ECONW4325: Tips for Writing the Empirical Term Paper

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Research Paper

- An **empirical** paper on the Japanese economy

- In the paper, you will ask a question, propose a methodology to answer it, and provide the results of your analysis

- Goal is *not* to summarize an industry or historical event

- Build upon ideas, economic concepts, and historical patterns discussed in class

First things first...logistics

- Due date: **Thursday, December 10 at 8:40am** (last lecture)

- Submission: you are expected to submit the paper **two ways**, both electronically
    1. PDF on gradescope (similar to previous assignments)
    2. PDF on Canvas via the Turnitin app

- Length: maximum of **10 pages (3,000 words)** *excluding* figures and tables

- Formatting: typed, 12-point standard font, double-spaced

- Previous examples: we have posted four successful papers from last year to Canvas!

Tips for finding a paper topic

- Brainstorm as early as possible and write down many ideas

  - ▶ Most of your initial ideas are unlikely to work due to data limitations – important to determine this early!

  - ▶ To brainstorm, read through recent articles in news publications like *The Economist*, *Financial Times*, *The Asahi Shimbun*, etc.

- If you have no strong idea about what to work on, look at data sources first to get a sense of which variables are available

  - ▶ Try to come up with hypotheses about how two variables are related and why they have that relationship

- Explanatory vs. forecasting papers

  - ▶ Vast majority of economics research is concerned with explaining phenomena of the recent or distant past

  - ▶ There is always data from the past, but no data for the future!

EXAMPLES OF BAD PAPER TOPICS/QUESTIONS

- These research questions attempt to forecast, cannot be answered using available data, and/or are theoretical:

  - How did wages of women employed as *geisha* vary across different regions in prewar Japan? $\implies$ no available data

  - What will be the long-run impact of postponing the 2020 Tokyo Olympics on the Japanese economy? $\implies$ forecasting

  - What types of macro policies might Japan use to lower nominal interest rates below the zero lower bound? $\implies$ theoretical

  - How do individual patients' use of prescription drugs change in response to the "Metabo Law"? $\implies$ no available data

Examples of GOOD paper topics/questions

- These research questions attempt to explain past events, have available data, and most importantly, can be answered using data:

  - Through which product channels has Abenomics helped raise core inflation, and why?

  - How did the 2011 Tohoku earthquake and tsunami alter the types of products and the location of production in the fishing industry?

  - How has increasing childcare availability change women's labor force participation? *(See Term paper 1 on Canvas)*

  - What are the impacts of tax reforms of equity investment on household financial asset allocation? *(See Term paper 3 on Canvas)*

  - How did the opening of a new station on the Oedo Line affect ridership on neighboring Metro and subway train lines?

Cross-country comparison papers

- Since this is a course about Japan and its economic development through modern history, your paper should be primarily about Japan

- However, you may wish to explore a topic that compares some economic phenomenon in Japan to similar events in another country

- While this is ok, **the majority of the data and research** that goes into the paper **must be about Japan!**

- Examples of acceptable topics in this vein...

  ▶ How did the dynamics of household expenditures in Japan compare to those of the U.S. during the 2008 Global Financial Crisis?

  ▶ Considering the relationship between housing prices and population growth in Japan vs. China over the last 20 years, what can explain the differences between the two countries?

Primary vs. secondary source data

- For this paper you are expected to engage with **primary source data**, such as:

    - Statistics compiled from government surveys

    - Data on firms characteristics

    - Customized data that you either collect yourself or create by combining data from multiple sources

- You are allowed to use secondary source data, but these should play only a supporting role, e.g. as motivation

    - Examples includes tables and graphs taken from other authors' papers, books, company reports, etc.

    - Basically anything that you did not collect yourself

    - There can be exceptions if the data that you need to answer your question cannot be found anywhere else – **but you must get your data approved by either Prof. Weinstein or one of the TAs first!!**

How to find primary data sources

- **FIRST STEP:** look through the suggested data sources on the syllabus

- Government ministry websites are a good place to start (e.g. Health, Labor and Welfare; Internal Affairs and Communications; Finance)

- Local government websites also have their own interesting data (e.g. Tokyo Municipal Government)

- Available at the Business School Library/Butler:

  - Historical Statistics of Japan – under the title *Nihon Choki Tokei Soran*

  - *Japan Statistical Yearbook* and *Yearbook of Labor Statistics*

- Other potentially useful datasets

  - Google Trends (for Japan), Japanese Wikipedia searches

Writing macro policy-related or comparative papers

- Good macro/finance data sources: Global Financial Data, Bank of Japan, Economic and Financial Data for Japan (IMF DSBB)

- For both comparative papers and papers on macro topics, you may find sites like OECD, IMF, FRED, World Bank, etc. a helpful resource. However, be careful when using aggregator sites like this:

  - Frequently, these sites will generate graphs for you. **Do not use the pre-made graphs that these sites generate.** You are expected to create your own graphs for the paper.

  - For comparative papers, see the previous note on **Slide 7**.

