Topic Outline: Shaping Data
Revised: April 14, 2016

Materials

- Today's handout: this outline, conda/pip chapter

- Posted on *Topic outlines & links* page of website

Pandas 3: Data shaping

- Setup
  - Download IPython notebook and save Raw file in your `Data_Bootcamp` directory
    Location: GitHub $\Rightarrow$ Code $\Rightarrow$ IPython $\Rightarrow$ `bootcamp_pandas-clean.ipynb` $\Rightarrow$ Raw
  - Open in Jupyter
  - In Cell, click on Run all

- Want operator
  - Keep in mind what we want, then figure out how to get there
  - Problems: rows and columns are flipped, or some variant of that

- Example: WEO data on debt and deficits
  - Wants: we want them in columns, but they run across rows; we need to refer to series
    by variable **and** country

- Setting and resetting the index
  - The `set_index` method: move column(s) into index
  - Multi-indexes
  - The `reset_index` method: the reverse

- Switching rows and columns
  - The transpose (`T`) method
  - Referring to variables with a multi-index
  - Swapping index levels
  - The `xs` method

- Shaping by stacking and unstacking
  - The `stack` method: move columns into the index
  - The `unstack` method: move index levels into columns

- Shaping by pivoting

- The `pivot` method: a shortcut

- **Review exercise**
  - Put red sticker on your laptop
  - Work through the review section of the notebook
  - Ask questions if you're stuck – or even if you're not
  - Replace red sticker with green when you're set