

Package ‘pwt8’

May 9, 2026

Version 8.1-1

Date 2017-01-03

Title Penn World Table (Version 8.x)

Description The Penn World Table 8.x provides information on relative levels of income, output, inputs, and productivity for 167 countries between 1950 and 2011.

LazyData yes

LazyDataCompression xz

Depends R (>= 2.10.0)

License GPL-2 | GPL-3

NeedsCompilation no

Author Achim Zeileis [aut, cre]

Maintainer Achim Zeileis <Achim.Zeileis@R-project.org>

Repository CRAN

Date/Publication 2017-01-04 10:56:14

Contents

pwt8.0	1
pwt8.1	4

Index	7
--------------	----------

pwt8.0	<i>Penn World Table 8.0</i>
--------	-----------------------------

Description

Relative levels of income, output, inputs, productivity for 167 countries between 1950 and 2011 (base year: 2005).

Usage

```
data("pwt8.0")
```

Format

A data frame with 10,354 observations of 39 variables.

country factor with country name.

isocode factor with ISO 3166-1 alpha-3 country code.

year year.

currency factor with national currency unit.

rgdpe Expenditure-side real GDP at chained PPPs (in million 2005 USD).

rgdpo Output-side real GDP at chained PPPs (in million 2005 USD).

pop Population (in millions).

emp Number of persons engaged (in millions).

avh Average annual hours worked by persons engaged.

hc Index of human capital per person, based on years of schooling (Barro and Lee 2013) and returns to education (Psacharopoulos 1994).

cgdpe Expenditure-side real GDP at current PPPs (in million 2005 USD).

cgdpo Output-side GDP at current PPPs (in million 2005 USD).

ck Capital stock at current PPPs (in million 2005 USD).

ctfp TFP level at current PPPs (USA = 1).

rgdpna Real GDP at constant 2005 national prices (in million 2005 USD).

rkna Capital stock at constant 2005 national prices (in million 2005 USD).

rtfpna TFP at constant national prices (2005 = 1).

labsh Share of labour compensation in GDP at current national prices.

xr Exchange rate, national currency/USD (market and estimated).

pl_gdpe Price level of CGDPe (PPP/XR, price level of USA GDPo in 2005 = 1).

pl_gdpo Price level of CGDPo (PPP/XR, price level of USA GDPo in 2005 = 1).

i_cig Factor indicating whether relative price data for consumption, investment, and government is extrapolated, benchmark, or interpolated.

i_xm Factor indicating whether relative price data for exports and imports is extrapolated, benchmark, or interpolated.

i_xr Factor indicating whether the exchange rate is market-based or estimated.

i_outlier Factor indicating whether the observation on pl_gdpe or pl_gdpo is an outlier or not.

cor_exp Correlation between expenditure shares of the country and the US (benchmark observations only).

statcap Statistical capacity indicator (source: World Bank, developing countries only).

ersh_c Share of household consumption at current PPPs.

ersh_i Share of gross capital formation at current PPPs.

- cs_h_g** Share of government consumption at current PPPs.
- cs_h_x** Share of merchandise exports at current PPPs.
- cs_h_m** Share of merchandise imports at current PPPs.
- cs_h_r** Share of residual trade and GDP statistical discrepancy at current PPPs.
- pl_c** Price level of household consumption (price level of USA GDPo in 2005 = 1).
- pl_i** Price level of capital formation (price level of USA GDPo in 2005 = 1).
- pl_g** Price level of government consumption (price level of USA GDPo in 2005 = 1).
- pl_x** Price level of exports (price level of USA GDPo in 2005 = 1).
- pl_m** Price level of imports (price level of USA GDPo in 2005 = 1).
- pl_k** Price level of the capital stock (price level of USA in 2005 = 1).

Details

The Penn World Table (version 8.0) is a database with information on relative levels of income, output, inputs, productivity for 167 countries between 1950 and 2011. For more details see the official documentation provided at <http://www.ggd.c.net/pwt/>.

Version 8.0 has been constructed by Feenstra, Inklaar, and Timmer (2013, 2015). Compared to earlier versions (see Heston et al. 2012, and also R package **pwt**), the construction of the data has changed somewhat and also some variables have been renamed, added, or dropped. The PWT 8.0 website provides many additional materials including documentation and scripts for constructing customized variables.

The data set `pwt8.0` provided here largely preserves the properties of the original data. All character or indicator variables are stored as factors, though. Also, the variables `isocode` (rather than `countrycode`) and `currency` (rather than `currency_unit`) are used as in package **pwt**. Following Feenstra et al., the ISO country code (`isocode`) now strictly follows ISO 3166-1 alpha-3, i.e., COD (rather than ZAR) is used for the Democratic Republic of Congo, DEU (rather than GER) for Germany and ROU (rather than ROM) for Romania.

Feenstra et al provide a detailed list of overlapping variables in version 7.1 and 8.0. Here, only the variable names are list:

Version 8.0	Version 7.1
<code>cgdpe</code>	<code>tcgdp</code>
<code>xr</code>	<code>xrat</code>
<code>pl_gdpe</code>	<code>p</code>
<code>cs_h_c</code>	<code>cc</code>
<code>cs_h_i</code>	<code>ci</code>
<code>cs_h_g</code>	<code>cg</code>
<code>pl_c</code>	<code>pc</code>
<code>pl_i</code>	<code>pi</code>
<code>pl_g</code>	<code>pg</code>

Similarly, the following variables from version 7.1 can be constructed (approximately) from 8.0 data:

Version 7.1	Link to Version 8.0?
ppp	Compute as $p1_gdpe * xr$
cgdp	Compute as $cgdpe/pop$
y	Divide $cgdpe$ by pop and divide by USA values
rgdpch	Closest comparison: $rgdpe/pop$
rgdpwok	Closest comparison: $rgdpe/emp$
rgdp12th	Closest comparison: $rgdpe/(avh * emp)$

Source

Penn World Table 8.0, <http://dx.doi.org/10.15141/S5159X>.

