three major changes to PWT, two of which are related to the calculation of PPPs. The first change is that we now also measure relative prices of exports and imports. This allows us to distinguish two measures of real GDP, one aimed at capturing relative living standards (as before) and one aimed at capturing relative productive capacity. Researchers can thus choose the measure that is most appropriate to the research setting. The second change is in how we estimate PPPs over time, by using more of the historical price survey material. This change has important implications for using PWT in research on cross-country economic growth. The third change is that we introduce measures of capital stock and (total factor) productivity, based on newly developed basic data. This broadens the type of research questions that can be answered directly using PWT, such as models relying on the distance to the technological frontier. We discuss these changes in broad terms and focus on the implications of our choices.

The limitations inherent in comparing living standards or productive capacity of economies across countries are a recurring theme in this guide. Whether due to the very nature of the exercise or the practical challenges encountered along the way, it is not possible to be very precise in comparing countries at very different levels of economic development. Beyond that, changing basic national accounts data can and will lead to substantial differences in PWT versions over time. We have changed the PWT methodology to reduce the likelihood of revisions over time, but a complete elimination of this concern is impossible because of changes to the underlying data. This implies that caution is in order when using the reported results and we discuss when to be cautious and provide practical suggestions on how to be cautious.