Comments on The anatomy of the Indian credit boom of 2004-2008

Ugo Panizza

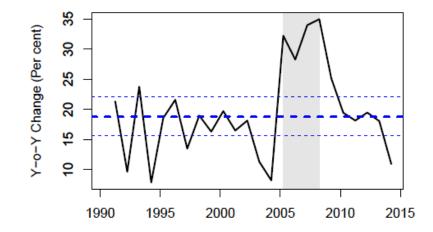
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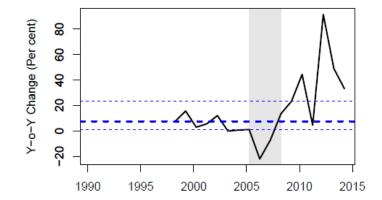


- Over 2004-2008 industrial credit rose 2.61 times
 - Credit to infrastructures and construction rose 4 times
- Biggest bank credit boom in India in 25 years
- In 2013 we start observing indicators of bank distress (bad assets)
- Is this because of the credit boom?



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Image: A matrix



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- Looks at non-financial corporations that borrowed from banks
- Initial sample: 14,500 non-financial firms
- The paper uses data for 2,520 firms (those with bank credit above median in 2004)
 - Nice discussion of potential sample biases
- Who are the borrowers: OLS
- What happend to the borrowers: matching methods and then diff-in-diff
 - Five different research designs

Main findings

- Beneficiary firms are generally similar to non-beneficiary but seem to have superior credit quality (using OLS)
- No difference in ex-post firm performance (using diff-in-diff)
- But:
 - Cannot say much for large and young firms
 - The matched dataset has few firms from the field of infrastructure and construction (this is where the strongest credit boom took place)
- Conclusion: these are the firms at the basis of bank distress starting in 2013

Table 8 Number of firms in each industry			
Industry	Entire dataset	Matched pairs	
Crude oil and natural gas	1	0	
Irrigation	2	0	
Coal and lignite	5	0	
Electricity distribution	11	0	
Minerals	12	0	
Communication services	20	0	
Information technology	39	0	
Hotels and tourism	42	0	
Electricity generation	43	0	
Housing construction	48	0	
Transport services	52	0	
Diversified	60	3	
Industrial and infrastructural construction	73	2	
Consumer goods	80	3	
Construction materials	85	4	
Miscellaneous manufacturing	99	8	
Miscellaneous services	117	1	
Transport equipment	148	15	
Wholesale and retail trading	171	4	
Machinery	177	16	
Metals and metal products	255	20	
Food and agro-based products	286	19	
Textiles	317	39	
Chemicals and chemical products	376	31	
Total	2519	165	

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- What is the contribution of the matching methodology
 - Non-linearity
 - Extrapolation
 - Identification
- What happens if we run standard OLS?

• What if we use interactions?

$$PERF_i = b_i \left(\alpha + X_i \Gamma \right) + \varepsilon_i$$

- Can we capture some of the characteristics impossible to see with matching?
- For instance, one could try with:

$$PERF_{i} = b_{i} \left(\alpha + \beta INFR_{i} + \delta CONST_{i} + X_{i}\Gamma \right) + \varepsilon_{i}$$

- Alternative measure of performance:
 - Altman's distance to default
- What happens if smaller firms are included?
- Regional differences
 - do local financial conditions matter?
- Tables 9-13 may be easier to read as graphs