“The Role of Market Competition in Fiscal Policy Transmission”
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The Paper

- A careful & thoughtful analysis of an under-studied important topic

- How does the impact of government infrastructure spending on private investment vary with the competitiveness of the targeted sector?

- Careful & thoughtful because authors collect original data and employ creative identifying restrictions

- Important because in practice fiscal stimulus is always targeted
  - stimulus is not—as I usually model it—purchases of some chunk of GDP
The Paper

- Work is valuable because it moves away from generic “fiscal multipliers” toward understanding *how* & *why* economic agents respond to stimulus.

- This is a useful step toward taking fiscal policy seriously, which entails:
  - modeling what fiscal policy actually does
  - delivering results that have value to policy makers

- We need more work that takes fiscal policy seriously.
The Fiscal Trinity

- Mantra: fiscal stimulus “targeted, timely, temporary”
- Paper is a case study of such a blessed policy
  - Premier Wen Jiabao called it: “big, fast, effective”
- New spending of RMB 3.8T announced Nov 2008
  - 12.5% of 2008 GDP, spread over 27 months
  - 90% various forms of infrastructure
  - much of it financed by credit creation
- Macroeconomic impacts were huge
  - 2009 GDP: 5.3% (Q1), 5.7% (Q2), 8.6% (Q3), 13% (Q4)
  - capital formation: 4.6% (2008), 8.7% (2009)
  - easy credit drove land & housing prices up sharply
  - spawned concerns about local government debt sustainability
An American Sidebar for Contrast

- The ARRA didn’t pass until February 2009
- It was about 5.5% of GDP
- A mix of various kinds of spending increases & tax cuts
  - China’s package also cut taxes & aided state-owned enterprises
- Infrastructure received a bigger boost than in past stimulus packages
- Safe to say the ARRA was “less targeted” than the Chinese plan
# ARRA “Targeted” All Sectors

<table>
<thead>
<tr>
<th>Industry</th>
<th>Jobs Created in 2010Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>26,000</td>
</tr>
<tr>
<td>Construction</td>
<td>678,000</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>408,000</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>158,000</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>604,000</td>
</tr>
<tr>
<td>Information</td>
<td>50,000</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>214,000</td>
</tr>
<tr>
<td>Professional and Business Services</td>
<td>345,000</td>
</tr>
<tr>
<td>Education and Health Services</td>
<td>240,000</td>
</tr>
<tr>
<td>Leisure and Hospitality</td>
<td>499,000</td>
</tr>
<tr>
<td>Other Services</td>
<td>99,000</td>
</tr>
<tr>
<td>Utilities</td>
<td>11,000</td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>98,000</td>
</tr>
<tr>
<td>Government</td>
<td>244,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,675,000</strong></td>
</tr>
</tbody>
</table>

The Paper’s Contribution

- Estimates of aggregate spending multipliers all over the map
  - no consensus even on whether they are $> 1$ or $< 1$
  - long-run multipliers can have different sign than short-run
  - magnitudes vary dramatically depending on monetary-fiscal regime
  - results driven by identifying assumptions or model specification
- This case study is much cleaner
  - question is more focused
  - data really are about a targeted stimulus
  - employs variation across geography to identify
- The study is also more informative
  - politicians & individuals care a lot about micro impacts
The Theory: Some Nice Intuition

- Consider firm $i$ in construction sector $h$
- It faces effective demand elasticity (d.e.)...
  - weighted ave of w/i sector d.e. & cross-sector d.e.
  - higher $i$’s mkt share, more its d.e. depends on cross-sector
  - w/o stimulus, cross-sector d.e. depends only on consumer d.e. ($\rho > 1$)
  - w/stimulus, cross-sector d.e. depends also on govt’s d.e. ($= 1$)
  - stimulus shifts weight to the smaller govt d.e.
  - reduces firm’s effective d.e.
  - raises firm’s markup
The Theory: Some Nice Intuition

- Higher inelastic government demand...
  - raises land prices & markups
  - crowds out consumer demand
- Competitiveness attenuates this crowding out
  - the more competitive is sector $h$
  - the smaller is effective role of cross-sector d.e.
  - stimulus shows up more in output & less in prices
- Larger is the stimulus, the more inelastic is demand for construction-sector goods
  - interesting interaction between size of stimulus & competitiveness of targeted sector
- The theory is clean & clear
- Unfortunately, it is static
  - this limits the theory’s predictions
Important Assumption of the Theory

\[
1 < \rho < \eta
\]

d.e. across sectors \quad d.e. across firms

⇒ goods w/i sector more substitutable than across sector

- To assess how reasonable this is...
  - What are the construction sector’s goods?
  - footnote #2:
    - roads & railways: substitutes
    - roads & bridges: complements
    - airports & water conservancy: ???

- Because this assumption is central to the theory’s predictions, it deserves elaboration with concrete examples
I found this confusing

Assume: “private firms did not invest more because its [city’s] construction sector was more (or less) competitive than the average city.”

Seems strong

- long history of monopolies under-investing
- hinges on how large a city’s construction sector is

Turns out this isn’t really the identifying assumption

Assume: investment decisions during the stimulus period do not depend on how competitive the construction sector was before the stimulus

- requires the measure of competitiveness to be unaffected by actions during the stimulus period
- just need that the global financial crisis was unforecastable 4 years prior
Apply the message of the identification to policy advice

To maximize the real impacts of fiscal stimulus... target sectors that *used to be* more competitive
Empirical Results

- The text helps a bit, but I need more discussion & interpretation of the results
  - how do we think about the magnitudes—not just the significance—of the estimated parameters?
  - particularly relevant for the terms that interact with competitiveness
  - units of variable $G_{ct} \times \text{Competition}_c$?

- Bring out the economic significance of estimates more completely
  - e.g., what kinds of private investment grew from the stimulus?
  - more fully exploits the micro information the analysis contains
Empirical Results

- Role of banking is provocative

- Table 3 reports large effects on private investment from...
  - banking competition
  - interaction of public investment & banking competition

- Estimated coefficients on these are much larger than on
  - public investment
  - interaction of public investment & market competition

- I suspect this channel is essential to the findings the paper emphasizes
## Investment Financing

<table>
<thead>
<tr>
<th>RMB Billion</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal deficit</td>
<td>111</td>
<td>950</td>
<td>650</td>
</tr>
<tr>
<td>New bank loans</td>
<td>4,178</td>
<td>9,622</td>
<td>7,932</td>
</tr>
<tr>
<td>New bond finance</td>
<td>502</td>
<td>935</td>
<td>−465</td>
</tr>
<tr>
<td>Total</td>
<td>4,791</td>
<td>11,506</td>
<td>8,117</td>
</tr>
</tbody>
</table>


- Large fiscal stimulus joined by “tsunami of credit expansion”

- Jointly injected stimulus of RMB 4.8T in 2008 & 11.5T in 2009

- How do we separate the credit component from the infrastructure spending?
Wrap Up

- Data collection & analysis are extremely careful
- Theory is clean, but limited
- Results are compelling & **useful**
- Paper is peppered with thoughtful remarks
- Need more elaboration/interpretation of empirical results
- Encourage authors to think about bringing in dynamics
  - connects micro evidence to macro approaches