

# India @75: Replete with Contradictions, Brimming with Opportunities, Saddled with Challenges

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# In a nutshell...

- Contradictions

- Stock market vs real economy
- Urban/formal vs rural/informal
- Goods inflation
- Cyclical convergence with the global economy
- Bankruptcy resolutions

- Opportunities

- Start-up India
- Digital India
- FinTech in MSME lending
- FDI flows
- Banking system health

# Is India ready for China+1 pivot of the world?

- Challenges

- High tariffs
- Rising industrial concentration
- Twin deficits
- Persistent core inflation
- Skilling gaps and declining female labor force participation

- Proposals (Industrial Balance)

- De-tariff, reduce protectionism
- Dismantle conglomerates OR Gracefully reduce concentration
- Speed-up, strengthen bankruptcy “Living wills” for conglomerates
- (Macro) Achieve fiscal and inflation targets
- (Labor + Skilling) Eliminate agri subsidies, Boot camps, Magnet schools, and CSR for female literacy, skilling, childcare

# Scope of Inquiry in India's Industrial Concentration

- Joint work with Rahul Singh Chauhan, U. Chicago Booth School of Business
- Trends in aggregate market power in India's non-financial sector for the period 1991-2021
  - Using firm balance sheet data from the *Centre for Monitoring the Indian Economy's Prowess Dx database*, we document trends in industrial concentration measured through firms' annual sales and assets
- Which sectors are driving the trends?
  - Using data from *Prowess Dx*, we study the forces driving concentration including mergers and acquisitions data
- How is industrial concentration impacting industry-wide markups?
- Implications for price stickiness and persistent above-target inflation?

# Table 1: Variable Definitions

| Variable    | Description                                                                                                                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Top-5       | Industry Groups ranked 1 <sup>st</sup> to 5 <sup>th</sup> by Assets or Sales across all Non-financial Industries <u>in a given year</u> (results are robust to defining Top-5 within each sector in a given year and are available upon request) |
| Big-5       | Top-5 Industry Groups by Assets in the Non-Financial Sector <u>in 2021</u> . They are: Reliance (Mukesh Ambani) Group, Tata Group, Aditya Birla Group, Adani Group and Bharti Telecom                                                            |
| Big-6-10    | Industry Groups ranked 6 <sup>th</sup> to 10 <sup>th</sup> by Assets in the Non-Financial Sector in <u>2021</u>                                                                                                                                  |
| Top-5 Share | Share of Top-5 Firms' Assets or Sales across all Non-financial Industries                                                                                                                                                                        |
| M&A Deals   | Deals involving Mergers or Acquisitions of Shares by Indian firms of domestic Indian firms                                                                                                                                                       |
| Markup      | Firm-wise Markups are estimated as per DeLoecker, Eckhout and Unger (2020) <sup>1</sup> method. Measures the wedge between a variable input's expenditure share in revenue and that input's output elasticity.                                   |

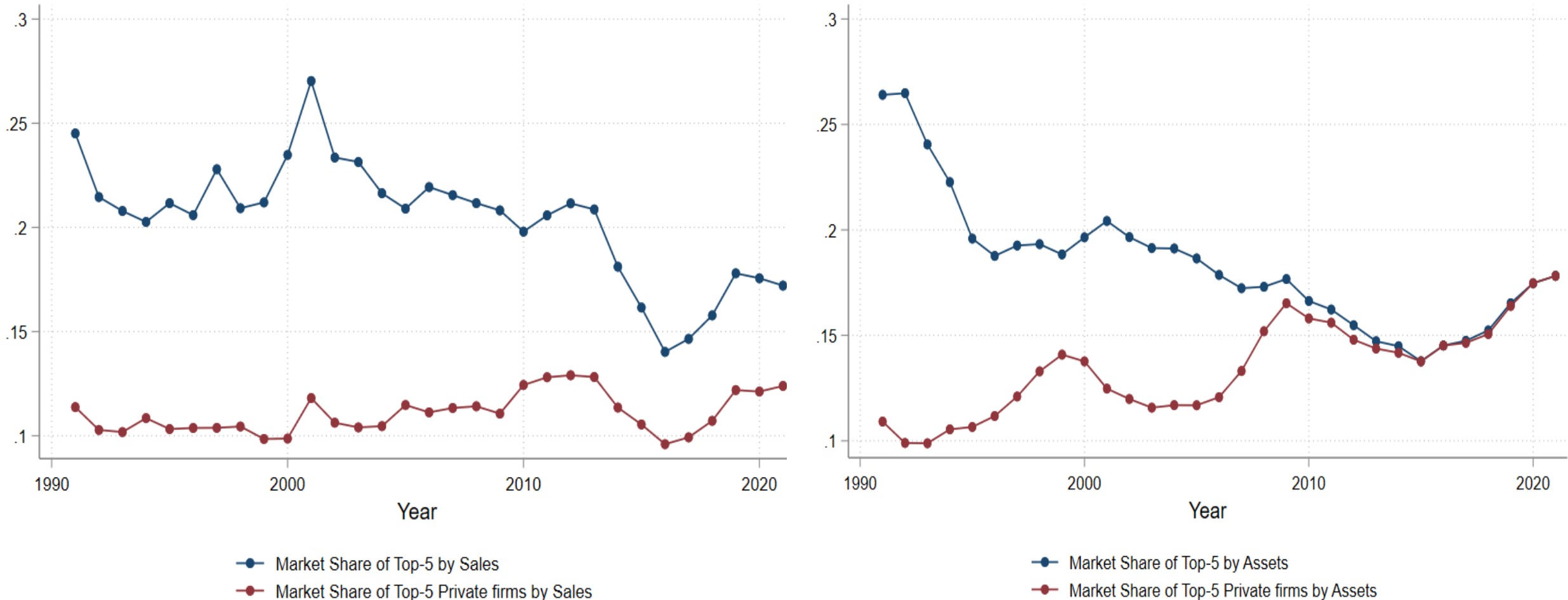
<sup>1</sup>De Loecker, Jan, Jan Eeckhout, and Gabriel Unger. "The rise of market power and the macroeconomic implications." *The Quarterly Journal of Economics* 135, no. 2 (2020): 561-644.

# Trends in Industrial Concentration in India

- Industrial concentration across sectors was falling post-1991 liberalization as industries were de-reserved for the private sector and public sector enterprises were privatized or divested
- As a result market shares of public-sector enterprises declined and gave way to more private-sector competition
- Naturally, the market shares of private-sector firms rose in parallel
- However, there has been a recent rise in market shares of the private sector driven by consolidation by large conglomerates
- This rise of private-sector conglomerates is no longer reducing the overall concentration, in fact increasing it, and is thus not just at the expense of public-sector firms but also at the expense of other private-sector firms

# Shares of Top-5 Groups Across Sectors

The figures plot the market share of the Top-5 firm groups by sales and assets in the overall non-financial sector in a given year<sup>2</sup>. The asset share graph points to the recent rise being driven by Top-5 private sector firms.

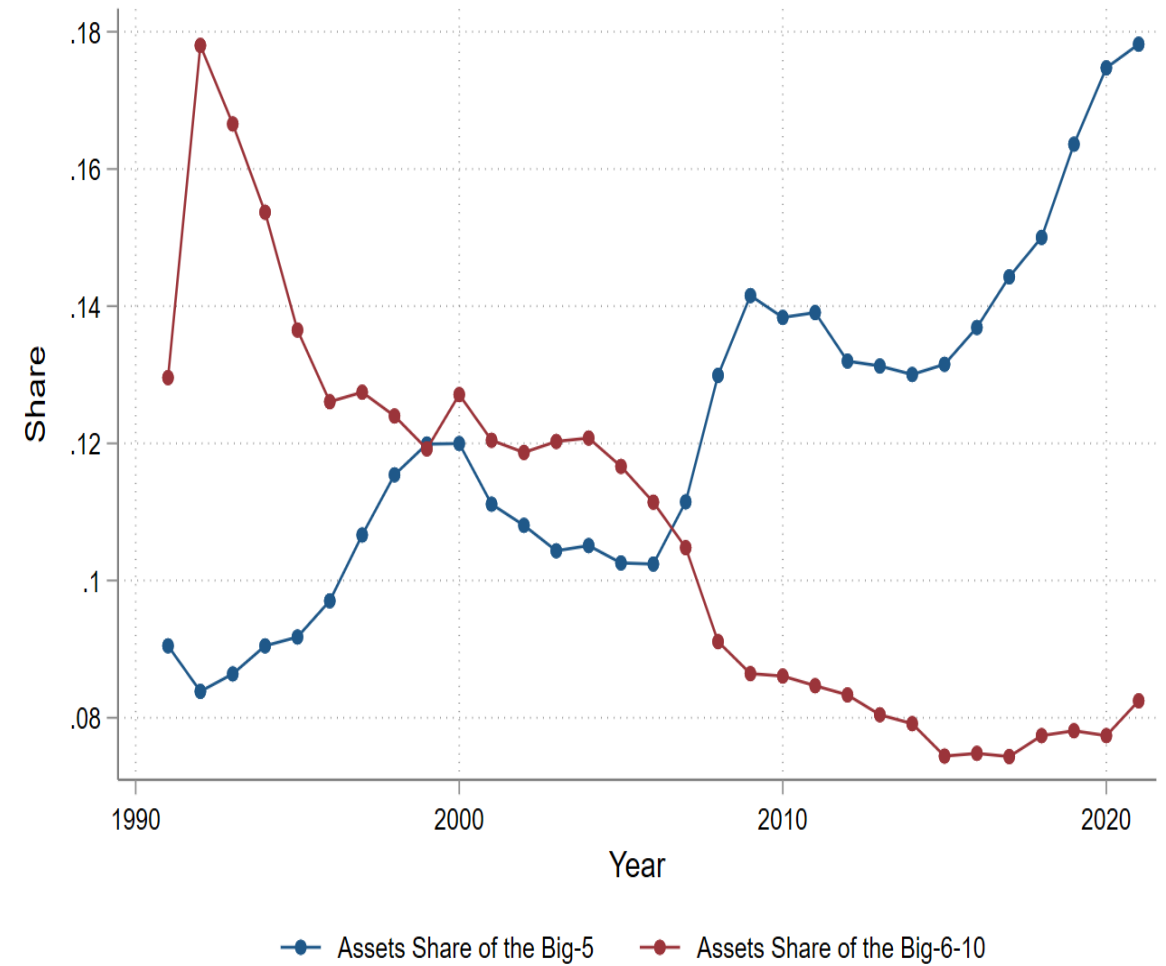
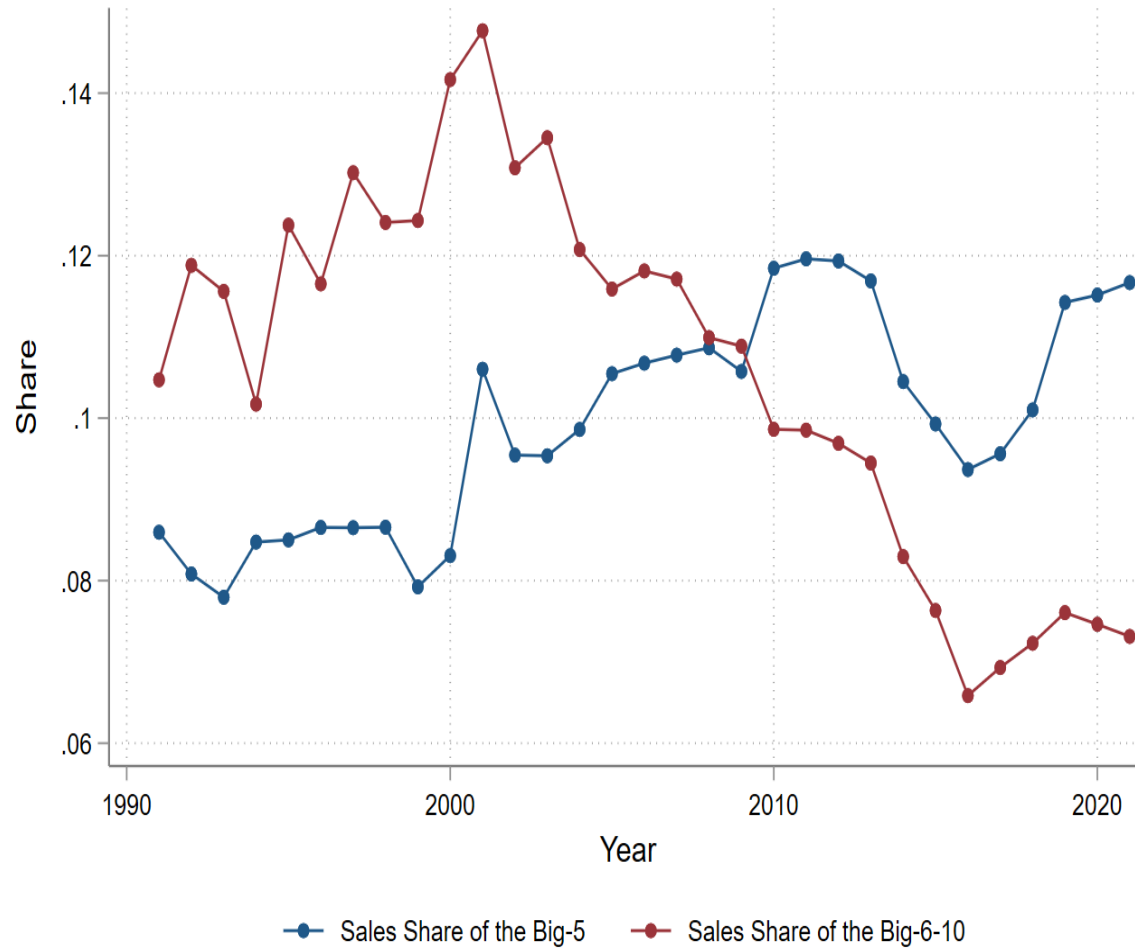


<sup>2</sup>Patterns are similar if the Market Share of Top-5 is defined as the cross-sector average in a year of the market share of Top-5 firms within each sector.

