"The Role of Market Competition in Fiscal Policy Transmission" by Sophia Chen & Yu Shi

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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

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

Source: Romer and Bernstein, "The Job Impact of the American Recovery and Reinvestment Plan," January 9, 2009

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

$$1 < \underbrace{\rho}_{\substack{\text{d.e. across} \\ \text{sectors}}} < \underbrace{\eta}_{\substack{\text{d.e. across} \\ \text{firms}}}$$

$\Rightarrow$ 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

Paper's Identification

- 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

Paper's Identification

- 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 $G_{ct} \times Competition_c$?
- 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

RMB Billion	2008	2009	2010
Fiscal deficit	111	950	650
New bank loans	4,178	9,622	7,932
New bond finance	502	935	−465
Total	4,791	11,506	8,117

Source: Christine Wong (2011), "The Fiscal Simulus Program and Problems of Macroeconomic Management in China," OECD, June.

- 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