

Homework for graduate urban&spatial economics (applied microeconomics B)

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Your answer can be either in Japanese or English. Your answer should be submitted to ayamagishi@ier.hit-u.ac.jp. Use LaTeX or Word to prepare your answer.

My homework does not have definitive solutions and I do not plan to provide answer keys. Please note that my homework is designed to guide you, through examples, (1) how to read and learn from academic papers in urban and spatial economics and (2) how to develop your own thoughts building on the paper(s) you read and come up with your research ideas.

1 Homework 1 (due on 9/29)

Read [Chen and Rosenthal \(2008\)](#) and answer the following questions:

- What is the main question of this paper? Summarize the paper in a few paragraphs. Why is this question interesting and relevant to the real world?
- In analyzing the amenities (quality of life) of each location, do they use a Canonical Spatial Model or a Rosen-Roback Model for answering the question? Why did you think so?
 - Do not bother too much about the differences in notations and some structures of the model from what we have seen in the lecture. Such minor differences are very typical in reading papers and you should get used to them. You should instead focus on the fundamental structure of the model to answer which one is closer to [Chen and Rosenthal](#)'s model.
- Equations (2.19) and (2.20) construct amenity measures for workers firms. Intuitively, why \bar{w}_{jt} enters negatively in (2.19) while it enters positively in (2.20)?
- Which data did the authors use? What are the key features of the data?
- Using this data, the authors estimate equations (2.13) and (2.14) for construct the amenity measures. Do you find their estimates are convincing or not convincing? Explain why you think so.
- Section 4 relates the data of migration pattern with the amenity measures

- Do you find the authors' analysis convincing? If yes, explain why. If not, explain potential rooms for improvement.
- Can you draw a policy implication from this result? Provide your ideas.
- Chen and Rosenthal have used the US data 1970–2000 for answering this question. Now let's consider the “external validity” issues:
 - Do you think their results still hold in 2024? Explain why.
 - Do you think this results hold outside the US? Consider any country you are familiar with (e.g., Japan, China), and explain why you think so.
- Do you come up with a research idea that is related to this paper? If so, please describe it briefly.
 - It is okay if you do not come up with anything: this question is just meant to motivate you to start thinking about your own research ideas (see Homework 4).
- Please describe things you do not clearly understand about this paper (if any).
 - In general, it is a good practice to be aware about what you do not understand. It can be due to your lack of knowledge, the paper not being written clearly or wrong, or something left unexplored.

2 Homework 2 (Not a final version: subject to changes!)

Read [Faber and Gaubert \(2019\)](#) and answer the following questions:

- What is the main question of this paper? Summarize the paper in a few paragraphs. Why is this question interesting and relevant to the real world?
- In Section 2, the authors provide reduced-form evidence about tourism and economic growth:
 - The authors use three measures of tourism attractiveness of each location. Are they convincing? Do you come up with an alternative tourism attractiveness measure? Discuss.
 - The authors take these measures as exogenous, arguing that these factors are determined long ago. Please describe a potential scenario in which this assumption is violated (i.e., describe a situation in which the tourism attractiveness measures are correlated with the “error term” of modern economic activities, even if these measures are determined long ago). Discuss whether such a situation is likely or unlikely in the real data.
- In terms of the model structure, what are the key differences from [Redding’s \(2016\)](#) inter-city QSE model we have covered in the lecture?
 - In particular, explain how tourism is introduced to [Redding’s](#) model.
 - Tips: You do not always need to read the paper to fully understand all the details of mathematical structure of the model, but always pay attention to the key ingredients of the model and how these are different from the “baseline” spatial models you are familiar with. This way, you can extend your knowledge of the baseline model to understand the model in the paper you’re reading.
- Explain what counterfactual exercises the authors conduct. Explain why these are interesting.
 - Do you want to conduct some additional counterfactual exercises using [Faber and Gaubert’s](#) model?
- Consider an external validity issues: provide some cases in which tourism promoted economic growth outside Mexico. Discuss whether your success story is well explained by the mechanism captured by [Faber and Gaubert](#).
- Think about a policy implication you can draw from [Faber and Gaubert](#). Briefly describe.
- [Faber and Gaubert \(2019\)](#) uncovers the positive impact of tourism on welfare, but somewhat paradoxically, local residents are often ambivalent about tourism.¹
 - How can tourism reduce the utility of local residents, despite the positive impacts shown in [Faber and Gaubert](#)?

¹For example, see <https://news.yahoo.co.jp/articles/435ab4a100a1c64e6d689c8627ad5f70bac89ae4> for the case of Kyoto

- Is the above negative effect of tourism included in Faber and Gaubert's model? If not, briefly discuss how you can extend Faber and Gaubert's model to include such an effect.
- Please describe things you do not clearly understand about this paper (if any).

