

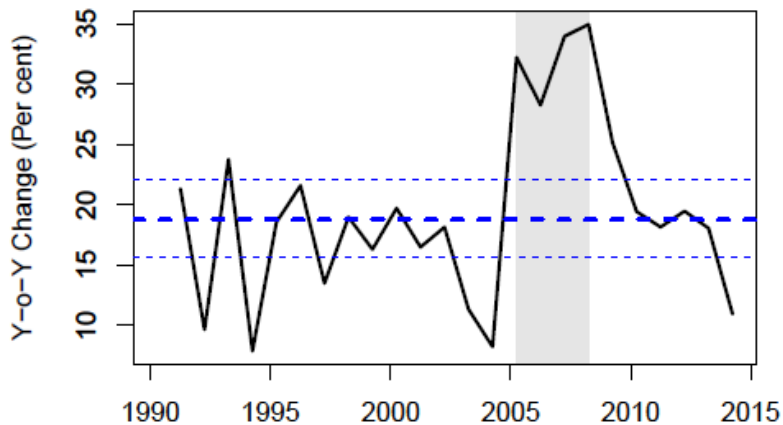
# Comments on The anatomy of the Indian credit boom of 2004-2008

Ugo Panizza

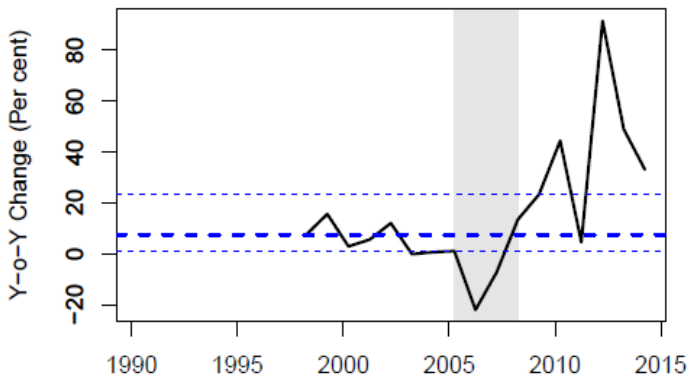
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- Over 2004-2008 industrial credit rose 2.61 times
  - Credit to infrastructures and construction rose 4 times
- Biggest bank credit boom in India in 25 years
- In 2013 we start observing indicators of bank distress (bad assets)
- Is this because of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

# Credit boom



# Stressed assets



- 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 happened 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

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



- What if we use interactions?

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

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

$$PERF_i = b_i (\alpha + \beta INFR_i + \delta CONST_i + X_i\Gamma) + \varepsilon_i$$

- 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