Discussion of Anatomy of Firms' Margins of Adjustment: Evidence from the COVID Pandemic

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What the paper aims to do

- Trace out the real effects of the pandemic shock
  - Margins of adjustment
    - Extensive margin (entry and exit)
    - Intensive margin (investment, employment, supplier links)
- Flow of credit and impact on leverage
- What happened to productivity
- Use of support programmes
  - Credit support through credit guarantees (FCIC-FOGAPE)
  - Employment protection (LPE)
- Effect of support programmes

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Phew – that is a lot to cover!

Amazing amount of data work

- Lessons for other central banks

1. Firm production dataset – for tax purposes
   - sales, revenues, expenditures on intermediate goods and investment
2. Firm-to-firm transactions
   - value of flows, prices, products, and services traded
3. Firm-to-bank credit transactions
   - volume, interest rates
4. Matched employer-employee dataset
   - wages, start and end dates + ID of employees and firms
5. Covid credit and employment policies
   - firm access to credit support and employment support

Summary (1): descriptive facts on firms during the pandemic

- Significant re-entry
- Shock was highly asymmetric across sectors
- Margins of adjustment
  - Firms initially cut employment and investment
  - Investment has recovered but employment has not
- Credit flow (and use of FOGAPE)
  - Firms with largest hit to sales borrowed most
  - Least hit firms (significant sales growth) also borrowed more – precautionary borrowing?
- Employment support (LPE)
  - Among firms accessing the scheme: 60% of employment supported by scheme
  - Use concentrated in small firms

Summary (2): Impact of policies

- Run following regression on the set of firms that experiences falls in sales during March-April 2020

$$y_{i,T} = \alpha_{t(i)} + \alpha_{s(i)} + \alpha_{a(i)} + \alpha_{m(i)} + \beta_1 * POL_{i,T-1} + e_i,$$

- Find that
  - Greater increase in credit -> higher probability of subsequently reporting sales / re-entry
  - Use of FOGAPE -> higher probability of subsequently reporting sales /re-entry
  - FOGAPE and LPE -> stronger employment
  - FOGAPE only -> stronger investment

Comments

1. Focus on specific questions – help tighten the analysis
   - May end up having 2 (or 3) separate papers
   - (1) Descriptive paper on how firms adjusted
   - (2) Impact of policies – short-run and longer-run effects

