

# Macro Data for PhD Research

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# Introduction

- Because much of today will focus on micro-level data on individual people, households, or firms, my focus is going to be broader than just “data for macro” projects.
- I will discuss traditional macrodata sources but I will also discuss various other sources of “aggregated data”.
- There is now a huge amount of information available over the Internet that can be used for research purposes. Finding these data sources and asking yourself what research questions they can be used to address is a good way to get started on a PhD thesis.
- My talk will focus on
  - ① National accounts time series.
  - ② Financial time series.
  - ③ Cross-Section: Data from a range of countries.

# Part I

## National Accounts

# Time Series from National Accounts

- The data sets most commonly used in macroeconomics are time series from official National Accounts.
- These feature the traditional income, expenditure, and output breakdowns of GDP, familiar from Macro 101.
- But they also include detailed tables outlining components of consumption, investment, and government fiscal accounts.
- You can write a wide variety of different types of paper using these data:
  - 1 Are variable  $Y$  and variable  $X$  closely related? Spurious regressions and cointegration.
  - 2 Has the relationship between  $Y$  and  $X$  changed over time? Is  $Y$  out of line with its historical relationship with  $X$ ? Why?
  - 3 Shocks and responses: What tends to happen over time to  $Y$  when there's an exogenous change in  $X_1$  or  $X_2$ ? Which shocks are important? Vector Autoregression models.

# Irish National Accounts Data

- Published by Central Statistics Office (CSO).
- For annual national accounts, go to [www.cso.ie](http://www.cso.ie), click on “Releases and Publications” and then on “National Accounts”. Historical annual spreadsheets are on right-hand side under “Current Publications”.
- Problem: Major revision in 1995, so all data published as 1970-1995 and 1995-2007, with two overlapping sets of 1995 estimates.
  - ▶ The revision only affects some time series so you just need to paste together the two sets.
  - ▶ Other series “disagree” for 1995. One solution: “Grow back” series pre-1995 using the old growth rates.
- Quarterly National Accounts available from 1997 onwards. Go to [www.cso.ie/px/pxeirestat/database/eirestat/Eirestat.asp](http://www.cso.ie/px/pxeirestat/database/eirestat/Eirestat.asp). Click on Economy. Then National Accounts.

# EU National Accounts

- Huge amounts of information about EU countries are collected by Eurostat.
- To get a sense of what's available, type "european economy statistical annex spring 2009" into Google and you'll get a PDF version of the Statistical Annex of the Commission's European Economy Publication.
- These data and more are available for download from the AMECO Database.
- Type AMECO Database into Google and on the first link, click on AMECO online.
- This contains a wide range of variables available for all EU countries and the data can easily be downloaded to Excel.

# US National Accounts Data

- The US has comprehensive quarterly data from 1947 onwards.
- This is great if you want a long time series or a detailed breakdown of some part of the national accounts.
- Use [www.bea.gov](http://www.bea.gov). Click on “GDP”, then “Interactive Tables”.
- This provides copies of every table in the US national income and product accounts (NIPA) which can be downloaded to a spreadsheet.
- For data on employment, unemployment, population, productivity, CPI, PPI, use [www.bls.gov](http://www.bls.gov).
- Other data, such as for housing or regional statistics are available at [www.census.gov](http://www.census.gov).

## Part II

# Macro-Financial Data

# Federal Reserve Board

- Go to [www.federalreserve.gov](http://www.federalreserve.gov), click on “Economic Research & Data” and then on “Statistical Releases and Historical Data”.
- A great range of data available. I'll just mention some my favourites.
- *Interest Rates*: Statistical release H.15. Can get individual ASCII files or use their handy Data Download Program.
  - ▶ Lots of interest rates available daily, weekly, monthly. Treasury bonds, corporate bonds, commercial paper, mortgages.
  - ▶ Three interesting areas: Risk spreads (what determines spreads between interest rates on risky assets and those for Treasury debt), yield curve (long versus short-term rates), and behaviour inflation-indexed bonds.
- *Flow of Funds*: What kinds of assets and liabilities are held by households, businesses, banks? Who lent money to whom and how much? Balance sheet and flow tables for every financial sector in the US economy.
- *Consumer Credit*: Information on non-mortgage debt. Levels of debt and terms of credit card debt and car loans.

## Other Sources of Financial Data

- European Central Bank's Statistical Data Warehouse (type ECB SDW into Google). A bit clunky but has lots of information on European banking, interest rates, exchange rates, and financial flows.
- Robert Shiller's website has monthly data on prices, dividends and earnings for the S&P500 going back to before 1900. Can be used to take a long-run historical perspective on the behaviour of the stock market.
- The External Wealth of Nations. Developed by Philip Lane and Gian Maria Milesi-Ferretti. Available at <http://www.tcd.ie/iis/pages/people/planedata.php>  
What types of financial assets do people own around the world? What types of financial liabilities do they owe? How has this change over time? Time series for almost every country? This dataset tells you. Could be used in lots of different research projects.

## Part III

# Cross-Country Data

# Research Projects with Cross-Country Data

There has been a huge growth in easily accessible cross-country data sets (usually also available over time). These data can be used for lots of different types of projects:

- 1 Can we explain why some countries are richer than others? Have lower unemployment? Are healthier? Link to policy differences.
- 2 Geography: What effect does being close to another country have on trade or on how technologies, policies or social developments are adopted?
- 3 Dynamics: Do poorer countries tend to catch-up with richer ones? If not, why not? How do technologies diffuse around the world over time?
- 4 Distributions: How has the distribution of income across countries changed over time?

## Four Great Sources

- 1 **OECD.Stat:** Get a huge amount of information from different OECD sources all in one place.
- 2 **Penn World Tables:** Comparisons of real GDP across countries using PPP-compatible price levels. Go to [pwt.econ.upenn.edu](http://pwt.econ.upenn.edu) and click on “Penn World Table”. Available for almost every country starting in 1960.
- 3 **World Development Indicators:** Enormous amount of information available about economics, environment, technology, health.
- 4 **Doing Business:** A very important World Bank project. Measures of business-related regulations for almost every country in the world. Provides a huge number of concrete descriptions of policies that can then be linked to outcomes. Go to [www.doingbusiness.org/CustomQuery/](http://www.doingbusiness.org/CustomQuery/)