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1 Data and sources

The data used for the business cycle accounting exercises throughout the paper come mainly from OECD (variable codes in parenthesis). The time span is from 1980 to the end of 2014 and, unless mentioned otherwise, at the quarterly frequency. For some countries (such as Germany, Ireland, Israel and Mexico), data for most series were only available starting later than 1980Q1 and thus the business cycle accounting exercises were performed for shorter samples.

- Economic Outlook 98
  - Gross domestic product, value, market prices (GDP)
  - GDP deflator, market prices (PGDP)
  - Gross capital formation, current prices (ITISK)
  - Government final consumption expenditures, value, expenditure approach (CG)
  - Exports of goods and services, value, national accounts basis (XGS)
  - Imports of goods and services, value, national accounts basis (MGS)
  - Hours worked per employee, total economy (HRS)
  - Total employment (ET)
- System of Quarterly National Accounts
  - Durable goods (sub-category of CQRSA: private final consumption expenditure by durability, national currency, current prices)
- Tax on goods and services
  - Taxes on goods and services as a share of GDP, annual (TAXGOODSERV, PCGDP)
- Population and Labor Force
  - Population 15-64, persons, annual

All data are deflated by the GDP deflator. Data on durables are available for different time spans and frequency. When data was available at quarterly frequency, the series of durables is computed by regressing (log) durables on a constant and log Gross Capital Formation (ITISK) for the available time span, and then using the coefficient estimates to compute the series for durables from the beginning of sample. When data on durables were only available at the annual frequency, quarterly observations were estimated using Kalman filtering and again the series of Gross Capital Formation. Once we get durables at the quarterly frequency, we extend the series to the beginning of sample by the method described above. Population data are available at annual frequency and thus is interpolated to quarterly frequency using cubic splines. All other transformations are standard and described in detail below:

- per capita output (y): real GDP $-$ sales taxes $+$ services from consumer durables (with return $= 4\%$), deflated by the GDP deflator and divided by population 16-64.
- per capita hours (h): hours worked$*$total employment, divided by population 16-64.
- per capita investment (x): gross capital formation $+$ personal consumption expenditures on durables net of sales taxes, all deflated by the GDP deflator and divided by population 16-64.
- per capital government consumption (g): government final consumption expenditures $+$ Exports of goods and services $-$ Imports of goods and services, all deflated by the GDP deflator and divided by population 16-64.

2 Parametrization and calibration

Table 1: Parameters held fix across countries

β	δ	ψ	σ	θ
0.975	0.05	2.5	1	0.33

where β is the (annualized) and δ the (annualized) depreciation rate of capital.

Other parameters are specific to each country and shown in the table below,where γ_n is the average growth rate of population, $\gamma$the growth rate of labor augmenting technology and a the adjustment costs coefficient. To compute γ, we set it so that detrended log output is mean zero over the sample period. Note also that there are other parameters which are country

Table 2: Parameters that are specific to each country

Country	γ_n	γ	a
Australia	0.014	0.022	11.550
Austria	0.005	0.023	12.602
Belgium	0.003	0.021	13.348
Canada	0.011	0.017	13.308
Denmark	0.003	0.021	13.515
Finland	0.002	0.031	11.956
France	0.005	0.018	13.563
Germany	−0.001	0.021	14.159
Ireland	0.014	0.047	9.370
Iceland	0.012	0.025	11.320
Israel	0.020	0.023	10.740
Italy	0.002	0.018	14.206
Japan	−0.001	0.021	14.189
Korea	0.013	0.054	8.600
Luxembourg	0.013	0.037	9.896
Mexico	0.018	0.007	13.223
Netherlands	0.005	0.024	12.539
Norway	0.008	0.024	12.106
New Zealand	0.012	0.018	12.963
Spain	0.007	0.024	12.177
Sweden	0.004	0.022	13.078
Switzerland	0.009	0.014	13.600
United Kingdom	0.003	0.025	12.745
USA	0.010	0.019	12.574

specific, namely the elements of the P_0, P and Q matrices that result from the maximum likelihood estimation procedure that models expectations. These estimates are available at `http://pedrobrinca.pt/2016-accounting-for-business-cycles/`

3 Replication instructions

Replication files are available at `http://pedrobrinca.pt/2016-accounting-for-business-cycles/`. We make available also an extensive Appendix which includes all the tables and figures in the paper and country reports which include additional tables and figures regarding each of the business cycle accounting exercises performed, for both the Great Recession period and the recessions in he 1980s. This Appendix includes also the elements of the P_0, P and Q matrices that result from the maximum likelihood estimation procedure that models expectations for each country.