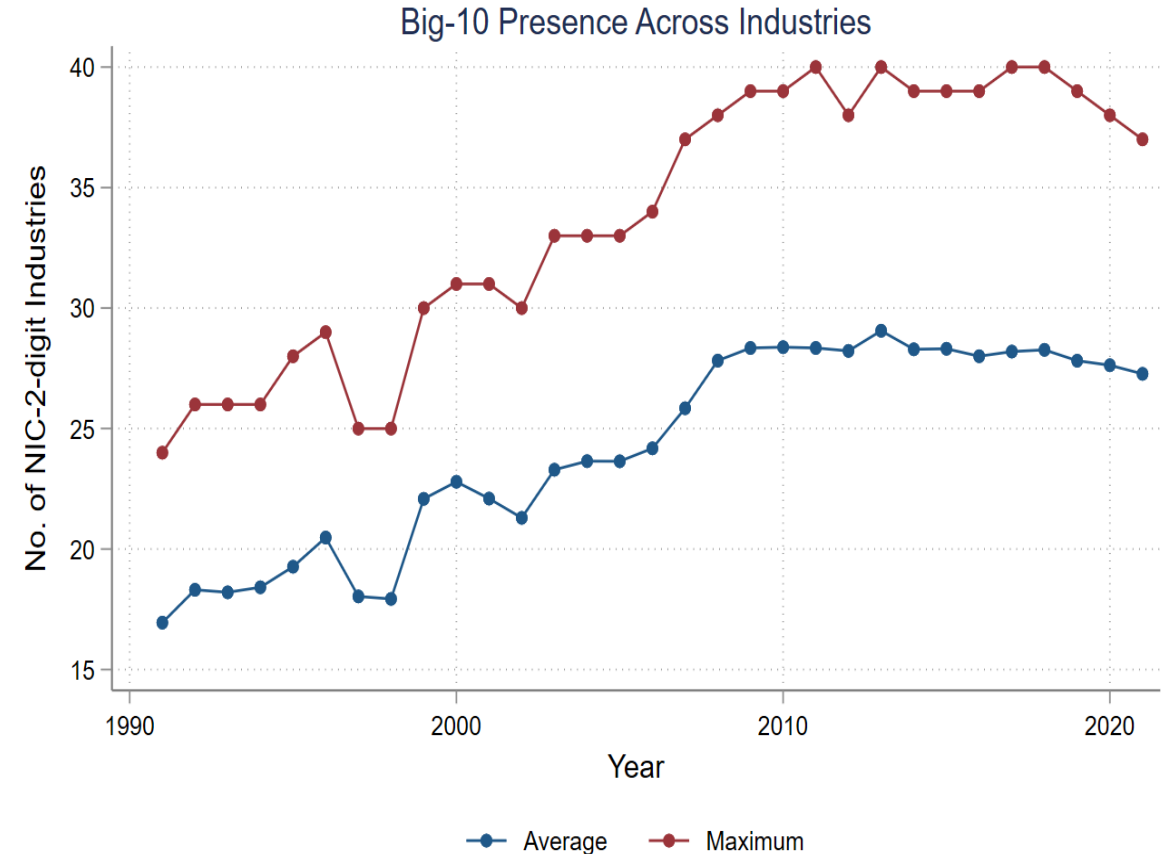
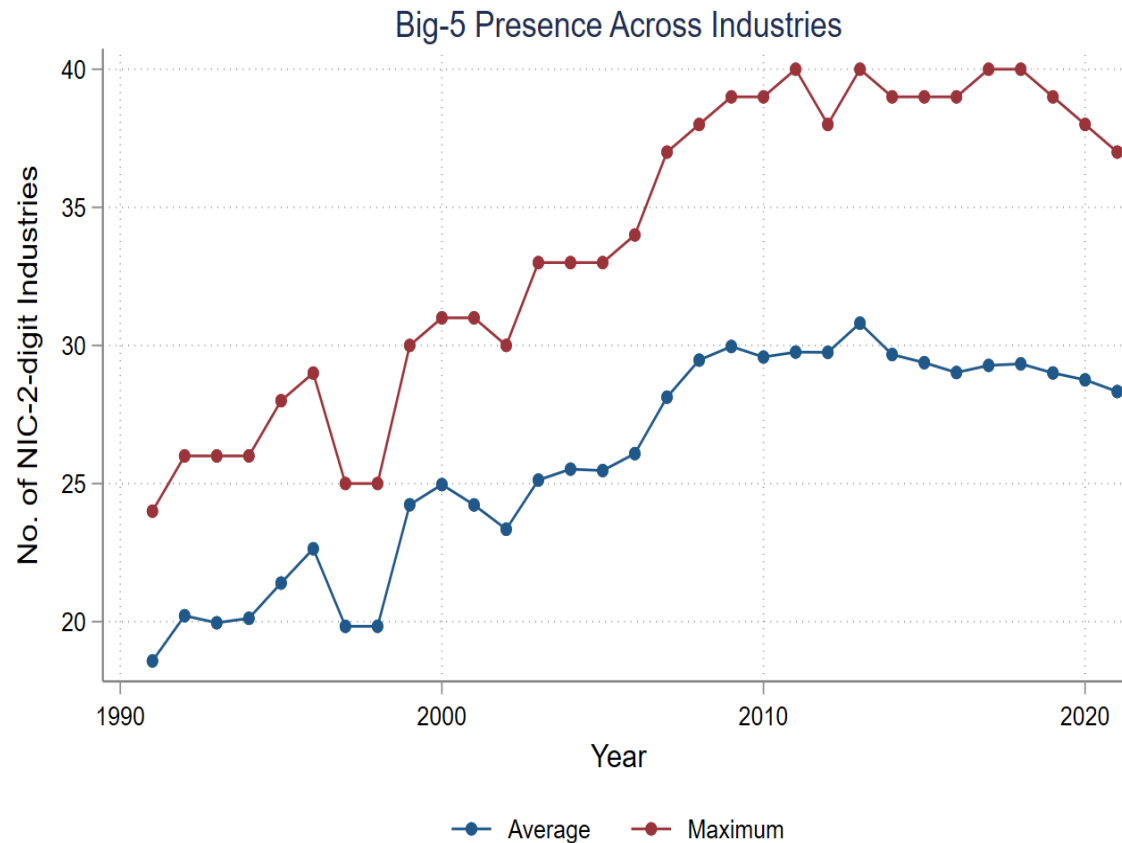
# Who is gaining market share?

- To further investigate the cause of increasing market concentration, we look at the rise in market share of the large private sector conglomerates over time
- We find that the share in total assets of the non-financial sectors owned by the Big-5 business groups has risen from 10% in 1991 to nearly 18%
  - Top-5 Industry Groups by Assets in the Non-Financial Sector in 2021: Reliance (Mukesh Ambani), Tata, Aditya Birla, Adani and Bharti Telecom
- Interestingly the share of the next big five (Big 6-10) business groups has fallen from 18% in 1992 to < 9% in the non-financial sectors

# Share of the Big-5 is rising at the expense of Big-6-10



# Breadth-first, depth-next strategy of expansion: Group-wise presence across industries

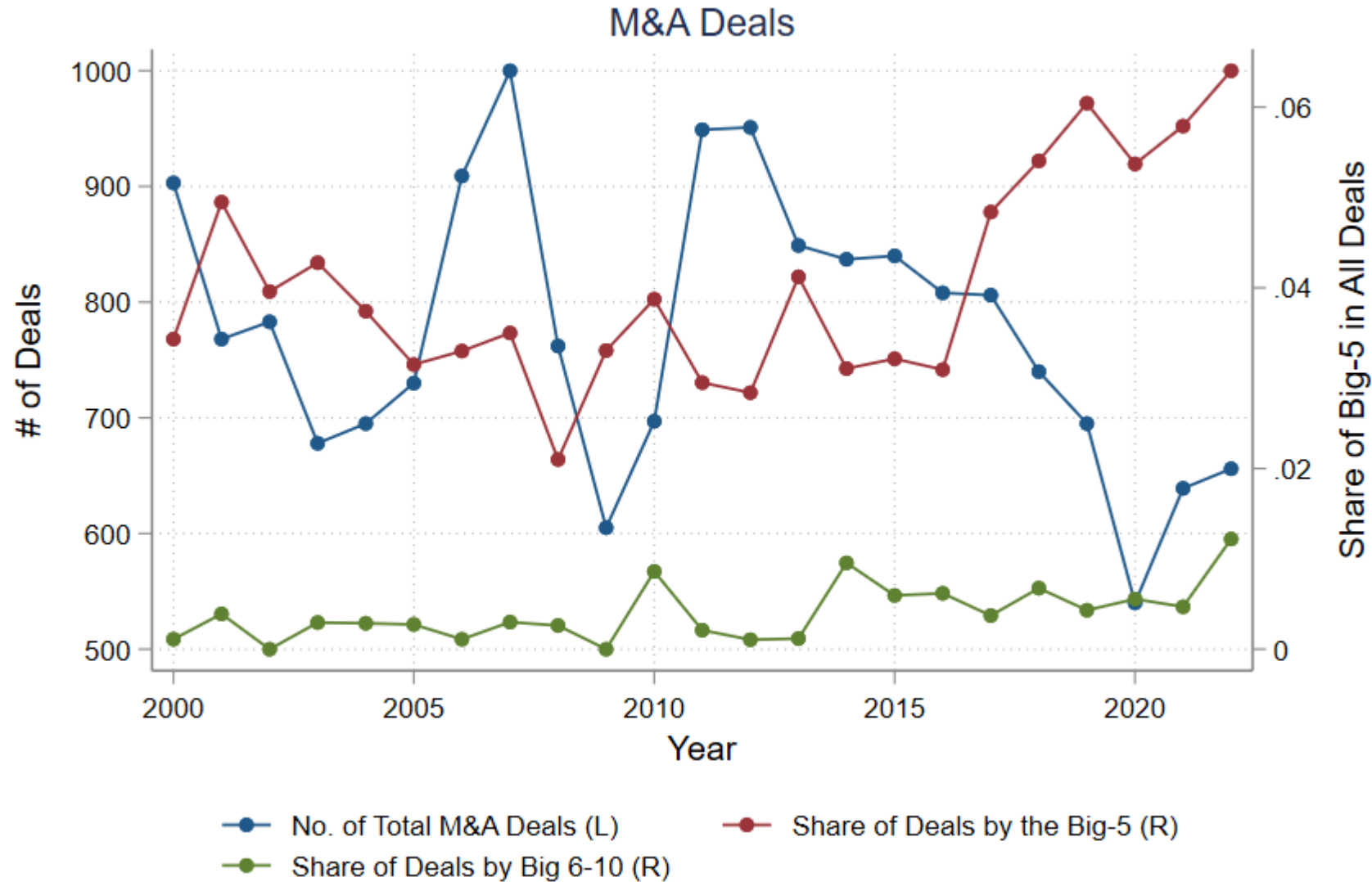


The presence of Big-5 business groups across industries has also risen from on average 20 NIC-2 industries in 1992 to 26 sectors. The maximum coverage (unique number of industries where at least one of the big-5 firms are present) has also risen from 24 to 37 groups.

