Historical International Macro-Finance Data Sources

NBER SI IFMDS

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Agenda

1. Trade

2. Capital Flows

3. Crises, disasters, major events

4. Macro-data across countries

These slides with active **links** available on my website: **chenzi-xu.com**

"GOOD DATA"

1850-1914: First age of Globalization	1914-1970: WWI, Interwar, WWII, Bretton Woods	1970-present: Second age of Globalization

- **First globalization:** huge increases in goods & capital integration around the world
  - Led by UK on pound sterling/gold standard
  - Technologies like steam ships, railroads, telegraph helped to integrate information & real markets
- **WWI–Bretton Woods:** collapse in international trade & private capital flows
  - Transition from £ to $
- **Second globalization:** broadly very similar to first globalization
  - Led by US $ with (mostly) freely floating exchange rates
  - ICT revolution, GATT, WTO, regional trade agreements

"Good data" period: **25%** of years since First globalization—we have a lot to learn from history!

1. Trade

A. **Bilateral country-level aggregate trade panels:** most complete

B. **Bilateral country-industry trade panels:** a lot of work in progress

C. **Other measures:**

A. Country-level bilateral panels

Ultimate sources: government reports, either compiled into Statistical Abstracts (done by the UK, US, France) or by individual contry. These often contain lots of undigitized data.

1. **TRADHIST database 1827–2014:** (link)
   - Data structure: contemporary borders/entities, values standardized to nominal £, other country characteristics such as GDP and bilateral connections like colonial ties

2. **RICardo project 1800–1938:** (link)
   - Data structure: imports and exports; nominal values in different currencies; thousands of geographical entities (directly copied from publications)

3. **Pascali (AER 2017) 1850–1900:** (link)
   - Data structure: imports and exports; standardized to nominal £; different measures of distance by transport technology

Constructing a comprehensive country-level panel

No single source has comprehensive coverage & each source has unique data

- Overlapping source material but often differences in exchange rates chosen, borders, observations included, other covariates, etc.

Researcher decisions:

- Country entities/borders:
    - Disaggregated entities example: provinces of Australia reported separately
    - Aggregated entities example: Norway-Sweden combined
- Conflicts:
    - Known issue where often exports from A $\rightarrow$ B $\neq$ imports in B $\leftarrow$ A
    - Sources do not always agree, even before standardizing borders
- Constructing data:
    - Missing bilateral resistance measures need to be created
    - Inverting the imports data to create additional exports data

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Xu (2019) deals with these issues for **global trade from 1850–1914** at pre-WWI borders (link)

B. Within-country bilateral panels: industry composition

Various researchers have constructed industry-level bilateral panels of trade by country. There has been no systematic effort to collect these data for the world.

- **Italy** 1862–1950 (imports & exports at 4-digit SITC, annual): Bank of Italy (link)
- **UK** 1700–1899 (exports at 2-digit SITC, annual): Jacks O'Rourke Taylor (2020) (link)
- **USA** 1866–1914 (imports & exports at 5-digit SITC, annual): work in progress by Xu & Meissner
- **Belgium** 1870–1910 (manufactured imports & exports at 3-digit SITC, every 5 years): Huberman Meissner Oosterlinck (2017) (link)
- **Germany** 1880–1913 (imports & exports at 5-digit SITC, annual): Hungerland Wolf (2021) (link)
- **Japan** 1880–1910 (exports at 5-digit SITC, every 5 years): Meissner Tang (2018) (link)

C. Other measures

Trade data

- **Federico-Tena database 1800–1938:** (link)
    - Data: aggregate country-level trade NOT bilateral
    - Unique for: product composition (manufactured vs commodities) for total exports
- **Lloyd's List 1600s–today**
    - Data: Juhasz (2018) and Xu (2019) digitize parts. Otherwise only available as scans of original documents
    - Unique for: daily, within-country trade flows

Major changes in trade costs:

- **Sail → Steam:** Pascali (2017) estimates sailing times using weather & current patterns; validates with historical log books
- **Canals:** historical maritime guides print port-to-port matrices of travel times using routes including/excluding canals
- **Telegraph:** Steinwender (2019) & Juhasz Steinwender (2019) provide historical telegraph connection dates

Examples of ultimate sources

Best references for sources (as a starting point) are in the documentation of existing databases. Many have been digitized and are on Hathitrust

Below: *Statistical Abstract for the several colonial and other possessions of the UK, 1864–1883*; (link)

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No. 16—*Continued.*

INDIA.—Exports.

(Years ended 31st March.)