2. Combine information on intensive and extensive margin

3. Covid shock very heterogeneous across sectors

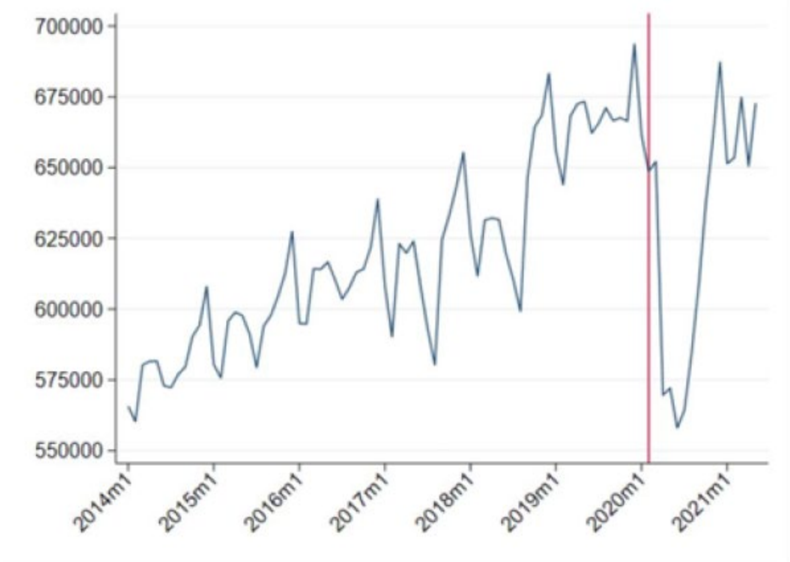
4. Employment vs investment adjustment

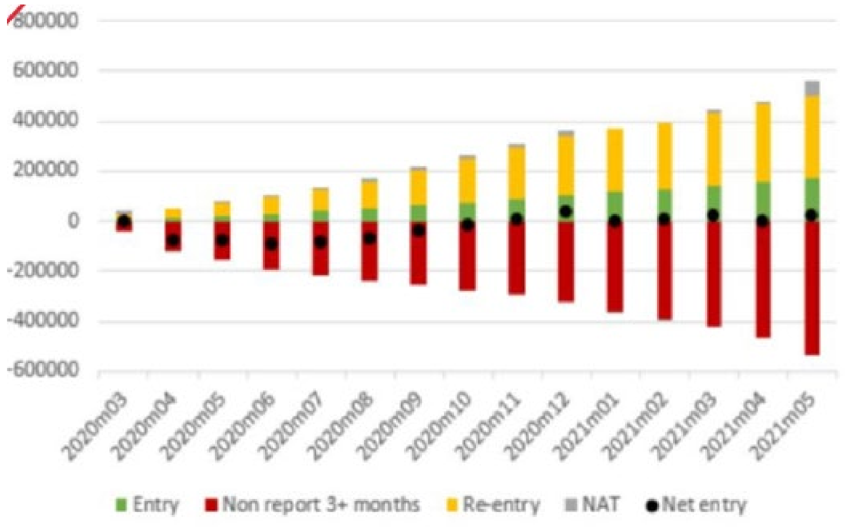
5. Identification of policy effects

2. Combine information on intensive and extensive margin

Exit and re-entry was large

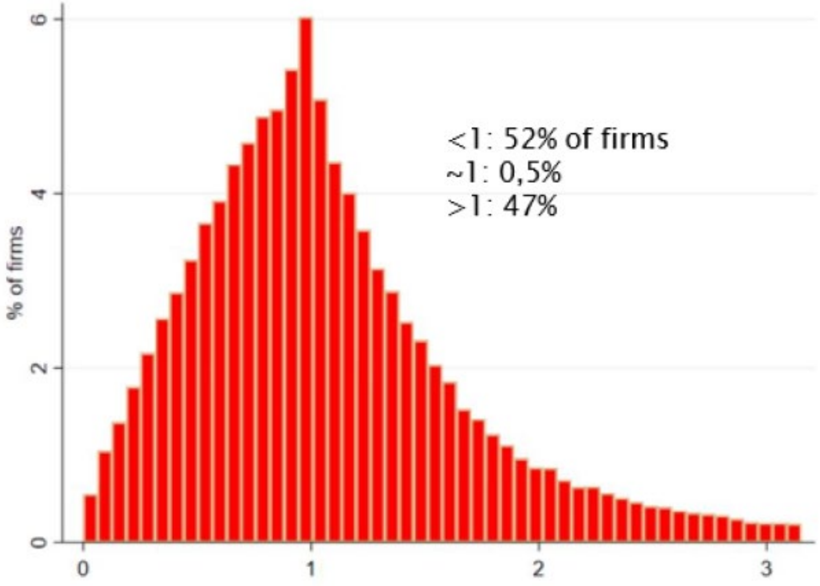
Extensive margin: No. of firms





- Extensive margin – many temporarily exited and then re-entered
  - ¼ to $^{1}/_{3}$ of "new" firms are new entrants

Use Davis and Haltiwanger growth rates



(a) Sales growth distribution

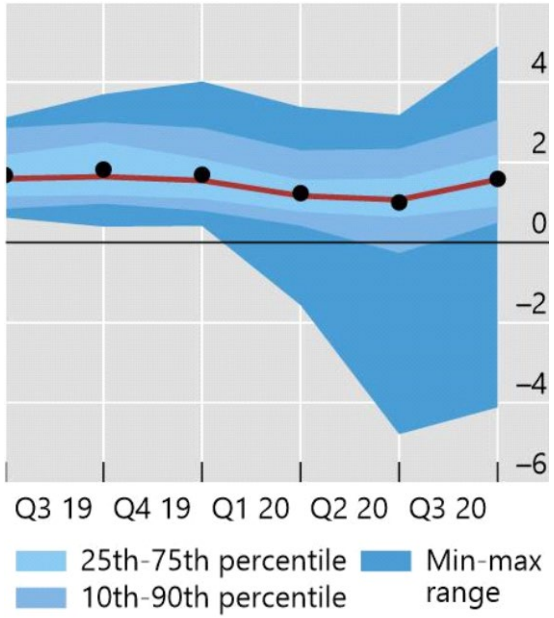
- Ratio of sales
  - March-May 2021 vs March-May 2019

- Entry important
- Exit large

- Davis and Haltiwanger growth rates
- $g_{it} = \frac{(S_{it} - S_{it-1})}{0.5 * (S_{it} + S_{it-1})}$
- See the full picture
  - Entering firms: g_{it} = 2
  - Exiting firms: g_{it} = -2
- g_{it} *is symmetric*
  - Facilitates comparison of decline and rebound