# Channel of Increasing Concentration: M&A activity

- We measure the number and share of mergers and acquisitions where any of the Big-5 firms were the acquirers
- Aggregate number of M&A deals has dropped since 2011
- Share of M&A deals by the Big-5 has doubled from under 3% in 2015 to nearly 6% in 2021
- However such an increase is not seen in the next five biggest groups
- These results are robust to excluding M&A attributable to the Insolvency and Bankruptcy Code resolutions (starting in 2017)

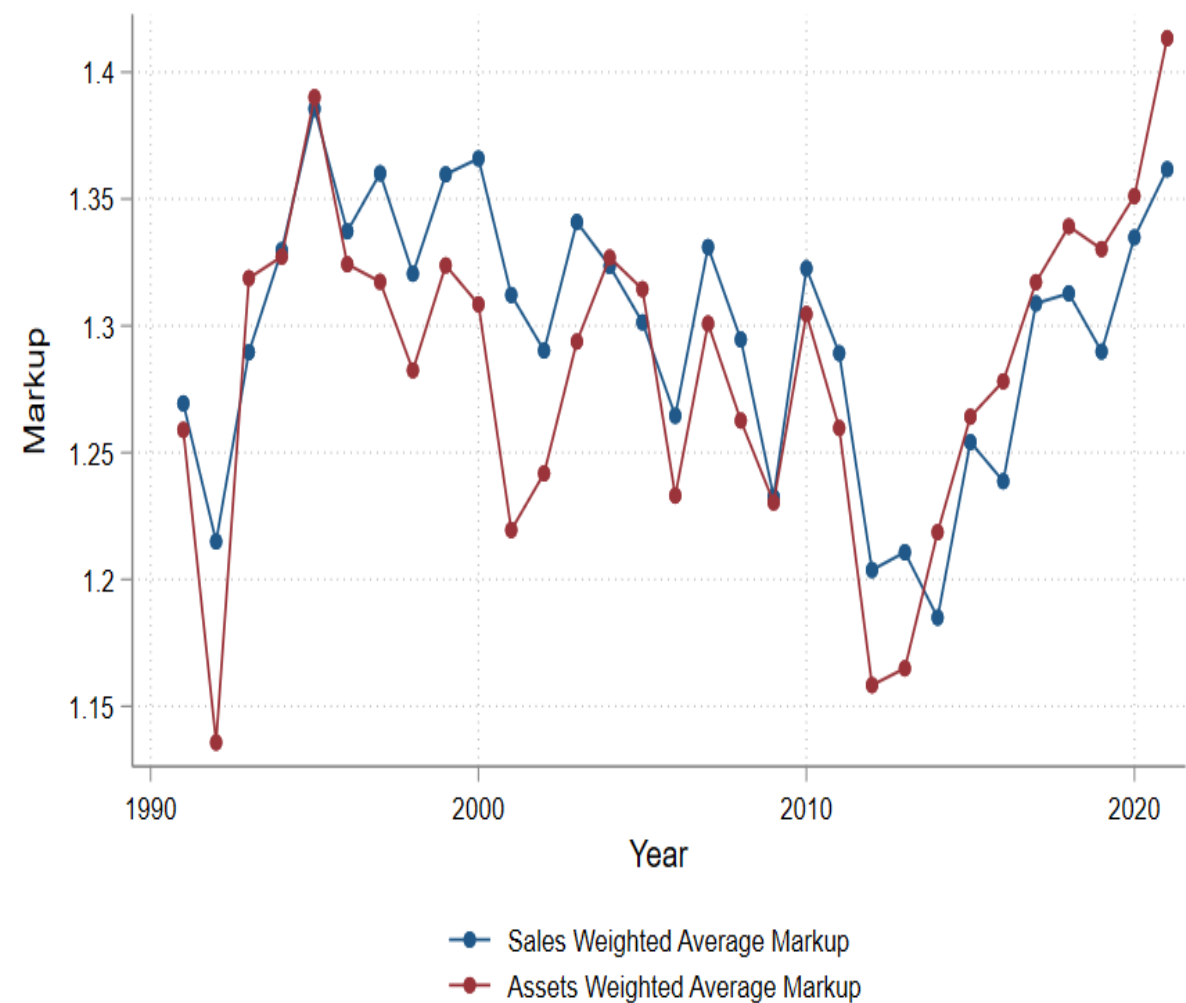
# M&A Deals: Big 5 versus the Big 6-10



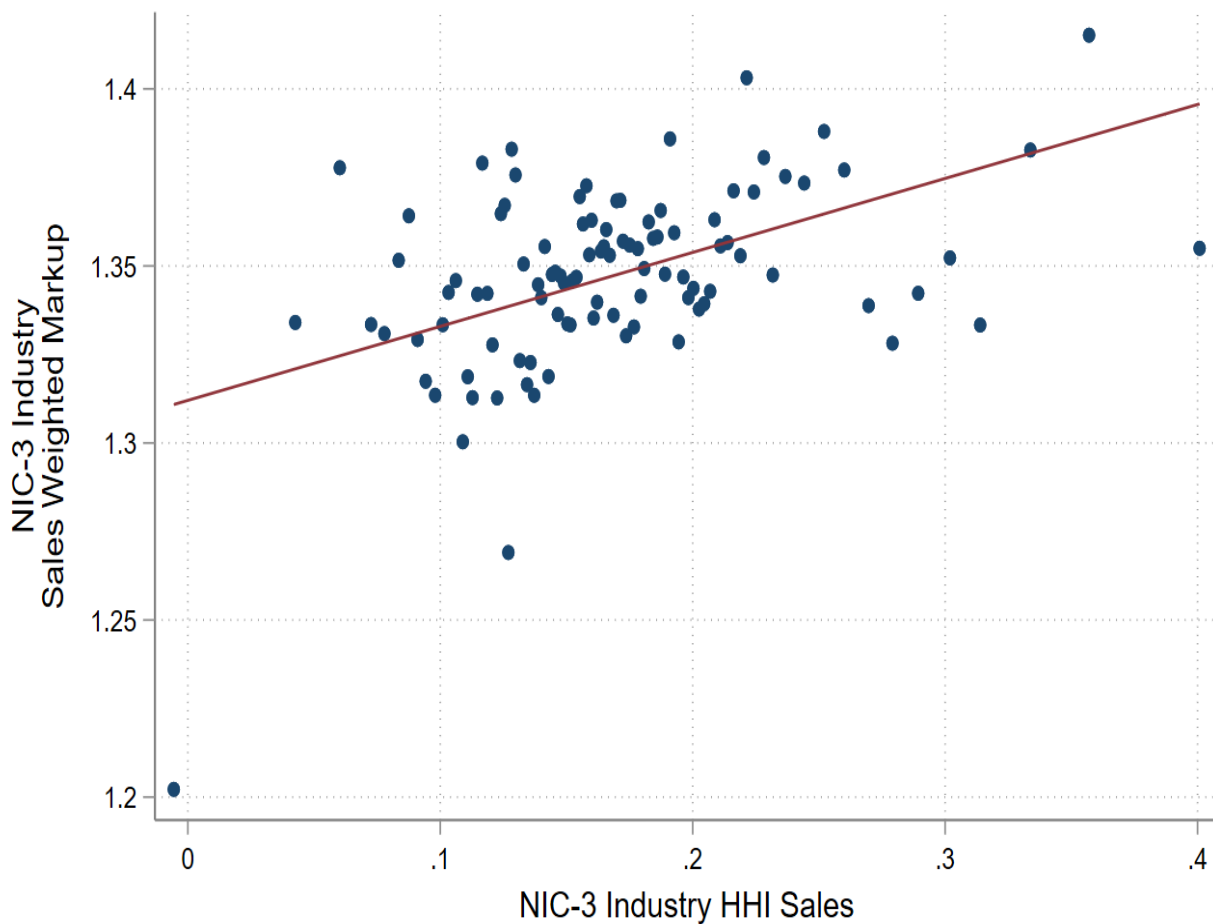
# Effect of Rising Concentration: Rise in Markups

- Markup: If input cost changes by 1%, how much does product price change by?
  - Using De Loecker et al. (2020), we estimate firm-wise markups for Indian firms
- With the rising industrial concentration since 2015, we also see a corresponding rise in aggregate sales-weighted markups
  - Markups kept rising even when capacity utilization was low during the pandemic
  - The rise in market power is correlated with the rise in markups and is robust to controlling for industry and year-fixed effects (see Appendix I)
- Big-5 markups show a persistent and substantial wedge relative to markups of industry peers, but not Top-5
  - Big-5 pricing power due to overall size, supply-chain dominance, political patronage, ...
- This has a perverse effects on producers' prices, as market power of Big-5 feeds into wholesale price inflation (see Appendix I)
  - Source of persistent “core” inflation?