India—Exports.*		1867. (11Months.)	1868.	1869.	1870.	1871.	1872.	1873.	1874.
Principal Articles.*									
Coffee	Cwts.	157,498	296,332	496,685	322,153	301,935	507,296	373,587	367,132
	£	394,381	761,345	1,121,032	870,189	809,701	1,380,410	1,146,219	1,409,496
Coir, and Manufactures of	Cwts.	126,995	90,700	216,430	171,627	105,264	130,441	183,715	163,235
	£	87,493	66,790	140,460	151,401	99,751	121,385	169,962	164,232
Cotton, Raw	Cwts.	3,799,722	5,452,643	6,229,846	4,953,879	5,157,150	7,225,411	4,415,629	4,499,898
	£	16,478,064	20,092,570	20,149,825	19,079,133	19,460,899	21,272,430	14,982,558	13,212,341
Cotton Twist and Yarn	£	95,516	175,775	123,183	123,619	159,247	121,469	127,936	181,173
Cotton Manufactures	£	1,062,344	1,259,683	1,211,638	1,176,133	1,250,766	1,070,514	1,279,526	1,414,197
Dyes (other than Lac)	£	1,923,082	1,923,972	3,080,861	3,842,685	3,404,661	3,966,869	3,692,329	3,724,582
Grain : Wheat	Cwts.	—	299,385	275,481	78,208	248,522	637,099	394,010	1,755,954
	£	76,896	101,508	98,760	32,924	105,833	235,645	167,690	827,906
Hides and Skins	No.	9,060,464	9,467,464	11,104,089	13,675,997	16,300,150	20,044,607	22,306,617	19,297,051
	£	659,342	988,252	1,252,898	1,691,330	2,020,319	2,535,925	2,221,910	2,619,358
Jewelry and Precious Stones	£	76,820	95,652	40,139	87,779	42,653	53,999	54,161	50,822
Jute, Raw	Cwts.	1,761,321	2,057,443	3,363,646	3,361,852	3,754,083	6,133,813	7,884,912	6,127,279
		750,669	1,309,537	1,591,899	1,984,495	2,577,553	4,117,308	4,182,546	3,456,015

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Examples of ultimate sources

Archival source: CUST 8 ledgers for the United Kingdom are the source for bilateral-industry imports/exports

National Archives documentation: (link)

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2. Capital Flows

Bonds & equities prices

Main historical international financial centers: London, Paris, New York

all databases from Yale's International Center for Finance unless otherwise noted

- **London 1871–1930:** *Investor's Monthly Manual* (IMM) monthly records of prices, dividends for all bonds/stocks (link)
  - Source for sovereign & international corporate debt/equity (and domestic UK securities)
  - Before 1871: *Course of the Exchange* (CoE) and *IMM*–similar source that is not digitized
- **Paris 1795–1976**: DFIH database from PSE (link)
  - Work in progress; data access available by request–much more comprehensive than IMM (spot, forward, option, repo prices as well)
- **New York, 1815–1915**: monthly NYSE prices; daily afterward from CRSP (link)
- **Shanghai, 1870–1940**: annual, abolished afterward (link)
- **St. Petersburg, 1865–1914**: monthly, abolished afterward (link)
- **Amsterdam, 1796–1980**: in progress (link)

Non-digitized sources: for higher frequencies, need to return to original sources. Subsets have been digitized by different scholars but nothing systematic because of the scale

- Scans accessible through Gale newspaper databases; bulk purchases from libraries also possible and not too expensive

Sovereign & bank debt

Sovereign debt:

- Meyer Reinhart Trebesch (2019) database (link)
    - **1815–2016:** All foreign-currency bonds traded in London & NY; 91 sovereigns
    - Unique for having monthly prices (note: a large subset of price data come from the IMM & tracking bonds through defaults/restructuring)
- Xu ⓡ Indarte (2021): in progress
    - **1815–1939**: bonds traded in London
    - Text-based measures of issuance & default characteristics/severeity

International banks:

- Kisling Meissner Xu (2021) (link)
    - **1850–1914:** bank-city-year operations around the world, linked to bank nationality
    - Bank size and operations inferred from annual aggregate bank-level balance sheet (1890 onward)

3. Crises, disasters, major events

Major events are rare and only history provides data

Financial crises: varying definitions of crises leads to different dates

- Reinhart Rogoff: Banking, sovereign debt, and currency crises, 1800-2008, all countries (link)
- MACROHISTORY database: systemic financial crises, 1870–2017, 18 advanced economies (link)
- Bordo Eichengreen Klingebiel Martinez-Peria (2001): banking and crises, 1880–1997, 21 countries
  - Bordo Meissner (2006) adds 9 EM countries to pre-1914 period + debt crises (link)
- Many papers study particular crises:
  - US crises: Kelly Grada (2000) for 1857; Benmelech Bordo (2007) for 1873; Carlson (2005) for 1893; Frydman Hilt (2015) for 1907
  - UK crises: Xu (2019) for 1866; Paolera Taylor (2001) for 1890
  - Latin American crises: Kaminsky Vega-Garcia (2014)

Wars and military conflicts:

- Correlates of War (COW) project: (link)
  - Formal alliances, territorial changes, land borders (useful for bilateral trade), colonial dependencies, intergovernmental organizations
  - Bilateral trade (1870–2014) subsumed by previously mentioned datasets

4. Macro-data across countries

List of resources

- Maddison Project Database: (link)
    - More detailed national accounts (industry-level): (link)
- Global Financial Database: financial indicators (market cap, market rates, central bank indicators)
    - Pre-WWI variables much more limited and mostly for UK, France, Germany, US (big overlap with availability on NBER)
    - Indices often constructed from a few stocks, not the market
- MACROHISTORY database: 1870 onwards, 18 advanced economies (link)
    - Housing, equities, other macro measurements
- Central bank websites: Bank of England/Italy/France/FRED
    - Often have the best/most detailed historical series for that country
    - Example: Bank of England's "Millennium of macrodata" (link)
- Center for Financial Stability (link)
    - Annual data series covers many countries, but better for unusual series rather than a panel

Email questions/comments!

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