3 Homework 3 (Not a final version: subject to changes!)

Read [Redding and Sturm \(2024\)](#) and answer the following questions:

- What is the main question of this paper? Summarize the paper in a few paragraphs. Why is this question interesting and relevant to the real world?
- Section 4 presents the reduced-form analysis:
 - Briefly describe the data used in this analysis
 - What is the identification strategy of the authors? What is convincing or not convincing in the arguments about the randomness of bombing?
- Section 4.4 provides some mechanisms behind the negative effect of bombing on neighborhood quality
 - [Davis and Weinstein \(2002\)](#) finds little effect of bombing on population *across* Japanese cities, and [Takeda and Yamagishi \(2024\)](#) finds the little effect of the atomic bombing population distribution *within* a city. How do you reconcile [Redding and Sturm](#)'s result with these findings?²
- In terms of the model structure, what are the key differences from [Ahlfeldt, Redding, Sturm and Wolf's \(2015\)](#) intra-city QSE model we have covered in the lecture?
- How is the neighborhood quality (residential amenity) modeled in their QSE model?
 - Is the level of amenity different across different income groups?
 - How do the authors deal with potential multiplicity of equilibria in the model with neighborhood quality?
- What are the sources of sorting in [Redding and Sturm](#)'s model?
 - Recall that in the lecture, we have seen that (1) productivity, (2) amenities, (3) housing costs, and (4) heterogeneous migration elasticity as sources of sorting.
 - Look at these four channels one by one, and think about how these channels of sorting are working in [Redding and Sturm](#)'s model
- The paper discusses the role of public housing (council housing) in attracting the poor to the bombed areas.
 - Who can reside in this housing? What is the housing rent? Is it a market rate or a lower rate? Check the paper. If you do not find enough information, also check their Online Appendix and other websites about UK's public housing policy.

²[Harada, Ito and Smith \(2024\)](#) finds an analogous negative effect in the context of Tokyo air-raid bombing. So what [Redding and Sturm](#) shows may be relevant in Japanese context too. Also for your reference, [Davis and Weinstein \(2008\)](#) shows that not just population, the industrial composition of Japanese cities was not affected by the bombing.

- How is public housing modeled in the paper? Is it missing some important institutional features you found?
- Explain what counterfactual exercises the authors conduct. Explain why these are interesting.
 - Do you want to conduct some additional counterfactual exercises using [Redding and Sturm](#)'s model?
- Now, as an external validity, consider a event other than bombing, such as flooding and earthquakes. Do you expect that results are similar to the bombing case? Briefly discuss.
- Does [Redding and Sturm](#)'s result have a policy implication? Briefly discuss.
- Please describe things you do not clearly understand about this paper (if any).

4 Homework 4 (due on 10/31)

Please describe your own research idea. This homework is meant to get you started on the first step of your own research, and make you pay particular attention to the process of coming up with research ideas. I believe that coming up with ideas is a skill that you can improve through practice, and this homework is one opportunity for you to realize your current strength and weakness in it.

I have prepared a note about how to come up with research ideas.³ I hope this is helpful, but you do not have to follow my suggestions: it is totally fine if you can come up with research ideas. It would be great if it is in urban&spatial economics, but it can be any topic you are interested in (as long as you think briefly about how you can connect your idea to urban&spatial economics).

Now, please answer the following about your research question:

- What is your research question? Describe in a few sentences.
 - Why is your question interesting and important? It is not enough that "you" think it is interesting and important: Try to convince me and other people that it is indeed interesting and important.
 - Are you excited about your research idea? Briefly describe if you have some personal reasons to care about your research question (above and beyond the reasons you use to convince me and other people).
- How did you come up with this idea? Briefly describe (as much as you remember).
- What is the contribution of your research?
 - How is it practically relevant? For instance, what is a policy implication of your research?
 - Briefly describe the relationship to the existing literature.
- How do you answer it?
 - If it is an empirical research, explain your empirical specification (regression model etc) and an identification strategy.
 - If it is a theory paper, what kind of model are you trying to construct?
- Is it feasible?
 - Can you access to the data you need for implementing the data you need? If the data is not yet available, how can you collect it?
 - If it is a theory paper, explain how you can solve and characterize the model (as intuitively as possible)
- Let's say your research goes extremely well and you get the results that you expect in an ideal case. You are now giving a title to your paper and trying to submit it to an academic journal

³In Japanese. See <https://00m.in/hZyyw>

- What is the paper’s title? Try to come up with a catchy but informative title.
- What do you think the quality of the paper in an ideal case? Which journal do you submit to? (You do not have to answer this question if you are not familiar with the quality of academic journals, but this helps you assess the quality of the paper in an ideal scenario.)

Now, think about your “failed” research idea: you came up with it but you stopped pursuing it for some reason. Answer the following about it:

- What is your “failed” research question? Describe in a few sentences.
- Why do you now think that the research idea is bad? Is it because
 - it is hard to convince people that the research question is interesting?
 - there is a closely-related existing study and it is hard to emphasize your contribution?
 - the relevant data are unavailable?
 - it is hard to solve and characterize the model you are thinking about?
 - something else is going wrong?
- If you have never come up with a “failed” research idea.... why is that?
 - Is it because you have a nice way to come up with research ideas?
 - Or you have not tried enough times to come up with research ideas?

References

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