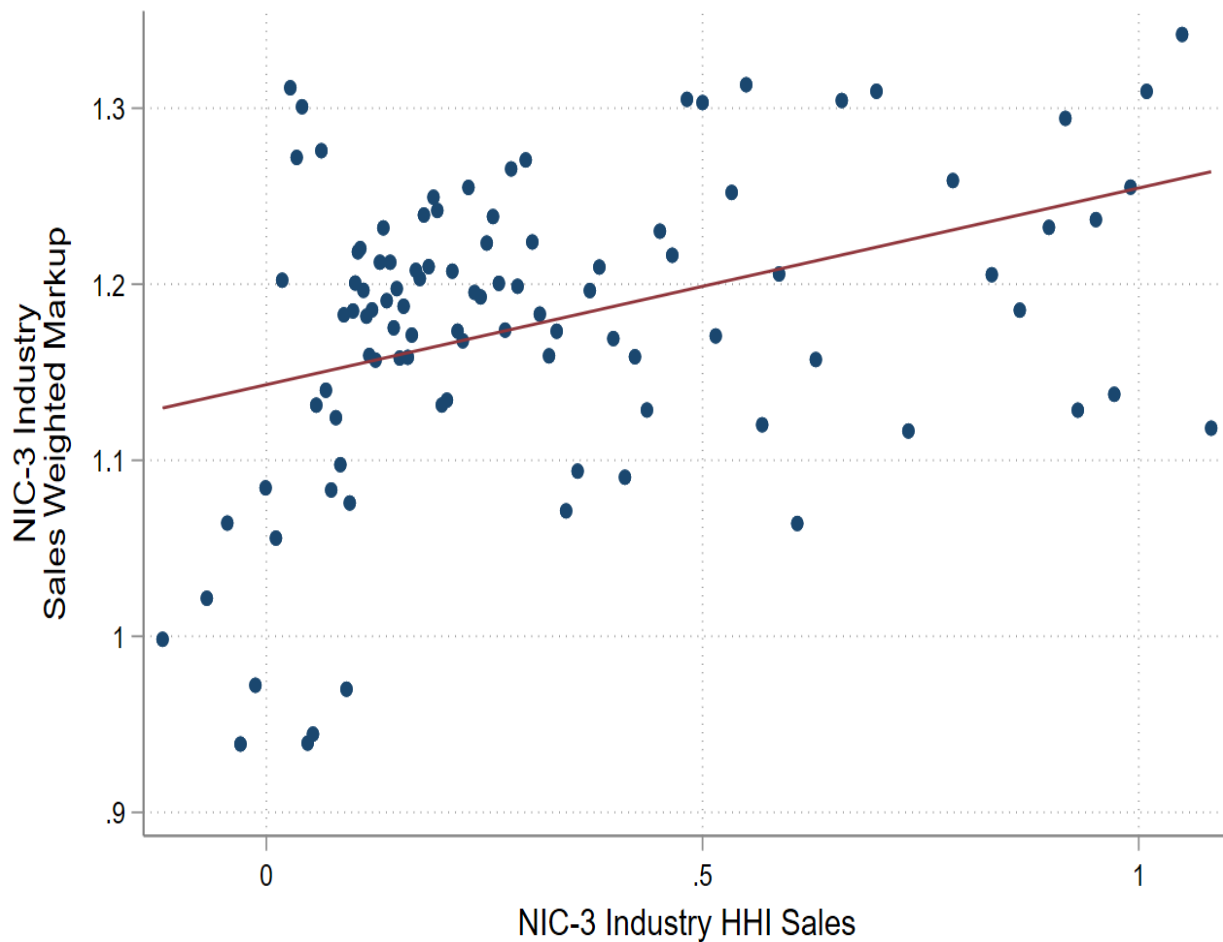
# Reversal seen in Markups



# Higher Concentration is correlated with Higher Markups



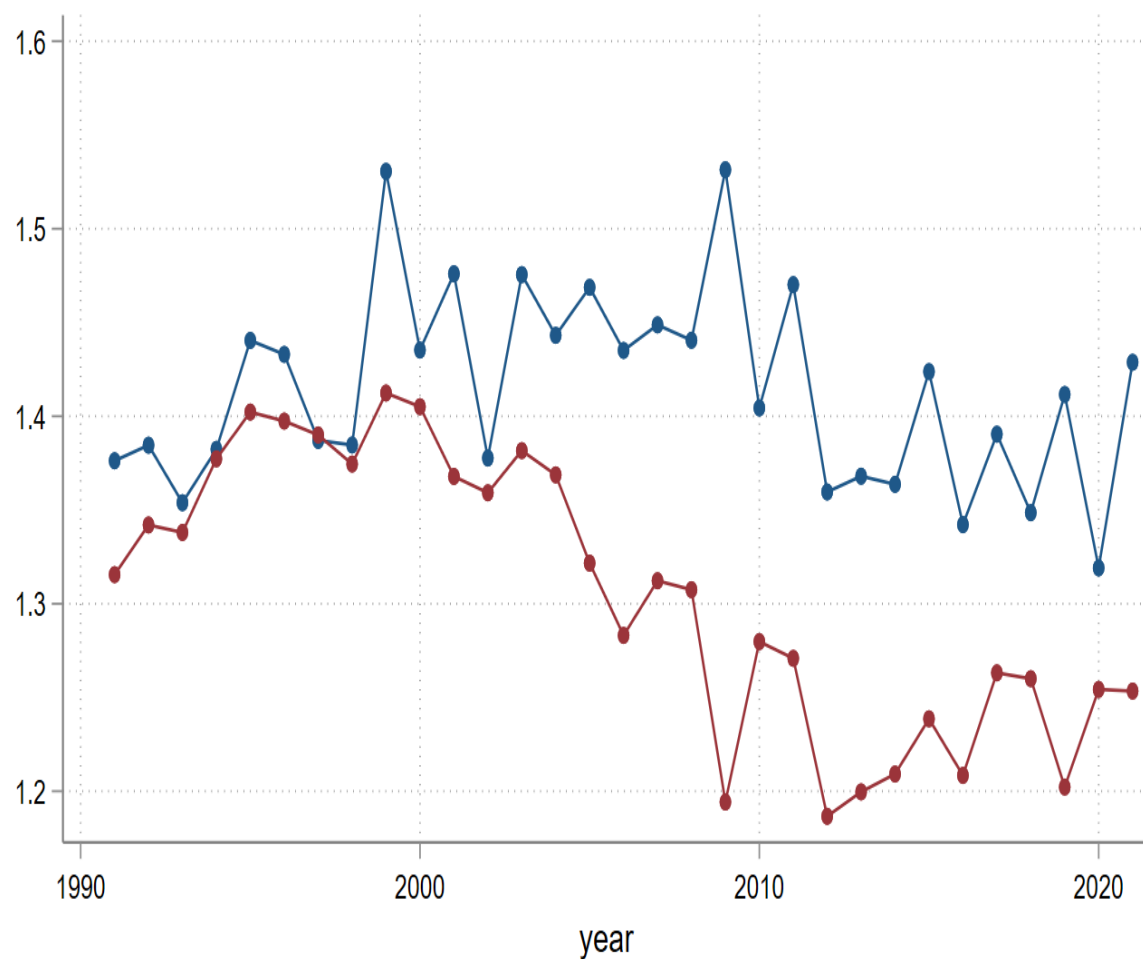
Controlling for Industry and Year Fixed Effects



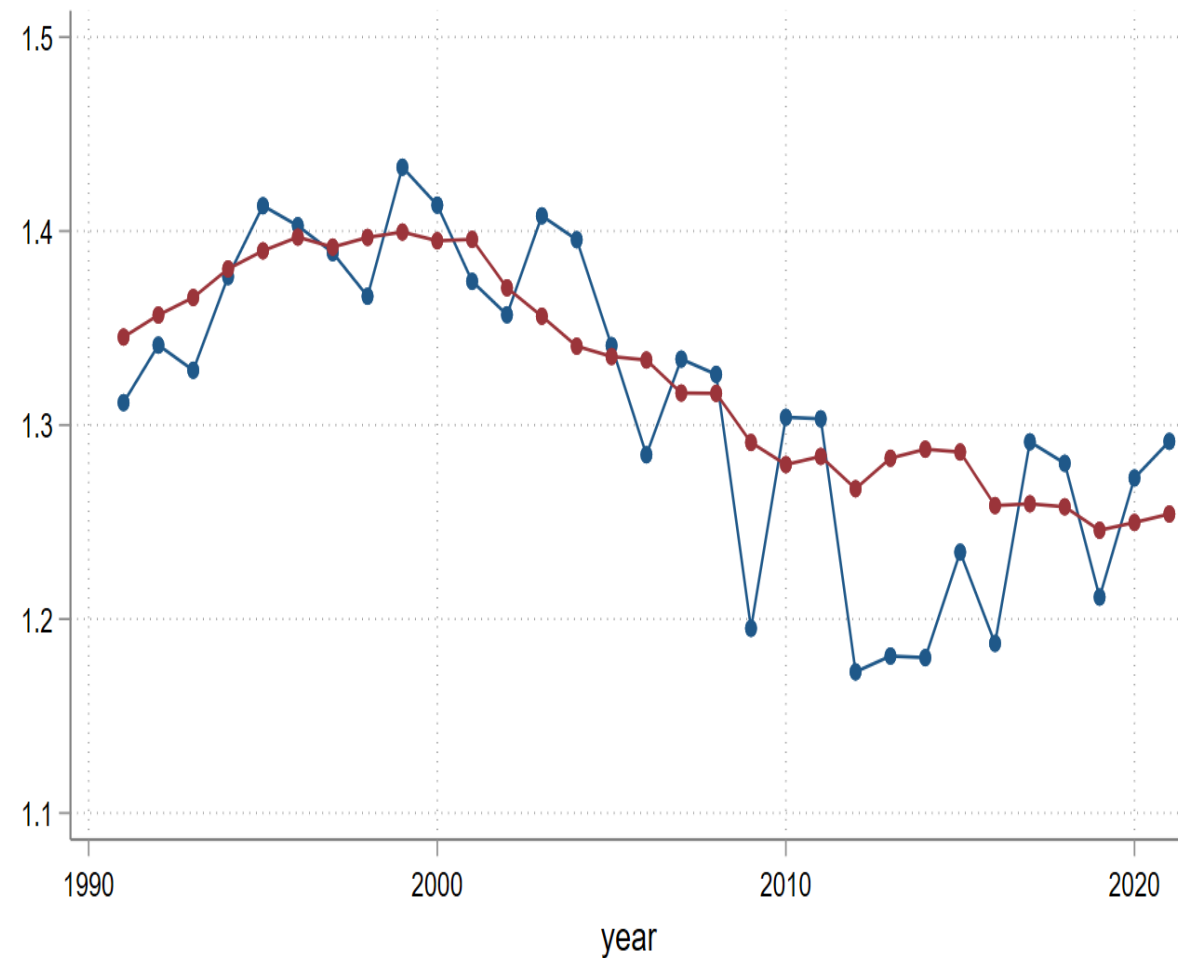
Controlling for Year Fixed Effects

Scatter points represent bins of 1/100<sup>th</sup> of the data

# Diversion in Industry-adjusted Markups of Big-5 vs. Rest

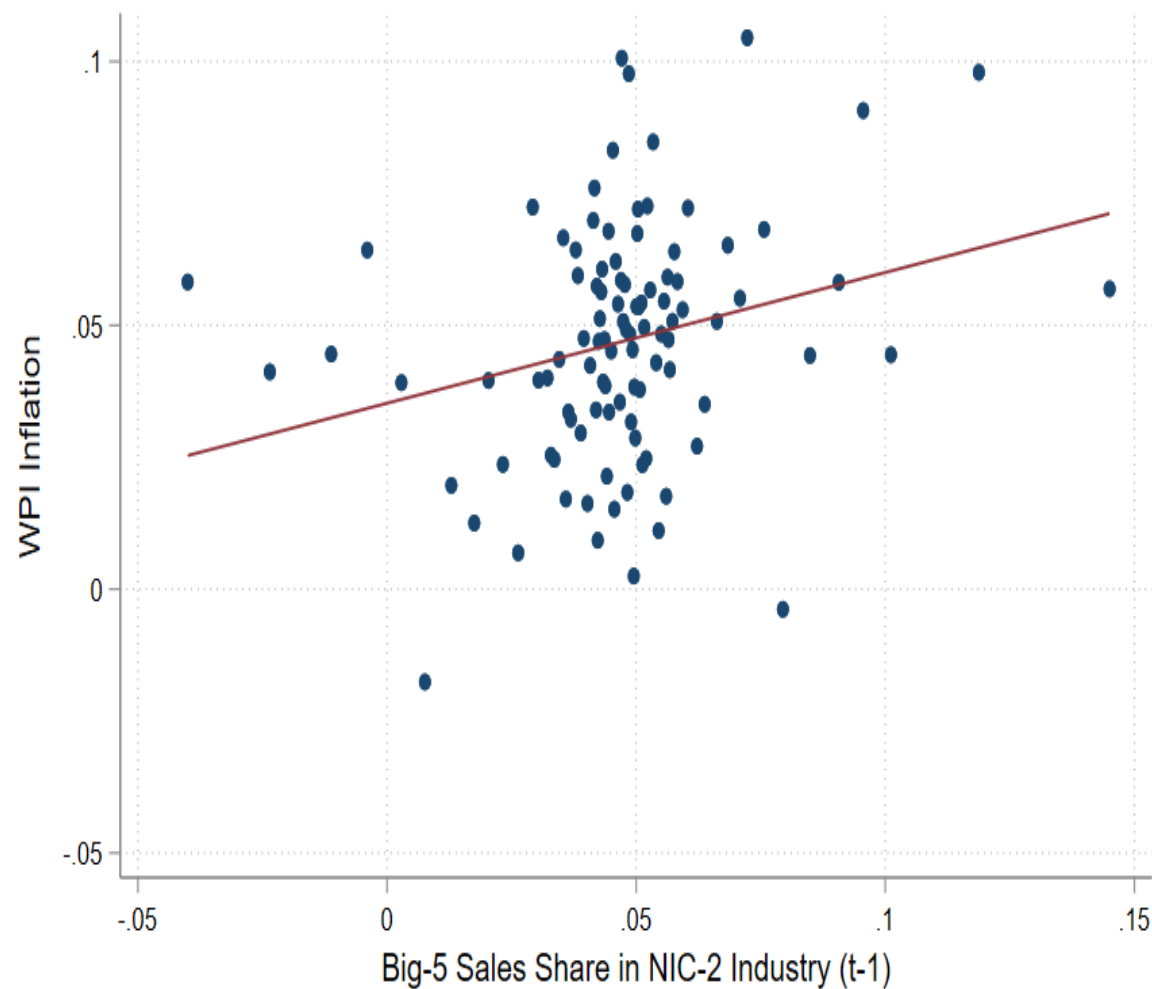


— Industry-adjusted Markup of Big-5 — Industry-adjusted Markup of Non-Big-5

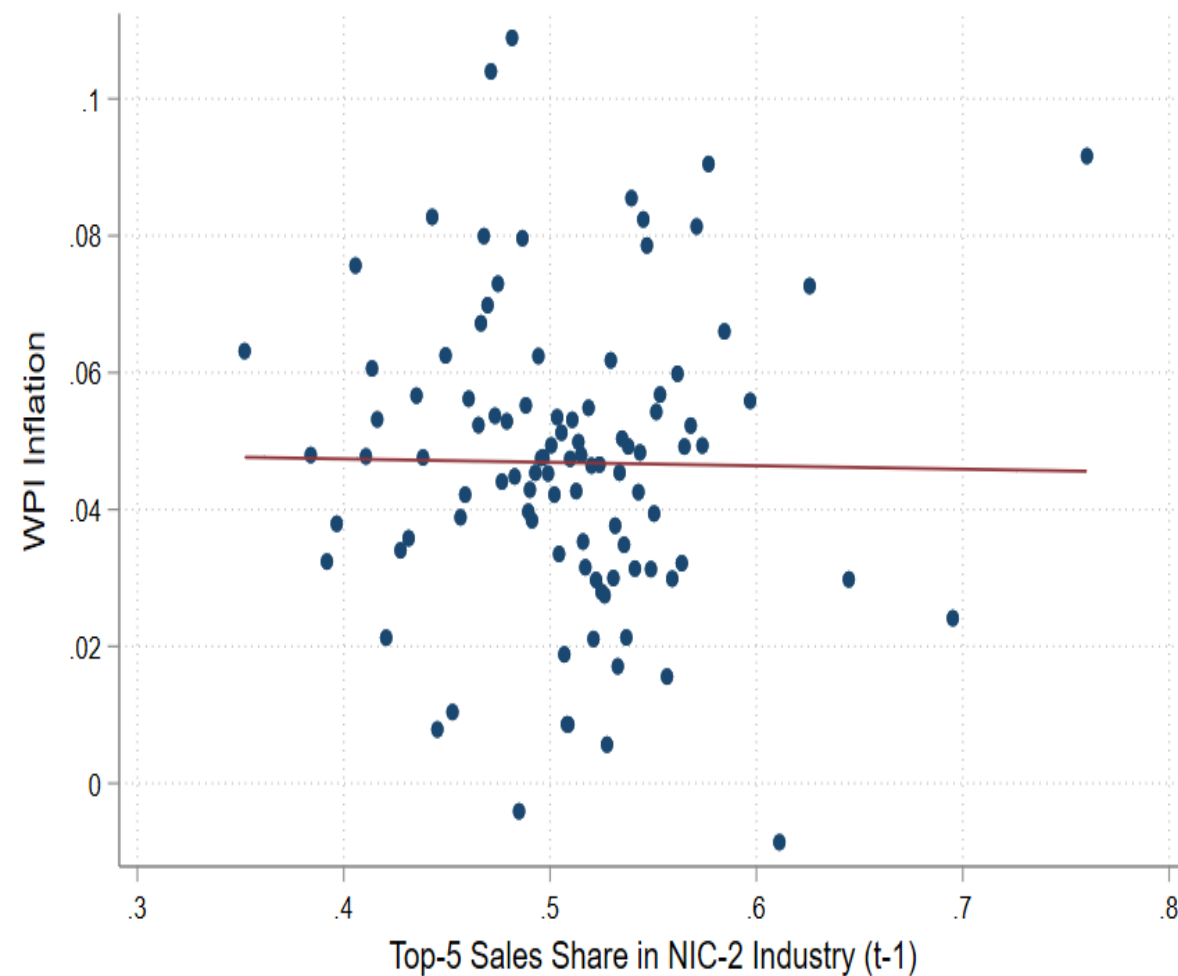


— Industry-adjusted Markup of Top-5 within NIC-3 Sector by Sales  
— Industry-adjusted Markup of Non-Top-5 within NIC-3 Sector by Sales