3. Asymmetric nature of the Covid shock

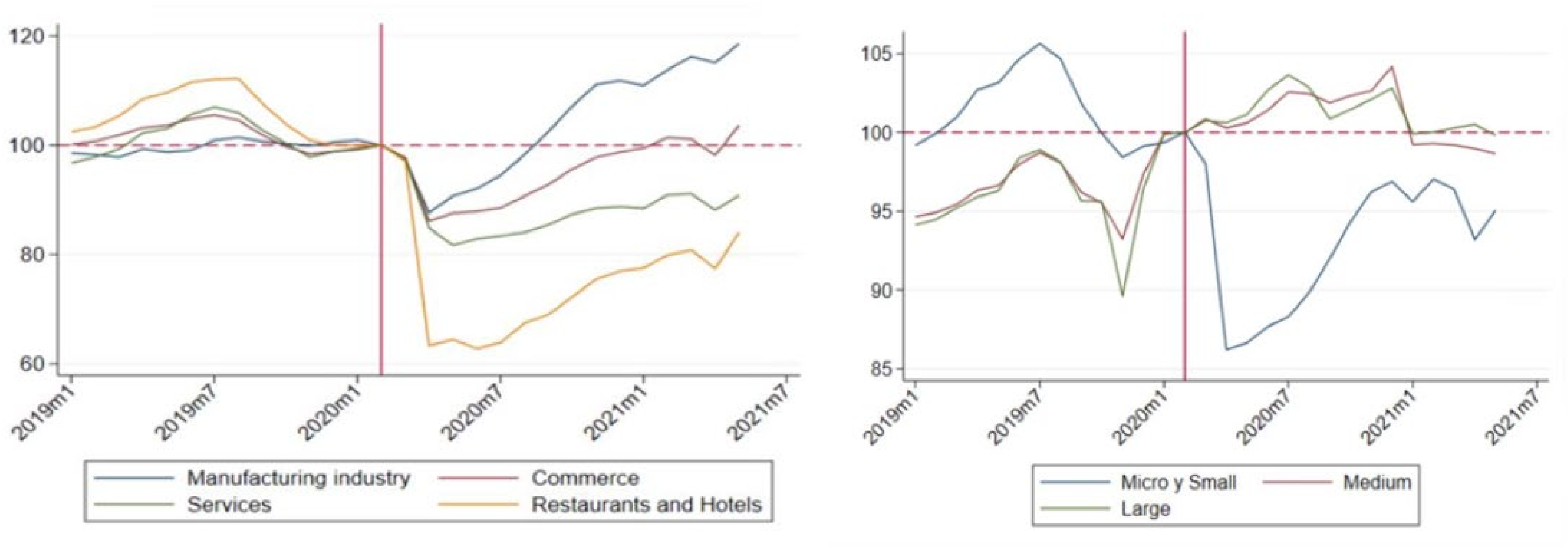
Operating profits during Covid-19



- Banerjee, Noss and Vidal-Pastor (2021) "Liquidity to solvency: transition cancelled or postponed?"

