This is a summary of Ben Rachbach's (a GiveWell Research Analyst) review of David Roodman's writeup on the effect of immigration on the wages of current residents. Mr. Roodman's full case study is available <a href="here">here</a>.

I didn't find many obvious issues in my vet, so the vet raised my confidence in the report. My main concerns:

• David didn't discuss how he chose which papers to write about, so I didn't know whether he made a fair search just from reading his writeup. From the very little I know about the immigration literature, it seemed that he looked at papers from a wide range of researchers. But it was possible that his search strategy biased him to find papers sanguine about immigration impacts and to ignore more pessimistic studies. When I emailed David about this, he responded:

"As for how I chose studies. It was an informal network searching process. Among the factors leading to inclusion:

- Being cited by other papers, including literature reviews. E.g., among the optimists, Clemens' Journal of Economic Perspectives piece cites Borjas, Ottaviano and Peri, Card, and Cortes, all of which I review. Among the pessimists, Borjas's new book cites about the same familiar suspects.
- Appearing in a top journal. This was not a requirement but could be a clincher.
   E.g., when I learned about the Cortes paper in the Journal of Political
   Economy, I knew I couldn't leave it out.
- Experts advocating particular angles or papers, combined with a desire to perform due diligence on all angles. Peri argued that the big benefit from immigration is from the innovation it supports, which can affect real purchasing power in the long run. So I decided that idea deserved to be heard out and gave it a section.
- Judgments about whether older studies had been superseded by newer ones. E.g., I sensed from other authors that the Card spatial study represented a culmination of that literature to that point, in a sense making earlier entries, like the ones I cited in passing, obsolete. Most of the studies in this particular strand are analyzing the same data. So they are not independent observations the way additional lab experiments or new studies based on new survey evidence can be. A more rigorous analysis can make an earlier one partly obsolete. So I could have reviewed older spatial studies, but in the end I think I would have given most of the weight to the Card study I reviewed because of its greater rigor.
- Potential high quality of identification. I felt it important to include almost any study exploiting a natural experiment, because of the potential to produce compelling evidence.

Obviously the process is not purely objective. Others would have assembled a somewhat different list. But I think there's a reasonable chance that the coverage is broad enough that adding missing studies will hardly affect the conclusion. The idea is not to be exhaustive but to be attuned to when returns along various margins may be diminishing."

The strategy that David described seems sensible to me, and I am now less worried about selective inclusion of papers.

• There seems to be a strong tendency in this literature for the researchers to find results that confirm their preexisting views. For example, Borjas often seems to find negative effects of immigration, while Clemens often seems to find positive effects. One thing that makes this problem worse is that the most persuasive evidence tends to be from small-scale natural experiments. It would be easy for academics to consciously or unconsciously choose to study natural experiments that will confirm their preexisting views about immigration. Or, if researchers in the field are mostly pro-immigration, perhaps the natural experiments that would show negative impacts haven't even been studied.

When I shared this concern with David, he agreed that bias seems inevitable, and noted, "All I can see to do about this is to look at studies from both sides with clear eyes—which is easier for me to do than for some, since I'm an outsider to the issue. The field has strong voices on both sides—Borjas at Harvard, Card at Berkeley—so I don't think we have to worry about too much one-sidedness in the collective biases of economists leading to one-sidedness in the evidence. But, sure, it's possible the evidence base is tilted."

- As a matter of style, David did not attempt to provide exact factual support for his
  interpretations of the studies. For this reason, I couldn't really verify his interpretation
  of the studies by reading the report. Particularly, I don't know whether he:
  - correctly evaluated how trustworthy each study is (this is difficult to determine because most of the studies use complicated econometrics)
  - o focused on the most trustworthy and relevant instrumentations
  - focused on the most relevant outcomes

As far as I can tell, his treatment of the studies seems reasonable. Checking his interpretation of the studies would require reading some of the studies myself.

 My minimal understanding of econometrics limited my ability to assess some parts of the report. I was mostly unable to evaluate claims about how convincing different instrumentations are. Also, I couldn't understand the appendix on Ottaviano and Peri vs. Borjas, Grogger, and Hanson (which we claimed in our blog post was one of the most important parts of the report).

## In this spreadsheet, I:

- checked whether the summary table at the end of the report matched the discussions of the studies earlier in the report. I found that it did, with a few minor exceptions.
- listed all my questions and doubts about each study and section. Above, I pulled out the major themes from these questions.
- compared my level of confidence in the conclusions of each study to what I thought
  David's level of confidence was. I was generally slightly less confident about the
  conclusions than I perceived David to be, but I think this is mostly because I didn't take
  the time to read and carefully evaluate each study, not because David is
  overconfident.

The spreadsheet is very rough and should be taken as an exploration of David's interpretation of the studies, not as a statement of disagreements with David.

## Possible next steps:

To more deeply vet the report, I could:

- Ask someone with more econometrics knowledge than me to vet the appendix on Ottaviano and Peri vs. Borjas, Grogger, and Hanson
- Carefully evaluate David's analysis of some of the studies. This would include:
  - Following up on my questions and doubts from the spreadsheet
  - Reading the studies to check David's interpretation