# WPI Inflation versus Big-5 and Top-5 (within sector) Sales Share



Includes controls for Input Prices Growth, Industry fixed effects and Year fixed effects



Includes controls for Input Prices Growth, Industry fixed effects and Year fixed effects

# Why has concentration risen since 2015?

- A conscious industrial policy to promote “national champions” by an increasingly centralized form of governance
  - Declining financial strength and execution role of states
- Old model of “foot soldiers”: Earlier policy of nationalizing banks and owning state-owned companies has failed
- New model of “army generals”: Deliver government-desired projects and infrastructure via (preferential allocation to) large conglomerates
  - Advantages: Bypass bureaucracy, allow predation, strategic timing of delivery
- Marketed as building global but indigenous conglomerates
  - Heavily protected by tariffs and factor constraints for new entrants

# Alternate Interpretation: Learning from Korea?

- Is India emulating the national-champion policy of *Chaebols* in South Korea?
- However, they did not protect conglomerates with high tariffs
  - India ranks 4<sup>th</sup> highest in the world in tariffs (especially in traditional industries)
- Conglomerates in S Korea were competing on a level-playing field with international counterparts
- Whereas, most of India's Big-5's revenues are domestically sourced
- Korea also took supply-side or factor market reforms in land, labor, power and financial sector to aid industrial development
- Without such reforms, risks from rising concentration more to the downside?
  - Besides higher product price markups: Crony capitalism, key (wo)men/family risk, too big to fail, lack of entry and creative destruction

# Proposals to Restore Industrial Balance

- De-tariff
  - Lower tariffs to match those of China or even further, over a three-year period
  - Including in agriculture where tariffs are as high as 35%!
  - Make transparent the allocation of production-linked incentive (PLI) allocations
    - PLI a form of tariff to domestic manufacturing companies on incremental sales
- Reduce industrial concentration
  - “Trust buster” approach via the competition commission
  - Require 80% ownership of subsidiaries for tax and loss-offsetting benefits
- Ensure Insolvency and Bankruptcy Code can handle conglomerates
  - Loan covenants in contracts to set trip-wire points for pre-packaged bankruptcies
  - Are large conglomerates are likely too-big-to-fail or too-systemic-to-fail?
  - Like SIFIs, require conglomerates to prepare audited “living wills”

# Appendix I: Econometric analysis of markups, rising concentration, and inflation

# Markup Regressions

(Big-5 markup increases in sales share, but not so for Top-5)

|                                        | (1)                    | (2)                    | (3)                    | (4)                    |
|----------------------------------------|------------------------|------------------------|------------------------|------------------------|
| Firm-wise Markup                       |                        |                        |                        |                        |
| NIC-3 Sales Share                      | -0.0688<br>(0.0490)    | 1.031***<br>(0.0620)   | -0.0471<br>(0.0313)    | 0.0576***<br>(0.0138)  |
| Top-5 by Assets                        | 0.0460***<br>(0.00302) |                        |                        |                        |
| Top-5 by Assets ×<br>NIC-3 Sales Share | 0.00851<br>(0.0497)    |                        |                        |                        |
| Top-5 by Sales                         |                        | 0.0363***<br>(0.00289) |                        |                        |
| Top-5 by Sales ×<br>NIC-3 Sales Share  |                        | -1.068***<br>(0.0616)  |                        |                        |
| Private Firm                           |                        |                        | 0.0423***<br>(0.00318) |                        |
| Private Firm × NIC-<br>3 Sales Share   |                        |                        | 0.173***<br>(0.0339)   |                        |
| Big-5                                  |                        |                        |                        | 0.0245***<br>(0.00619) |
| Big-5 × NIC-3 Sales<br>Share           |                        |                        |                        | 0.127***<br>(0.0458)   |
| Constant                               | 1.351***<br>(0.000774) | 1.348***<br>(0.000820) | 1.311***<br>(0.00310)  | 1.352***<br>(0.000697) |
| Observations                           | 316050                 | 316050                 | 316050                 | 316050                 |
| R-Sq                                   | 0.162                  | 0.162                  | 0.162                  | 0.161                  |
| Fixed Effects                          | NIC3 & Year            | NIC3 & Year            | NIC3 & Year            | NIC3 & Year            |

# Markup Regression (quantitative magnitude)

|                                        | Mean | Median | SD   | Count  |
|----------------------------------------|------|--------|------|--------|
| Big-5 NIC-3 Digit Sales Share          | 4.2  | 0.5    | 11.3 | 5583   |
| Private Sector NIC-3 Digit Sales Share | 1.3  | 0.1    | 6.1  | 305331 |
| NIC-3 Digit Sales Share                | 1.5  | 0.1    | 6.7  | 316050 |

- A one standard deviation increase in the sales share of a private firm leads to a 0.7% higher markup (One SD Sales Share X Coeff = 6% \* 0.173) than the average markup (1.36)
- A one standard deviation increase in the sales share of a Big-5 firms leads to a 1.2% higher markup (One SD Sales Share X Coeff) = 10% X 0.158) than the average markup (1.36)
- In comparison, the effect is either not statistically different from zero for Top-5 firms by assets or even negative for top-5 firms by Sales

# Pass through of markups to inflation

- We regress NIC-2 digit industry change in producer prices (Wholesale Price Index) against the interaction of sales-weighted average markup of the NIC-2 industry and value-weighted growth in input prices
- We find that for every per cent growth in input prices, industries with higher markups face relatively large increases in prices

|                                                  | (1)<br>WPI Inflation     |
|--------------------------------------------------|--------------------------|
| Markup (Sales-weighted)                          | 0.0174<br>(0.0115)       |
| Growth in Input Prices                           | -0.00515***<br>(0.00178) |
| Markup (Sales-weighted) × Growth in Input Prices | 0.00459***<br>(0.00112)  |
| Constant                                         | 0.0271<br>(0.0166)       |
| N                                                | 675                      |
| r <sup>2</sup>                                   | 0.154                    |
| Year-FE                                          | Year-FE                  |

# Inflation versus Concentration: Big-5 or Top-5?

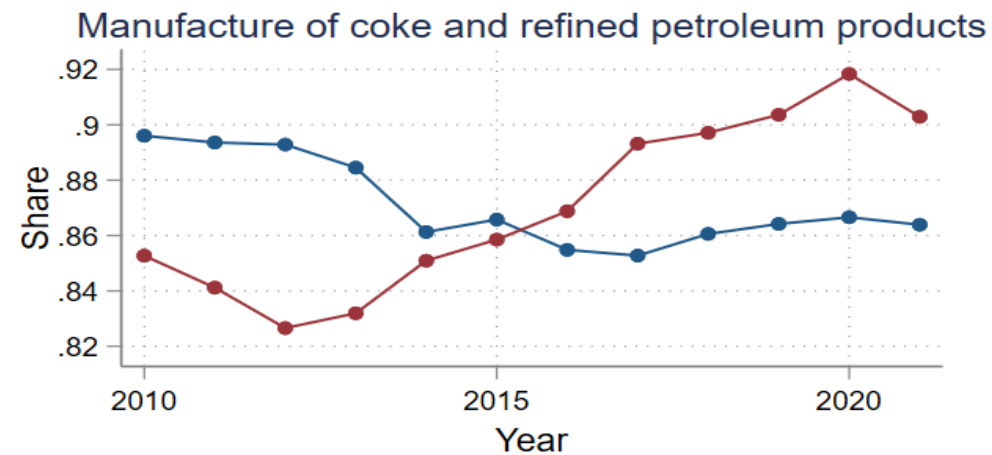
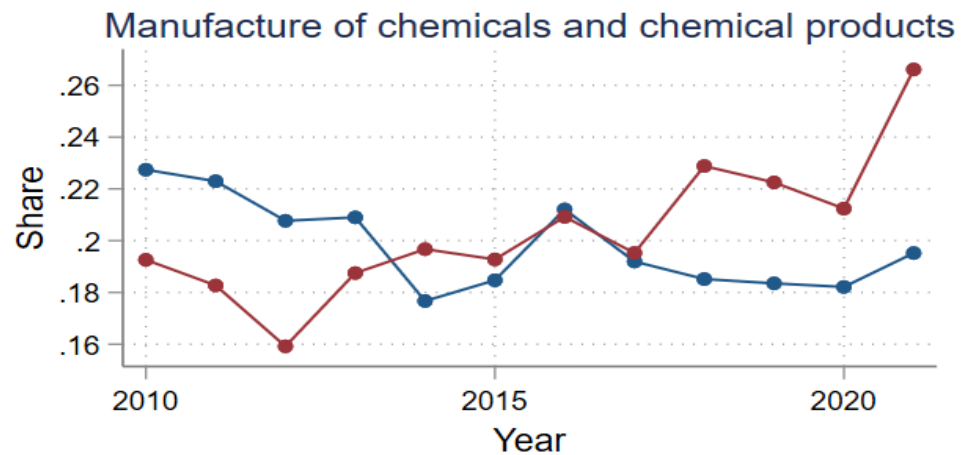
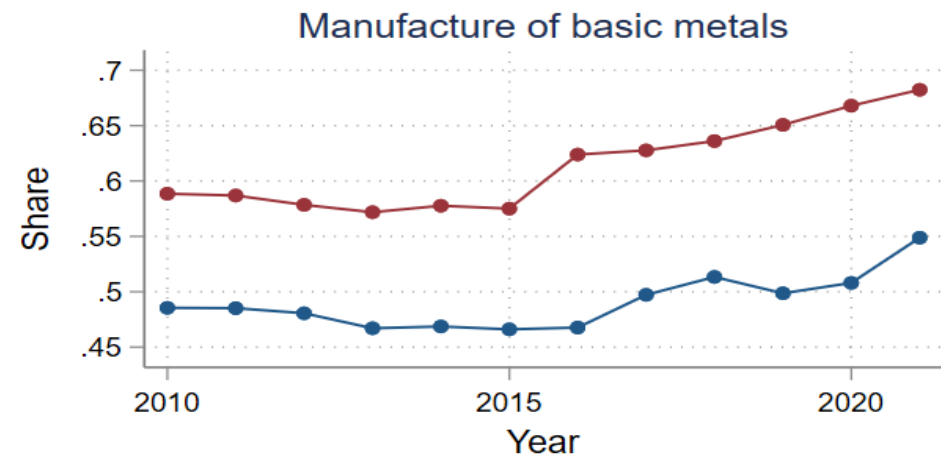
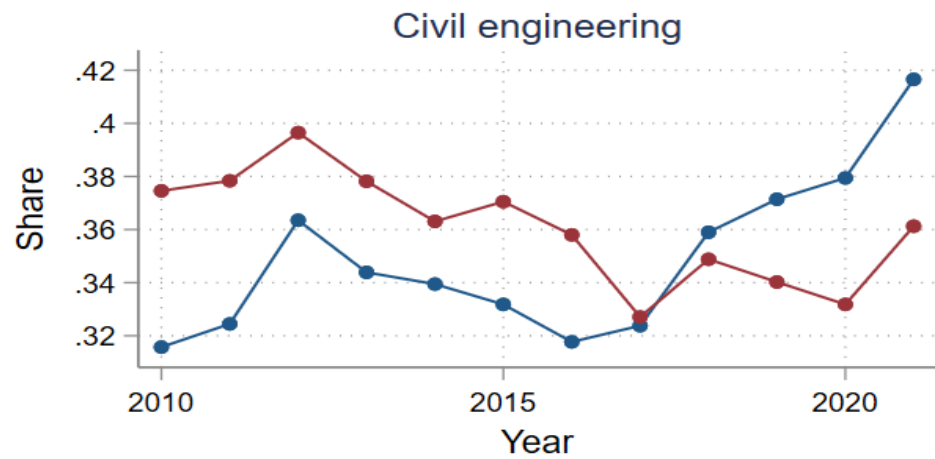
|                                  | (1)                                 | (2)                   |
|----------------------------------|-------------------------------------|-----------------------|
|                                  | Yearly Change in NIC-2 Industry WPI |                       |
| Big-5 Sales Share <sub>t-1</sub> | 0.267**<br>(0.127)                  |                       |
| Top-5 Sales Share <sub>t-1</sub> |                                     | -0.0220<br>(0.0552)   |
| Growth in Input Costs            | 0.00142<br>(0.000863)               | 0.00139<br>(0.000861) |
| Constant                         | 0.0375***<br>(0.00789)              | 0.0614*<br>(0.0296)   |
| N                                | 675                                 | 675                   |
| R-sq                             | 0.196                               | 0.192                 |
| Fixed Effects                    | NIC-2 & Year                        | NIC-2 & Year          |