3. Asymmetric shock across sectors

Figure 4: Number of firms by sector and size

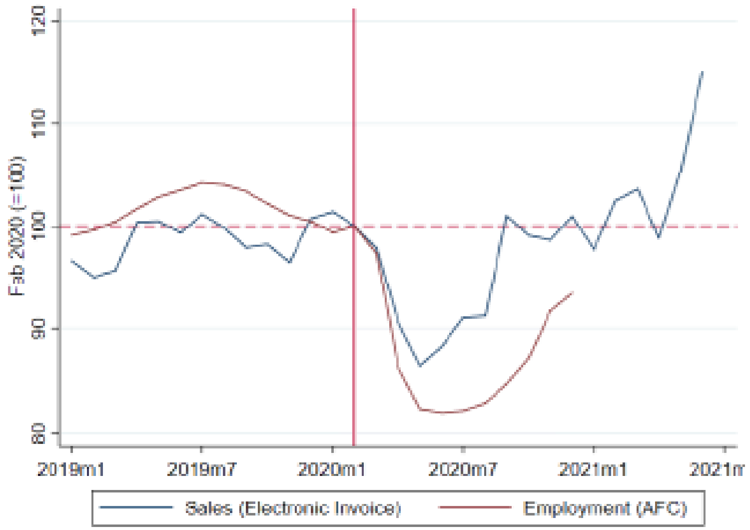


(a) By sector (b) By size

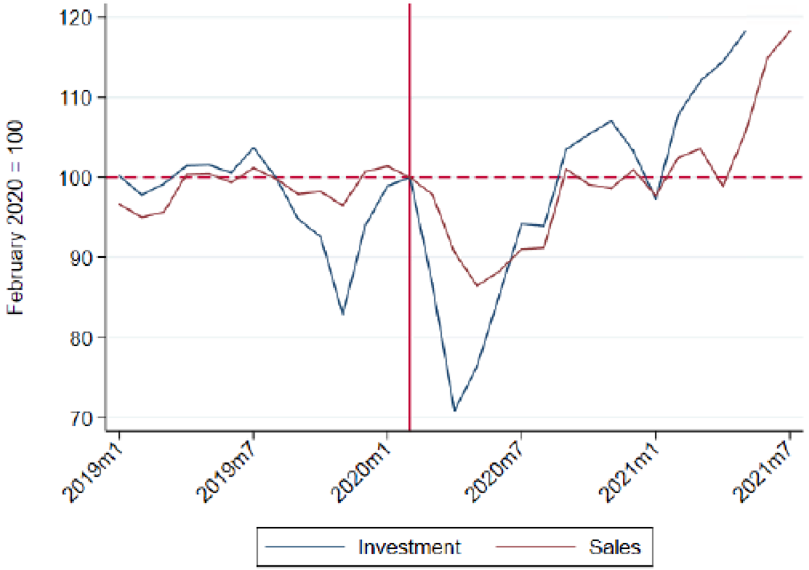
- Shock was highly asymmetric across sectors
- Useful to conduct within-sector analysis – not sure if some results are just composition effects
  - Eg Is the greater impact on small firms largely a composition effect?