References

Barro RJ, Lee JW (2013). A New Data Set of Educational Attainment in the World, 1950–2010. *Journal of Development Economics*, **104**, 184–198. URL <http://dx.doi.org/10.1016/j.jdeveco.2012.10.001>

Feenstra RC, Inklaar R, Timmer MP (2013). PWT 8.0: A User's Guide. URL <http://www.ggd.net/pwt/>.

Feenstra RC, Inklaar R, Timmer MP (2015). The Next Generation of the Penn World Table, *American Economic Review*, forthcoming. URL <http://www.ggd.net/pwt/>.

Heston A, Summers R, Aten B (2012). Penn World Table Version 7.1, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Psacharopoulos G (1994). Returns to Investment in Education: A Global Update. *World Development*, 22(9), 1325-1343.

See Also

[pwt8.1](#)

pwt8.1

Penn World Table 8.1

Description

Relative levels of income, output, inputs, productivity for 167 countries between 1950 and 2011 (base year: 2005).

Usage

`data("pwt8.1")`

Format

A data frame with 10,354 observations of 39 variables.

country factor with country name.

isocode factor with ISO 3166-1 alpha-3 country code.

year year.

currency factor with national currency unit.

rgdpe Expenditure-side real GDP at chained PPPs (in million 2005 USD).

rgdpo Output-side real GDP at chained PPPs (in million 2005 USD).

pop Population (in millions).

emp Number of persons engaged (in millions).

avh Average annual hours worked by persons engaged.

hc Index of human capital per person, based on years of schooling (Barro and Lee 2013) and returns to education (Psacharopoulos 1994).

ccon Real consumption of households and government, at current PPPs (in million 2005 USD).

cda Real domestic absorption, (real consumption plus investment), at current PPPs (in million 2005 USD).

cgdpe Expenditure-side real GDP at current PPPs (in million 2005 USD).

cgdpo Output-side GDP at current PPPs (in million 2005 USD).

ck Capital stock at current PPPs (in million 2005 USD).

ctfp TFP level at current PPPs (USA = 1).

cwtfp Welfare-relevant TFP levels at current PPPs (USA = 1).

rgdpna Real GDP at constant 2005 national prices (in million 2005 USD).

rconna Real consumption at constant 2005 national prices (in million 2005 USD).

rdana Real domestic absorption at constant 2005 national prices (in million 2005 USD).

rkna Capital stock at constant 2005 national prices (in million 2005 USD).

rtfpna TFP at constant national prices (2005 = 1).

rwtfpna Welfare-relevant TFP at constant national prices (2005 = 1).

labsh Share of labour compensation in GDP at current national prices.

delta Average depreciation rate of the capital stock.

xr Exchange rate, national currency/USD (market and estimated).

pl_con Price level of CCON (PPP/XR, price level of USA GDPo in 2005 = 1).

pl_da Price level of CDA (PPP/XR, price level of USA GDPo in 2005 = 1).

pl_gdpo Price level of CGDPO (PPP/XR, price level of USA GDPo in 2005 = 1).

i_cig Factor indicating whether relative price data for consumption, investment, and government is extrapolated, benchmark, or interpolated.

i_xm Factor indicating whether relative price data for exports and imports is extrapolated, benchmark, or interpolated.

i_xr Factor indicating whether the exchange rate is market-based or estimated.

- i_outlier** Factor indicating whether the observation on p1_gdpe or p1_gdpo is an outlier or not.
- cor_exp** Correlation between expenditure shares of the country and the US (benchmark observations only).
- statecap** Statistical capacity indicator (source: World Bank, developing countries only).
- cs_h_c** Share of household consumption at current PPPs.
- cs_h_i** Share of gross capital formation at current PPPs.
- cs_h_g** Share of government consumption at current PPPs.
- cs_h_x** Share of merchandise exports at current PPPs.
- cs_h_m** Share of merchandise imports at current PPPs.
- cs_h_r** Share of residual trade and GDP statistical discrepancy at current PPPs.
- pl_c** Price level of household consumption (price level of USA GDPo in 2005 = 1).
- pl_i** Price level of capital formation (price level of USA GDPo in 2005 = 1).
- pl_g** Price level of government consumption (price level of USA GDPo in 2005 = 1).
- pl_x** Price level of exports (price level of USA GDPo in 2005 = 1).
- pl_m** Price level of imports (price level of USA GDPo in 2005 = 1).
- pl_k** Price level of the capital stock (price level of USA in 2005 = 1).

Details

The Penn World Table (version 8.1) is a database with information on relative levels of income, output, inputs, productivity for 167 countries between 1950 and 2011. For more details see Feenstra, Inklaar, and Timmer (2015ab) provided at <http://www.ggd.c.net/pwt/>. PWT 8.1 is an updated version of PWT 8.0, covering the same countries and period, see also [pwt8.0](#).

Source

Penn World Table 8.1, <http://dx.doi.org/10.15141/S5NP4S>.

References

Feenstra RC, Inklaar R, Timmer MP (2015). The Next Generation of the Penn World Table, *American Economic Review*, forthcoming. URL <http://www.ggd.c.net/pwt/>.

See Also

[pwt8.0](#)

Index

* datasets

pwt8.0, 1

pwt8.1, 4

pwt8.0, 1, 6

pwt8.1, 4, 4