Tutorial: Statistics Japan

- A good site with which to become familiar is **Statistics Japan**

- For most topics, this will be the only website you need to obtain data for the paper

- English language database portal: https://www.e-stat.go.jp/en/

- Note: some parts of Statistics Japan may only be available in Japanese (more on this issue later)

- You can find a more in-depth summary of statistics available on the government website here

Key elements

1. Question

2. Motivation + overview

3. Literature review

4. Data

5. Methodology

6. Discussion/conclusion

Question

- Clearly state an economic question related to Japan that your paper will attempt to answer

- Should be something that we did not cover directly in class, although it can be on the same general topic

- Should be **relevant**, **interesting**, and **have economic significance**

Motivation

- Discuss *why* the Question is important and provide an outline of *how* the paper will answer the Question

- Motivate the topic (you can use secondary sources)

- Provide a *brief* overview of your **methodology**, the **primary source data** that will be used in your analysis, and a big picture summary of the **results**

- Discuss the **pros** and **cons** of your approach

STRUCTURING THE PAPER

Literature Review

- As a researcher, you are expected to engage with previous work on your topic/in your field to motivate your own contribution

- Necessarily, in this section you will be citing **secondary sources**

  - ▶ **Examples of acceptable sources:** academic economics papers (published or working papers), books on Japan and the Japanese economy, government reports, *The Economist*, etc.

  - ▶ Research Institute of Economy, Trade, and Industry (RIETI) discussion papers, National Bureau of Economic Research (NBER) working papers

  - ▶ You are *not* required to read and cite very dense and technical papers (but are always welcome to)

  - ▶ Use **reputable, verifiable materials** (*not* blog posts or conversations)

Structuring the paper

Data

- Must use **primary source** data in order to *answer* your Question (see previous slides)

- Explain the data sets being used (what is it called, what is the source), the key variables of interest, and why they are necessary to answer your Question

- Don't forget to include a **proper citation for your data source** in your list of references!!

Methodology

- Describe how you use the data in order to answer the Question
    - Explain how you manipulate/transform the data, if in any way
    - Do you examine time series trends of the key variables?
    - Do you run an OLS regression with robust standard errors?

- **Note:** it is *not* necessary to use econometric techniques, but you are welcome to do so

- It is acceptable to answer your Question with only the support of graphs, tables, and figures.

- You can use any software you prefer (e.g. Excel, Stata, MATLAB, R, etc.)

Discussion

- Interpret the data and state the findings/results of your analysis

- There is no right or wrong answer to reach by the end of the paper, and null results are okay...

- ...BUT your conclusion *must* follow from the data

Conclusion

- At the end, include at least one paragraph that summarizes the following:
  - your Question
  - the data and how you used the data to answer the Question
  - your findings
  - how this does (or does not!) answer the Question
  - implications for policy or future research

SOME FINAL NOTES ON STRUCTURE

- Most economics papers lump **Question**, **Motivation**, and **Literature review** into one **Introduction** section

- While most papers will have a separate **Data** and **Methodology** sections because of the scope of the analysis, for this paper you may find it natural to combine the two sections into one "Data and Methodology")

- The discussion of the **pros and cons** of your analysis can fit either into the **Introduction**, **Methodology**, or **Discussion** section.

- The **Methodology**, **Discussion**, and **Conclusion** should account for at least half of the paper. This is what we care about the most!

- Keep the text limit in mind (10 pages of text/3000 words). Most of your sections should be relatively short

- You are free to use whichever citation format you prefer (e.g. APA, Chicago, etc.), but it must be consistently applied throughout

A NOTE ON FIGURES

- Tables and graphs (henceforth, "figures") should be presented in an appendix at the <u>end</u> of the paper

- All figures should be properly labelled: axis, title, legend for multiple series – **use of colors/symbols encouraged!**
  - ▸ See "Tips for Making Effective Visuals" posted under *Research paper* on Canvas.

- Figures should have captions which give the source of the data
  - ▸ **Example:** "*Source*: Family Income and Expenditure Survey, 2007–2017"

- Less is more – try to limit your analysis to 5-7 figures
  - ▸ **Example:** you are looking at how health expenditures vary by the distribution of age groups across different regions of Japan
  - ▸ Time series graph of GDP per capita is not going to be helpful here
  - ▸ But a scatterplot of log health expenditures on log average age would be relevant!

Japanese language resources

- Most Japanese government websites will have a Japanese- and English-language version, typically with more data available on the Japanese-language sites

- You are *not* expected to have any Japanese language skills to complete the assignment, but are welcome to use the Japanese-language data

- If your data is only available on the Japanese-language sites:

  - Useful online dictionary: https://jisho.org/

  - Be wary of Google Translate!

  - Ask the TAs or the Professor for help

- Writing tutors – any CC student can make an appointment

- Library staff

- Business School Library (Watson)
    - Inquire about database subscriptions here:
      business@library.columbia.edu

GOOD LUCK!