4. Employment vs investment adjustment

Figure 7: Performance of employment and sales

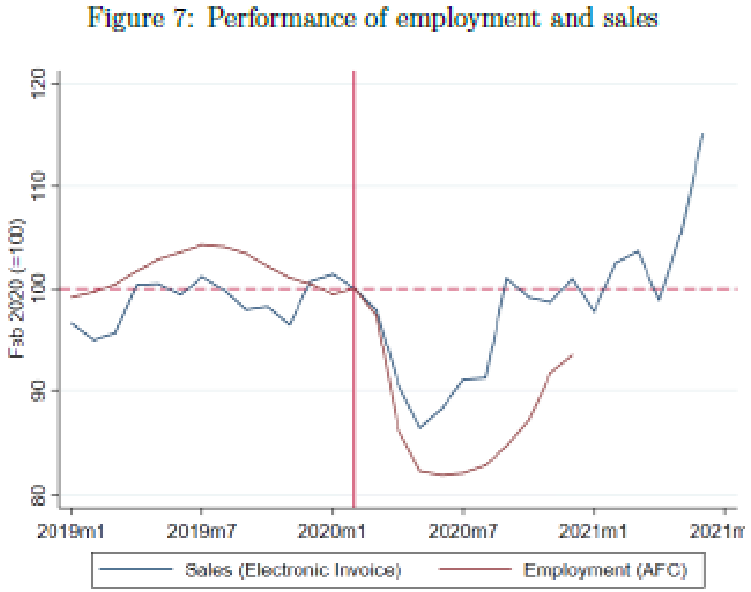


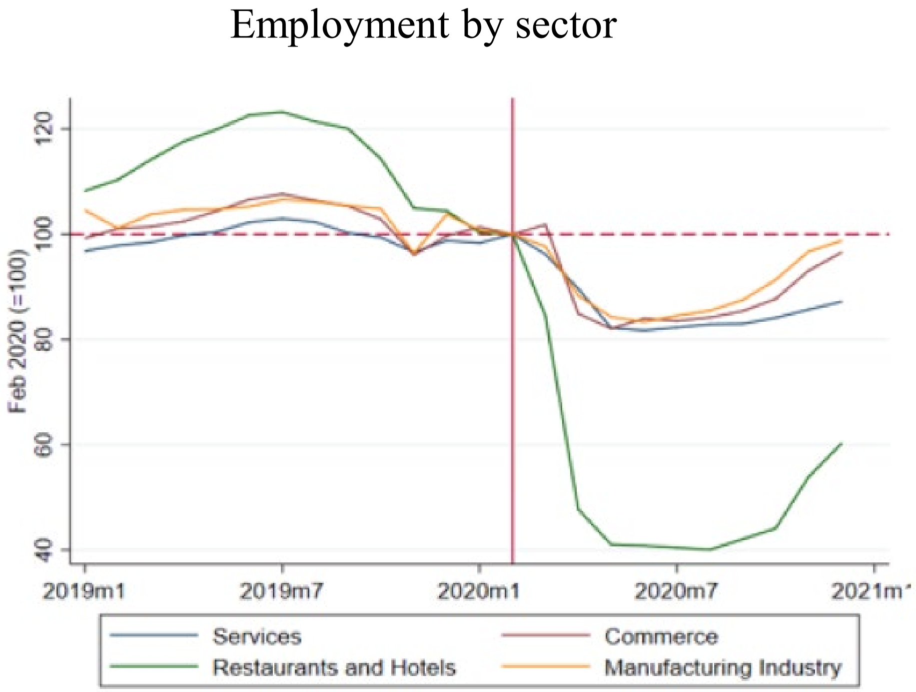
Investment and sales



- Sales and investment recovered, but not employment
  - Substitution of capital for labour post pandemic?

Employment by sector

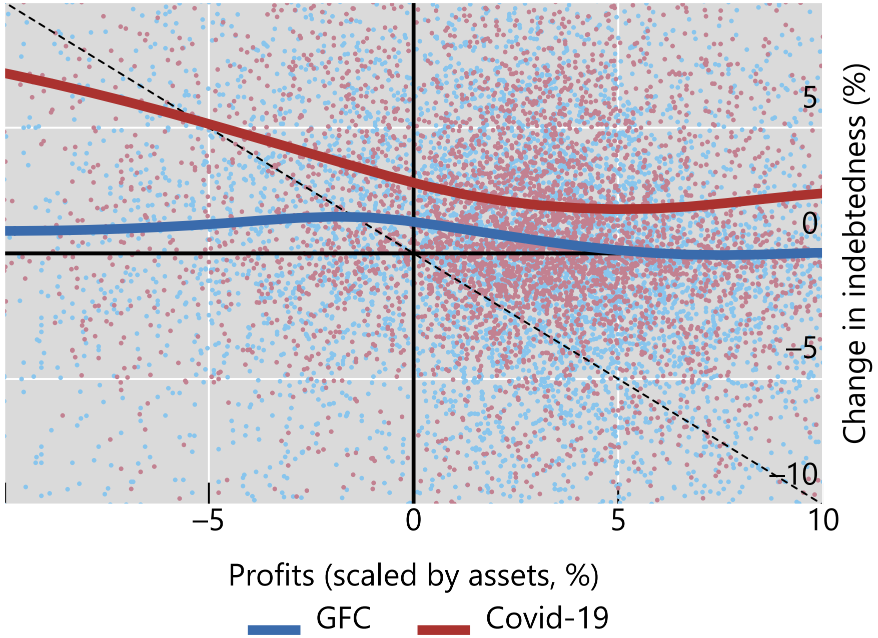




- Sales and investment recovered, but not employment
  - Sectoral story?
- Either way -> implications for informality