## Appendix II: Industries driving the Rising Concentration results

# Industries contributing to rising concentration

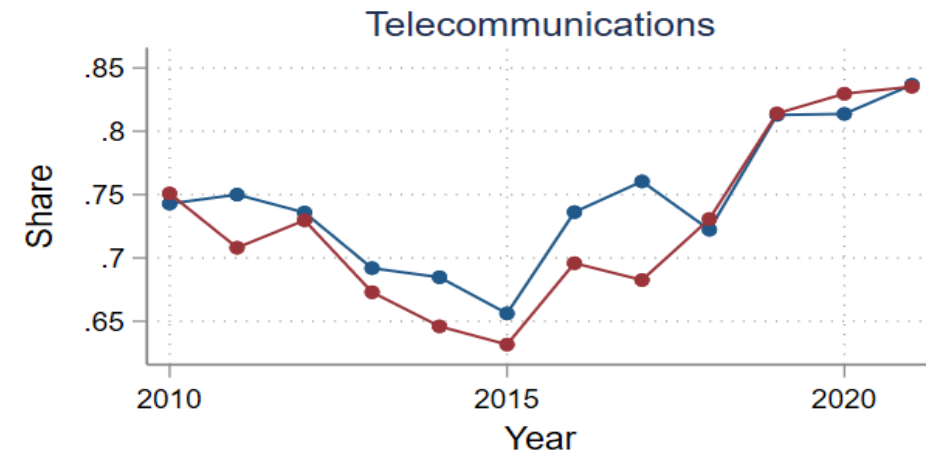
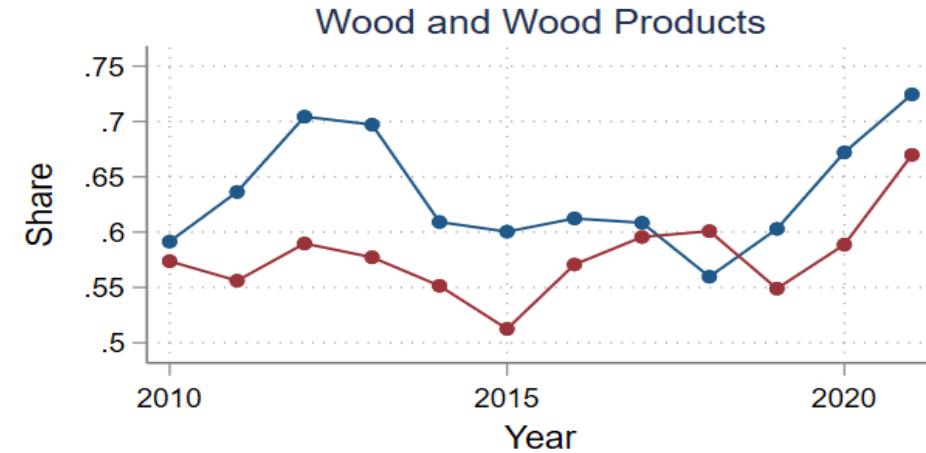
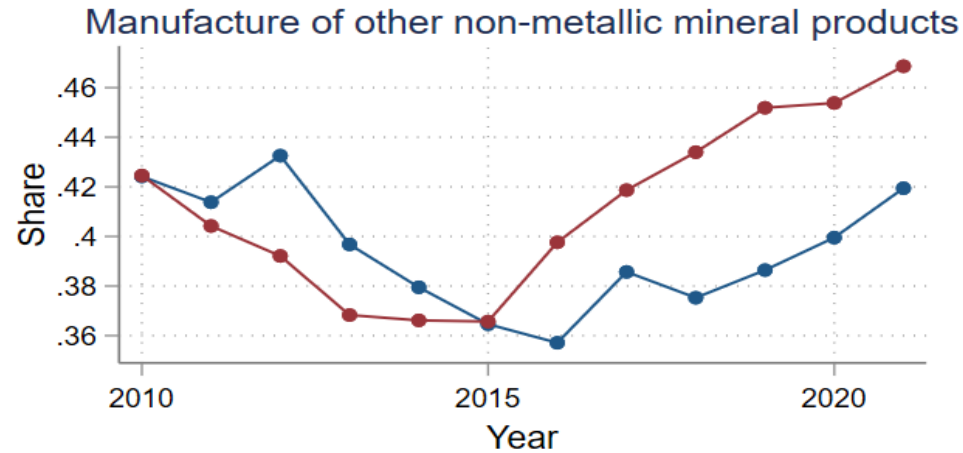
- The recent rise in market concentration is observed in traditional as well as new-age industries
- The share of Top-5 groups by sales in
  - Civil Engineering and Construction rose from 31% in 2016 to 42% in 2021
  - Telecommunications rose from 65% to over 84%
  - Retail trade sector also rose from under 44% to over 65%
- Similarly the share of Top-5 groups by Assets rose sharply by 2021 to
  - 68% in the Manufacturing of Basic Metals
  - 26% in the Manufacturing of Chemicals
  - 90% in the Manufacturing of Refined Petroleum and Coke
  - 47% in the Manufacturing of non-metallic mineral products which includes cement and other building materials

# Industries Contributing to Rising Concentration



—●— Share of Top-5 in Sales      —●— Share of Top-5 in Assets

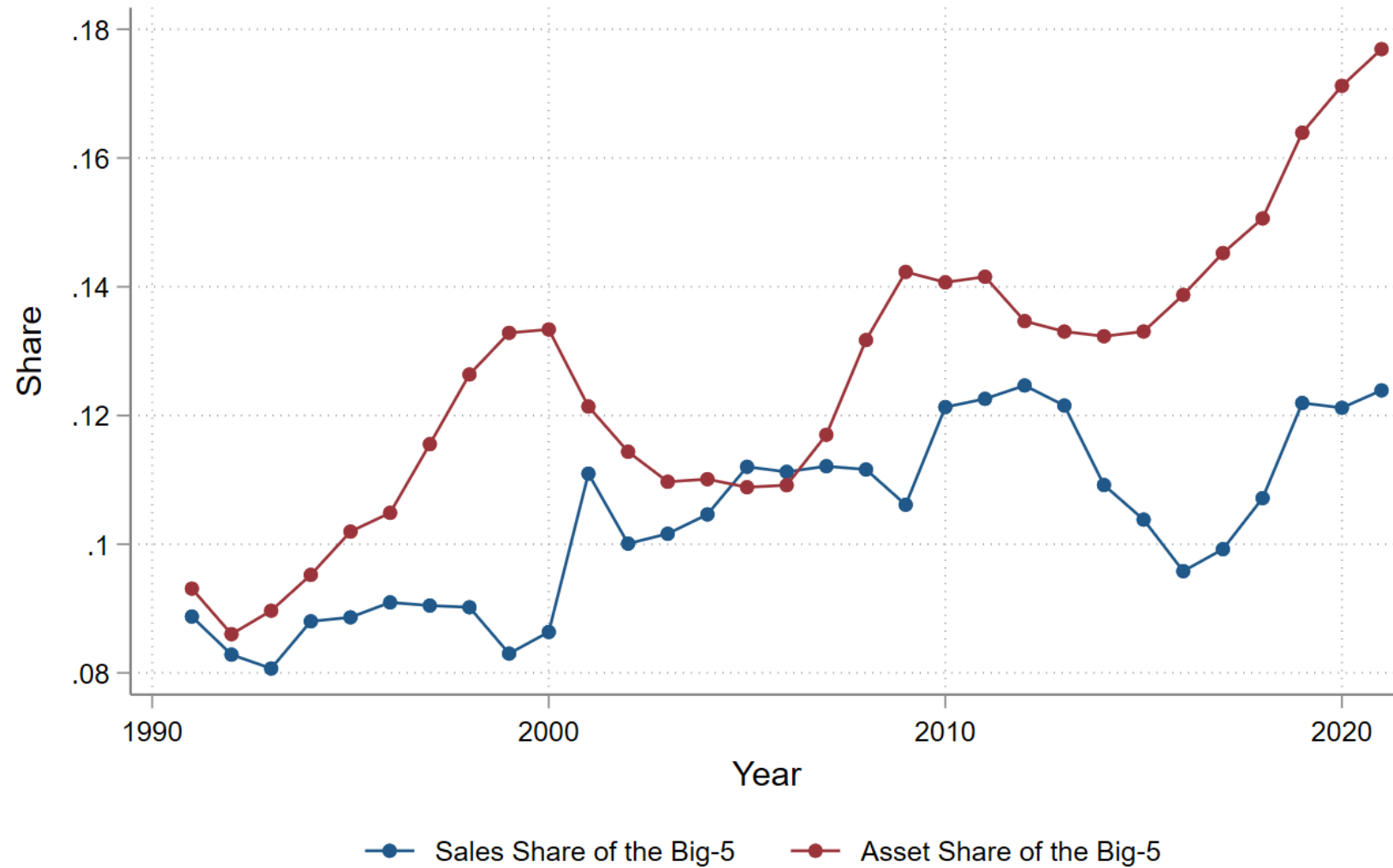
# Industries Contributing to Rising Concentration



—●— Share of Top-5 in Sales

—●— Share of Top-5 in Assets

# Share of the Big-5 is rising

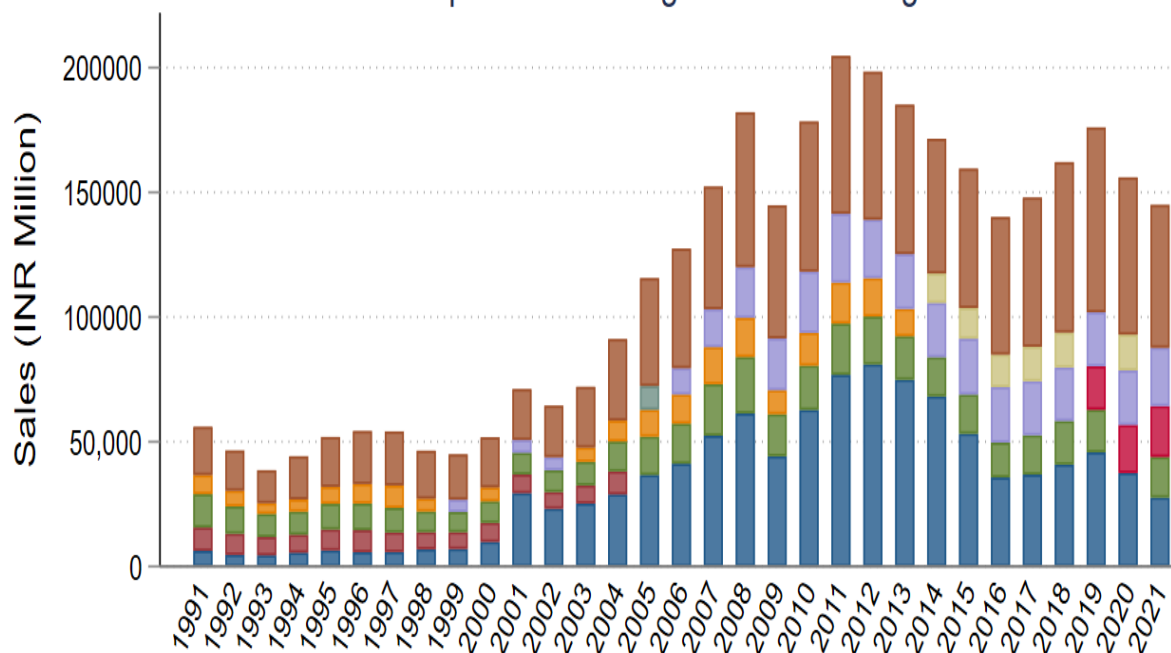


# Where are the Big-5 gaining market share?

- We study the industries where the Big-5 has been gaining market share
- We find that in the aggregate, the largest contributors to Big-5 sales are
  - Manufacturing of Metals
  - Manufacturing of Coke and Refined Petroleum Products
  - Retail Trade
  - Telecommunications
- Consistent with the rising market concentration seen in those sectors →
- Companies are receiving a greater percentage of their sales revenue from the sectors where they have gained considerable market power.

