Infrastructure Choice and Aggregate Welfare: Evidence from the German Division

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General Remarks

• this is an interesting and ambitious paper: partly reflected in the fact it is 70 pages long

• it is quite dense and could stand to be better written and shorter with a bit algebra in the text, more in an appendix and a more thought about what is important to convey and what is not

• I recommend reading the paper as I did, which means mostly to skip over the algebra

• I will try to provide a guide to which parts are important
What the Paper is About

the goal of the paper is to examine the effect of infrastructure (highways) and their optimal development

• a calibrated model of trade over highways and the implications for optimal highway investment is introduced [could be presented more succinctly]
  
  central districts should have more investment than peripheral districts

• the basic scheme is to compare the German highway plan in 1934 to the actual development of highways in 1970 taking advantage of the division of Germany in 1949 as an natural experiment

• the consequence of districts being close to the “inner border” is that they have less investment than planned, in the original plan they were central and after division peripheral

• basic stylized fact: further from inner border, more road built relative to 1934 plan
**Findings**

overall conclusion: the West German government did not reduce investment near the border enough

- question: this seems to assume they expected the division to be permanent; it obviously wasn’t, did they expect it to be so?

- question: given that the model explain only 20% of the highways, how much weight to we want to put on this conclusion?
**A Natural Experiment?**

Why do we think the border is random? Did not the US and USSR consider economic factors when drawing the dividing line?

The idea of the division as a natural experiment was used before with population, but that doesn’t make right in either case

I found this is helpful: the division

caused a reduction in the Market Access of West German districts as all trade with East Germany stopped. Besides, the Centrality of West German districts was affected because districts near the Inner German border, very central before Division, became remote after Division. Finally, it even caused a change in the transportation network because the border cut through some of the already existing highways and roads.

This should be moved to where the idea of the division as a natural experiment is first discussed.
Smaller Remarks

preferences are said depend on three components, but I only find two (C,b)

I am unclear about a grid made up of squares of different sizes (seems as if there are constraints about subdividing squares)

does it make sense to assume free (common) intra-district trade when different districts have different infrastructure? aren’t highways used internally within districts?

equation (30) optimal government investment - I don't see how this accounts for the discrete shifts that take place when infrastructure changes change optimal routes

equation (32) seems to be interpreted as “causal” but involves a lot of endogenous stuff on both sides
Other Considerations

the analysis seems to ignore that the highways do not just serve intra-German trade, but also extra-German trade, most notably with France if international trade grew relative to domestic trade more than anticipated for reasons that had nothing to do with the division the model would underestimate the amount of peripheral building that was optimal (note: this goes the right direction for the underinvestment conclusion)

Figure 5: planned versus built – it seems that two planned highways crossing the inner border were actually built – did this take place before or after 1949?

it seems important to know when highways were built, i.e. before or after 1949, but this does not seem to be accounted for in the analysis