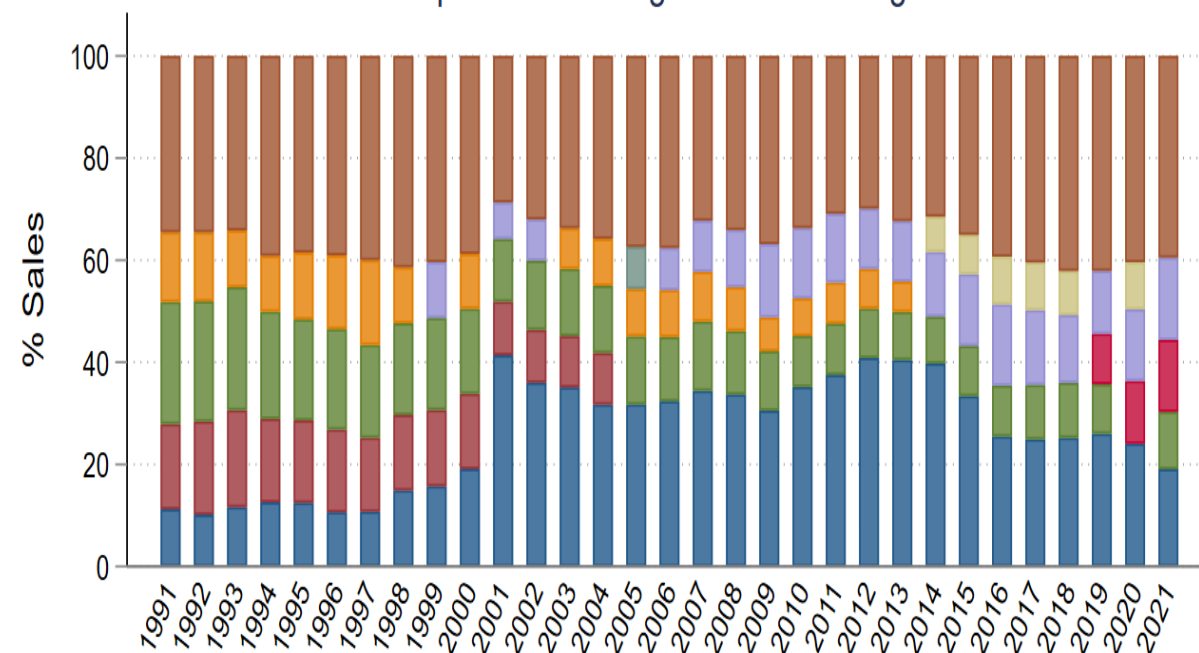
# Industries Contributing to Rising Share of Big-5 (overall)

## Top-5 Contributing Industries of Big-5



- Manufacture of coke and refined petroleum products
- Manufacture of chemicals and chemical products
- Manufacture of basic metals
- Manufacture of motor vehicles, trailers and semi-trailers
- Wholesale trade, except of vehicles
- Retail trade, except of vehicles
- Telecommunications
- Computer programming, consultancy and related activities
- Others

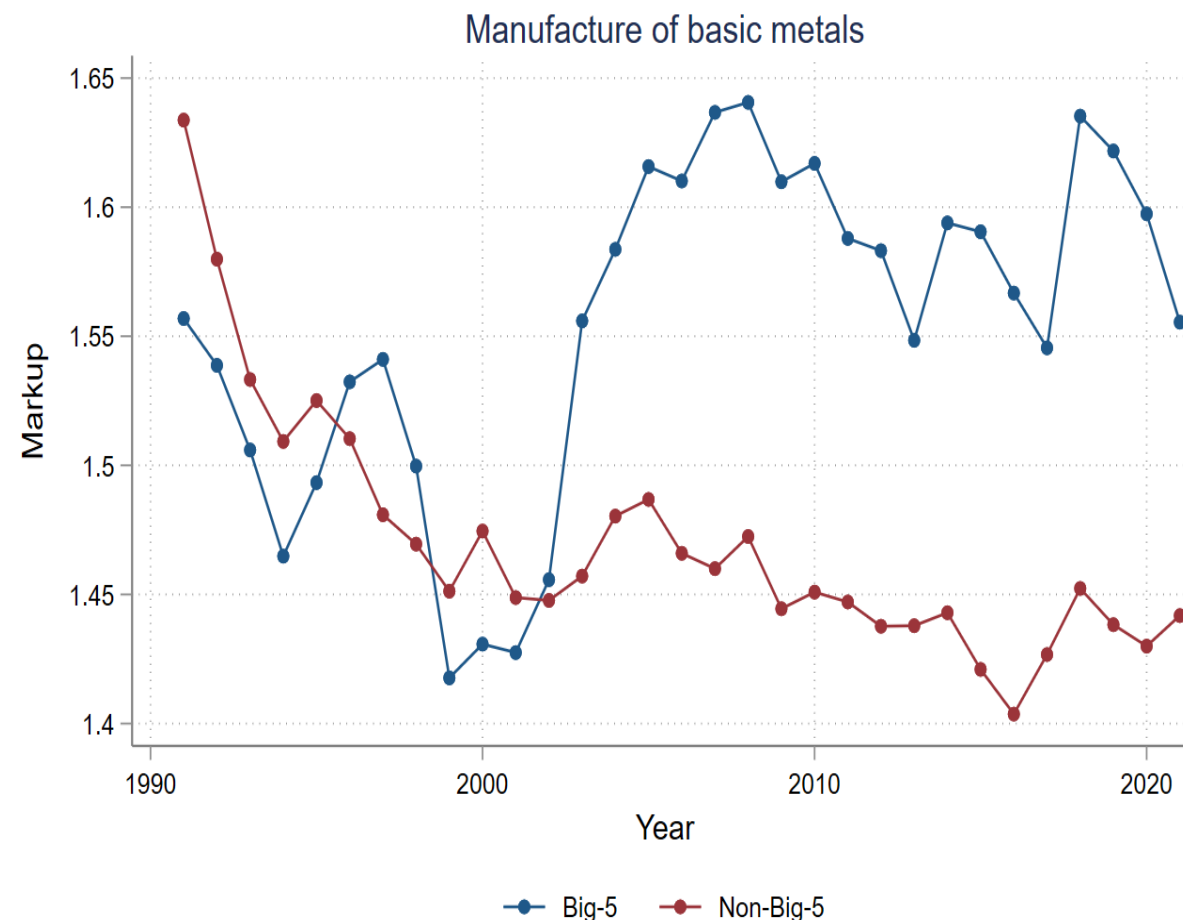
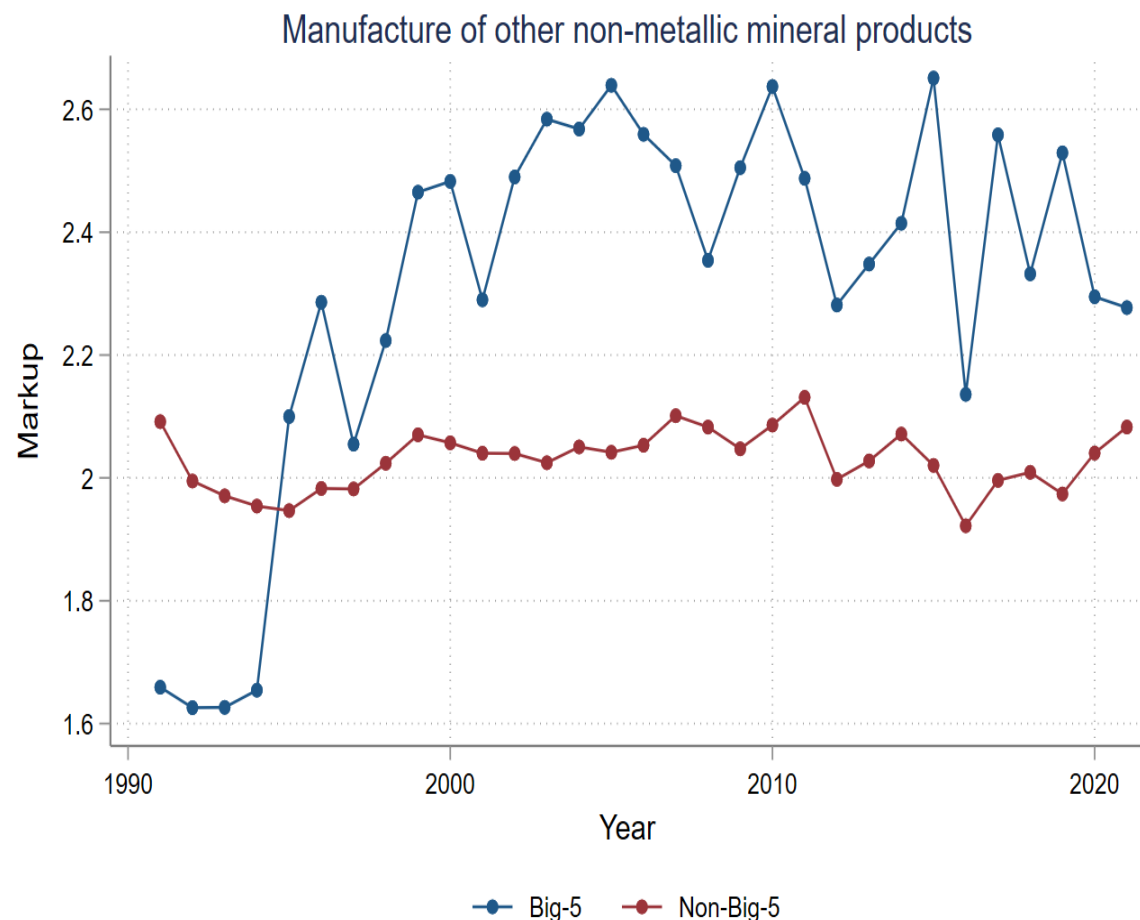
## Top-5 Contributing Industries of Big-5



- Manufacture of coke and refined petroleum products
- Manufacture of chemicals and chemical products
- Manufacture of basic metals
- Manufacture of motor vehicles, trailers and semi-trailers
- Wholesale trade, except of vehicles
- Retail trade, except of vehicles
- Telecommunications
- Computer programming, consultancy and related activities
- Others

# Diversion in Industry-adjusted Markups of Big-5 vs. Rest

- At the sectoral level, we find a persistent wedge in the markup of Big-5 firm groups versus other firms in non-metallic mineral products (which includes cement and other building materials) and manufacture of basic metals



## Appendix III: Top-5 over time in sectors with high concentration

# Civil Engineering: Top-Companies

| Rank | 2001                         |                 |                              |                 | 2011                         |                 |                              |                 | 2021                                                            |                 |                                             |                 |
|------|------------------------------|-----------------|------------------------------|-----------------|------------------------------|-----------------|------------------------------|-----------------|-----------------------------------------------------------------|-----------------|---------------------------------------------|-----------------|
|      | Company Name                 | Asset Share (%) | Company Name                 | Sales Share (%) | Company Name                 | Asset Share (%) | Company Name                 | Sales Share (%) | Company Name                                                    | Asset Share (%) | Company Name                                | Sales Share (%) |
| 1    | Larsen & Toubro Group        | 26              | Larsen & Toubro Group        | 30              | Larsen & Toubro Group        | 15              | Larsen & Toubro Group        | 18              | Larsen & Toubro Group                                           | 21              | Larsen & Toubro Group                       | 26              |
| 2    | Reliance Group [Anil Ambani] | 11              | Reliance Group [Anil Ambani] | 9               | Jaypee Group                 | 9               | Jaypee Group                 | 5               | Shapoorji Pallonji Group                                        | 5               | MEGHA ENGINEERING & INFRASTRUCTURE RES LTD. | 5               |
| 3    | Jaypee Group                 | 9               | Jaypee Group                 | 7               | Reliance Group [Anil Ambani] | 8               | Reliance Group [Anil Ambani] | 4               | Jaypee Group                                                    | 4               | Shapoorji Pallonji Group                    | 4               |
| 4    | KONKAN RAILWAY CORPN. LTD.   | 8               | HFCL Group                   | 5               | Lanco Group                  | 4               | Essar (Ruia) Group           | 3               | NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. | 3               | RAIL VIKAS NIGAM LTD.                       | 4               |
| 5    | HFCL Group                   | 8               | IRCON INTERNATIONAL LTD.     | 3               | Punj Lloyd Group             | 2               | IVRCL Group                  | 3               | MEGHA ENGINEERING & INFRASTRUCTURE RES LTD.                     | 3               | RPG Enterprises Group                       | 3               |

# Basic Metals: Top Companies

| Rank | 2001                                   |                 |                               |                 | 2011                          |                 |                               |                 | 2021                          |                 |                               |                 |
|------|----------------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|
|      | Company Name                           | Asset Share (%) | Company Name                  | Sales Share (%) | Company Name                  | Asset Share (%) | Company Name                  | Sales Share (%) | Company Name                  | Asset Share (%) | Company Name                  | Sales Share (%) |
| 1    | STEEL AUTHORITY OF INDIA LTD.          | 19              | STEEL AUTHORITY OF INDIA LTD. | 21              | Tata Group                    | 16              | Om Prakash Jindal Group       | 14              | Om Prakash Jindal Group       | 19              | Om Prakash Jindal Group       | 19              |
| 2    | Om Prakash Jindal Group                | 14              | Tata Group                    | 12              | Om Prakash Jindal Group       | 15              | STEEL AUTHORITY OF INDIA LTD. | 10              | Tata Group                    | 18              | Tata Group                    | 14              |
| 3    | Tata Group                             | 11              | Birla Aditya Group            | 8               | Vedanta Group                 | 12              | Tata Group                    | 10              | Vedanta Group                 | 16              | Vedanta Group                 | 9               |
| 4    | Birla Aditya Group                     | 8               | Om Prakash Jindal Group       | 8               | STEEL AUTHORITY OF INDIA LTD. | 10              | Vedanta Group                 | 9               | STEEL AUTHORITY OF INDIA LTD. | 9               | STEEL AUTHORITY OF INDIA LTD. | 8               |
| 5    | ARCELORMIT TAL NIPPON STEEL INDIA LTD. | 6               | Vedanta Group                 | 7               | Birla Aditya Group            | 6               | Birla Aditya Group            | 6               | Birla Aditya Group            | 7               | Birla Aditya Group            | 5               |

# Chemical and Chemical Products: Top Companies

| Rank | 2001                           |                 |                                |                 | 2011                  |                 |                          |                 | 2021                         |                 |                          |                 |
|------|--------------------------------|-----------------|--------------------------------|-----------------|-----------------------|-----------------|--------------------------|-----------------|------------------------------|-----------------|--------------------------|-----------------|
|      | Company Name                   | Asset Share (%) | Company Name                   | Sales Share (%) | Company Name          | Asset Share (%) | Company Name             | Sales Share (%) | Company Name                 | Asset Share (%) | Company Name             | Sales Share (%) |
| 1    | Reliance Group [Mukesh Ambani] | 9               | Uni Lever (F) Group            | 13              | Birla Aditya Group    | 6               | Uni Lever (F) Group      | 9               | Birla Aditya Group           | 9               | Uni Lever (F) Group      | 8               |
| 2    | Uni Lever (F) Group            | 7               | Reliance Group [Mukesh Ambani] | 7               | Uni Lever (F) Group   | 4               | State and Private sector | 4               | Uni Lever (F) Group          | 8               | Asian Paints Group       | 4               |
| 3    | Haldia Petrochemicals          | 6               | Birla Aditya Group             | 6               | Haldia Petrochemicals | 3               | Murugappa Chettiar Group | 3               | O N G C PETRO ADDITIONS LTD. | 4               | Birla Aditya Group       | 3               |
| 4    | Birla Aditya Group             | 6               | Chidambara m M.A. Group        | 4               | Sandesara Group       | 3               | Asian Paints Group       | 3               | Haldia Petrochemicals        | 3               | Murugappa Chettiar Group | 2               |
| 5    | Chidambara m M.A. Group        | 5               | NATIONAL FERTILIZERS LTD.      | 3               | Rajju Shroff Group    | 3               | Birla K.K. Group         | 3               | Asian Paints Group           | 2               | Rajju Shroff Group       | 2               |

# Coke and Refined Petroleum: Top-Companies

| Rank | 2001                                     |                 |                                 |                 | 2011                            |                 |                                 |                 | 2021                            |                 |                                 |                 |
|------|------------------------------------------|-----------------|---------------------------------|-----------------|---------------------------------|-----------------|---------------------------------|-----------------|---------------------------------|-----------------|---------------------------------|-----------------|
|      | Company Name                             | Asset Share (%) | Company Name                    | Sales Share (%) | Company Name                    | Asset Share (%) | Company Name                    | Sales Share (%) | Company Name                    | Asset Share (%) | Company Name                    | Sales Share (%) |
| 1    | INDIAN OIL CORPN. LTD.                   | 33              | INDIAN OIL CORPN. LTD.          | 41              | Reliance Group [Mukesh Ambani]  | 38              | INDIAN OIL CORPN. LTD.          | 33              | Reliance Group [Mukesh Ambani]  | 49              | INDIAN OIL CORPN. LTD.          | 31              |
| 2    | Reliance Group [Mukesh Ambani]           | 31              | Reliance Group [Mukesh Ambani]  | 18              | INDIAN OIL CORPN. LTD.          | 25              | Reliance Group [Mukesh Ambani]  | 24              | INDIAN OIL CORPN. LTD.          | 21              | BHARAT PETROLEUM CORPN. LTD.    | 18              |
| 3    | HINDUSTAN PETROLEUM CORPN. LTD.          | 9               | HINDUSTAN PETROLEUM CORPN. LTD. | 16              | HINDUSTAN PETROLEUM CORPN. LTD. | 8               | BHARAT PETROLEUM CORPN. LTD.    | 15              | BHARAT PETROLEUM CORPN. LTD.    | 8               | Reliance Group [Mukesh Ambani]  | 16              |
| 4    | BHARAT PETROLEUM CORPN. LTD.             | 8               | BHARAT PETROLEUM CORPN. LTD.    | 16              | BHARAT PETROLEUM CORPN. LTD.    | 8               | HINDUSTAN PETROLEUM CORPN. LTD. | 13              | HINDUSTAN PETROLEUM CORPN. LTD. | 8               | HINDUSTAN PETROLEUM CORPN. LTD. | 16              |
| 5    | MANGALORE REFINERY & PETROCHEMICALS LTD. | 4               | KOCHI REFINERIES LTD. [MERGED]  | 3               | Essar (Ruia) Group              | 5               | Essar (Ruia) Group              | 5               | Essar (Ruia) Group              | 5               | Essar (Ruia) Group              | 5               |

# Non-metallic Products: Top-Companies

| Rank | 2001                                                  |                 |                                 |                 | 2011               |                 |                        |                 | 2021                   |                 |                        |                 |
|------|-------------------------------------------------------|-----------------|---------------------------------|-----------------|--------------------|-----------------|------------------------|-----------------|------------------------|-----------------|------------------------|-----------------|
|      | Company Name                                          | Asset Share (%) | Company Name                    | Sales Share (%) | Company Name       | Asset Share (%) | Company Name           | Sales Share (%) | Company Name           | Asset Share (%) | Company Name           | Sales Share (%) |
| 1    | Adani Group                                           | 20              | Adani Group                     | 19              | Adani Group        | 12              | Adani Group            | 15              | Birla Aditya Group     | 20              | Birla Aditya Group     | 17              |
| 2    | India Cement Group<br>Ramco Group<br>[Madras Cements] | 10              | India Cement Group              | 7               | Birla Aditya Group | 12              | Birla Aditya Group     | 13              | Adani Group            | 12              | Adani Group            | 12              |
| 3    |                                                       | 4               | Birla B.K. Group                | 7               | India Cement Group | 6               | Birla B.K. Group       | 6               | Nirma Group            | 5               | Bangur P.D./B.G. Group | 5               |
| 4    | Nirma Group                                           | 4               | Birla M.P. Group                | 4               | Dalmia Group       | 5               | India Cement Group     | 4               | Dalmia Group           | 5               | Dalmia Group           | 4               |
| 5    | Birla B.K. Group                                      | 4               | Ramco Group<br>[Madras Cements] | 4               | Birla B.K. Group   | 5               | Bangur P.D./B.G. Group | 3               | Bangur P.D./B.G. Group | 5               | Nirma Group            | 4               |

# Wood and Wood Products

| Rank | 2001                        |                 |                               |                 | 2011                     |                 |                           |                 | 2021                       |                 |                            |                 |
|------|-----------------------------|-----------------|-------------------------------|-----------------|--------------------------|-----------------|---------------------------|-----------------|----------------------------|-----------------|----------------------------|-----------------|
|      | Company Name                | Asset Share (%) | Company Name                  | Sales Share (%) | Company Name             | Asset Share (%) | Company Name              | Sales Share (%) | Company Name               | Asset Share (%) | Company Name               | Sales Share (%) |
| 1    | Nuchem Group                | 18              | GREENPLY INDUSTRIES LTD.      | 18              | GREENPLY INDUSTRIES LTD. | 21              | GREENPLY INDUSTRIES LTD.  | 27              | CenturyPly Group           | 21              | CenturyPly Group           | 28              |
| 2    | ECOBORD INDUSTRIES LTD.     | 14              | CenturyPly Group              | 16              | CenturyPly Group         | 12              | CenturyPly Group          | 21              | GREENPANEL INDUSTRIES LTD. | 18              | GREENLAM INDUSTRIES LTD.   | 14              |
| 3    | DUROPLY INDUSTRIES LTD.     | 12              | Nuchem Group                  | 12              | SHIRDI INDUSTRIES LTD.   | 11              | SHIRDI INDUSTRIES LTD.    | 9               | GREENLAM INDUSTRIES LTD.   | 12              | GREENPLY INDUSTRIES LTD.   | 13              |
| 4    | WESTERN INDIA PLYWOODS LTD. | 12              | DUROPLY INDUSTRIES LTD.       | 10              | Bajaj Group              | 7               | DUROPLY INDUSTRIES LTD.   | 3               | RUSHIL DECOR LTD.          | 9               | GREENPANEL INDUSTRIES LTD. | 13              |
| 5    | GREENPLY INDUSTRIES LTD.    | 12              | WORTHY PLYWOODS LTD. [MERGED] | 9               | ASSOCIATE DECOR LTD.     | 5               | ARCHIDPLY INDUSTRIES LTD. | 3               | GREENPLY INDUSTRIES LTD.   | 8               | RUSHIL DECOR LTD.          | 4               |

# Retail Trade: Top-Companies

| Rank | 2001                  |                 |                                                      |                 | 2011                                                 |                 |                                                      |                 | 2021                             |                 |                                       |                 |
|------|-----------------------|-----------------|------------------------------------------------------|-----------------|------------------------------------------------------|-----------------|------------------------------------------------------|-----------------|----------------------------------|-----------------|---------------------------------------|-----------------|
|      | Company Name          | Asset Share (%) | Company Name                                         | Sales Share (%) | Company Name                                         | Asset Share (%) | Company Name                                         | Sales Share (%) | Company Name                     | Asset Share (%) | Company Name                          | Sales Share (%) |
| 1    | Gitanjali Gems Group  | 13              | Gitanjali Gems Group                                 | 46              | Future Group                                         | 21              | Future Group                                         | 20              | Reliance Group [Mukesh Ambani]   | 39              | Reliance Group [Mukesh Ambani]        | 44              |
| 2    | BATA INDIA LTD.       | 12              | BATA INDIA LTD.                                      | 8               | Reliance Group [Mukesh Ambani]                       | 10              | Reliance Group [Mukesh Ambani]                       | 8               | Future Group                     | 10              | KARNATAKA STATE BEVERAGES CORPN. LTD. | 7               |
| 3    | KODAK INDIA PVT. LTD. | 8               | KERALA STATE BEVERAGES (MFG. & MKTG.) CORPN. LTD.    | 8               | Gitanjali Gems Group                                 | 9               | Gitanjali Gems Group                                 | 8               | AMAZON SELLER SERVICES PVT. LTD. | 5               | AVENUE SUPERMARTS LTD.                | 6               |
| 4    | Future Group          | 7               | KODAK INDIA PVT. LTD.                                | 8               | HUAWEI TELECOMMUNICATIONS (INDIA) CO. PVT. LTD.      | 6               | HANDICRAFTS & HANDLOOMS EXPORTS CORPN. OF INDIA LTD. | 7               | AVENUE SUPERMARTS LTD.           | 4               | M M T C-PAMP INDIA PVT. LTD.          | 5               |
| 5    | TOMMORROWLAND LTD.    | 6               | HANDICRAFTS & HANDLOOMS EXPORTS CORPN. OF INDIA LTD. | 5               | HANDICRAFTS & HANDLOOMS EXPORTS CORPN. OF INDIA LTD. | 4               | Tata Group                                           | 4               | Birla Aditya Group               | 3               | CLOUDTAIL INDIA PVT. LTD.             | 4               |

# Telecommunications

| Rank | 2001                           |                 |                                           |                 | 2011                         |                 |                              |                 | 2021                           |                 |                                |                 |
|------|--------------------------------|-----------------|-------------------------------------------|-----------------|------------------------------|-----------------|------------------------------|-----------------|--------------------------------|-----------------|--------------------------------|-----------------|
|      | Company Name                   | Asset Share (%) | Company Name                              | Sales Share (%) | Company Name                 | Asset Share (%) | Company Name                 | Sales Share (%) | Company Name                   | Asset Share (%) | Company Name                   | Sales Share (%) |
| 1    | BHARAT SANCHAR NIGAM LTD.      | 62              | BHARAT SANCHAR NIGAM LTD.                 | 39              | BHARAT SANCHAR NIGAM LTD.    | 20              | Bharti Telecom Group         | 28              | Bharti Telecom Group           | 28              | Bharti Telecom Group           | 29              |
| 2    | MAHANAGAR TELEPHONE NIGAM LTD. | 14              | Tata Group MAHANAGAR TELEPHONE NIGAM LTD. | 25              | Reliance Group [Anil Ambani] | 19              | Reliance Group [Anil Ambani] | 15              | Reliance Group [Mukesh Ambani] | 21              | Reliance Group [Mukesh Ambani] | 28              |
| 3    | Tata Group                     | 11              | Tata Group                                | 19              | Bharti Telecom Group         | 18              | BHARAT SANCHAR NIGAM LTD.    | 14              | Birla Aditya Group             | 17              | Birla Aditya Group             | 14              |
| 4    | Bharti Telecom Group           | 4               | Bharti Telecom Group                      | 4               | Tata Group                   | 9               | Tata Group                   | 10              | BHARAT SANCHAR NIGAM LTD.      | 11              | Tata Group                     | 8               |
| 5    | Birla Aditya Group             | 3               | Global Tele-Systems Group                 | 3               | Birla Aditya Group           | 5               | Birla Aditya Group           | 8               | Tata Group                     | 5               | BHARAT SANCHAR NIGAM LTD.      | 6               |