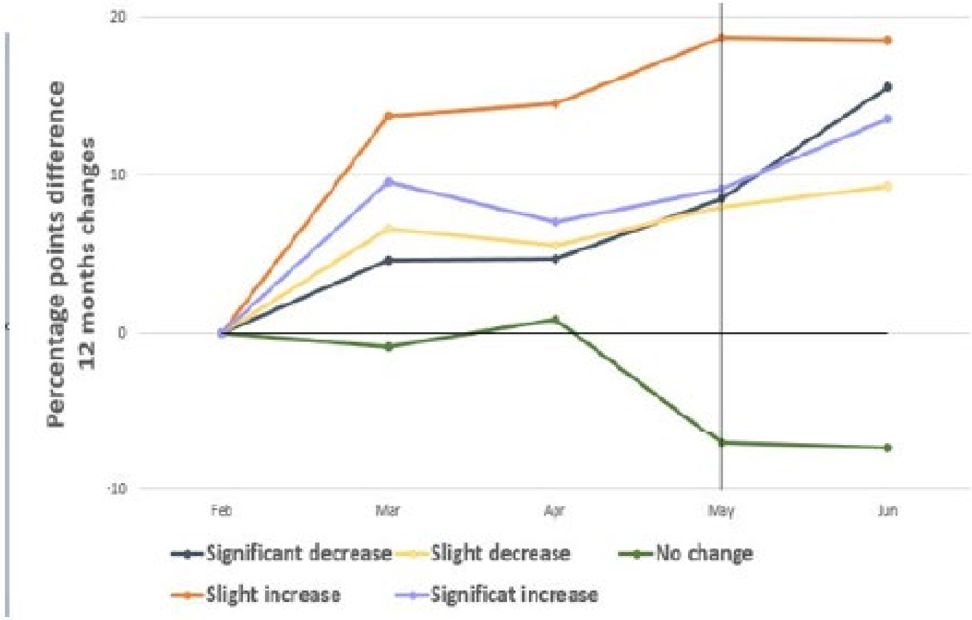
Role of credit support

Firm profits and borrowing



- Banerjee, Noss and Vidal-Pastor (2021) "Liquidity to solvency: transition cancelled or postponed?"
- Ample credit to loss making firms during the pandemic – contrast with the GFC
- Profitable firms also borrowed

Strongest credit increases in firms experiencing higher sales growth



(b) Credit and sales in 2020

- Why? Precautionary borrowing by firms
  - Sectoral story – borrowing by high external financial dependent sectors
- Consequences: investment facilitated by relaxed borrowing constraints?

5. Impact of policy - identification

- Run following regression on the set of firms that experiences falls in sales during March-April 2020

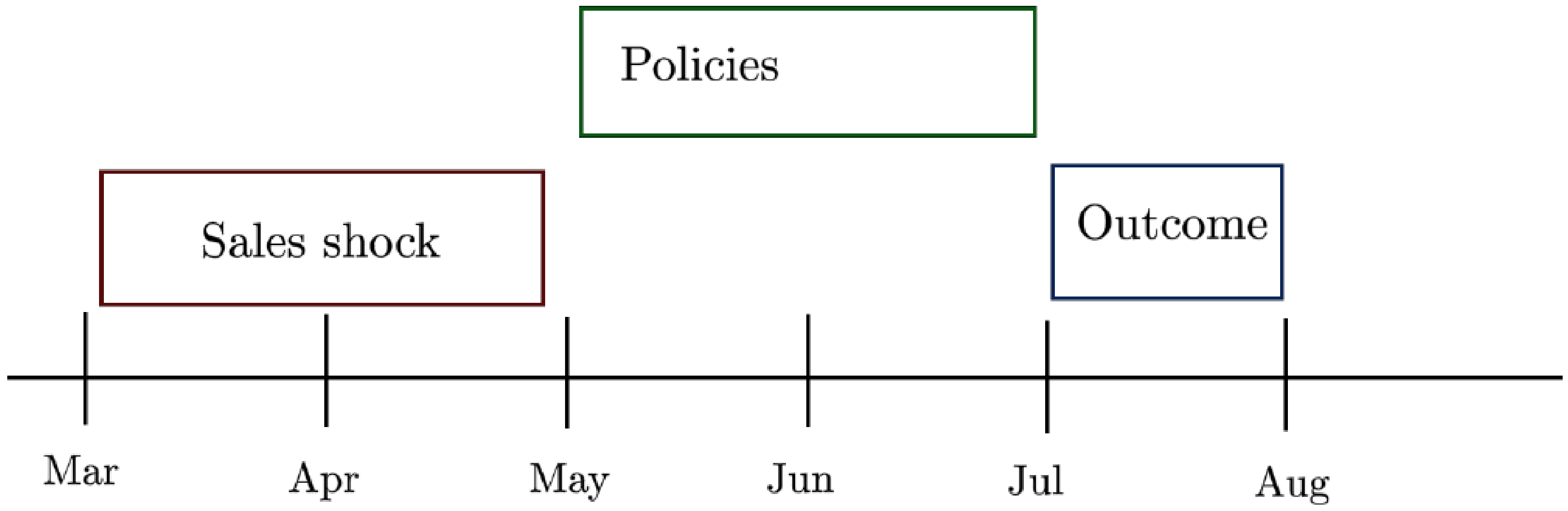
$$y_{i,T} = \alpha_{t(i)} + \alpha_{s(i)} + \alpha_{a(i)} + \alpha_{m(i)} + \beta_1 * POL_{i,T-1} + e_i,$$

- Use of FOGAPE and LFE correlated with stronger outcomes

- Identification problem
  - Greater use of support programmes could be correlated with unobserved firm growth prospects?

How to isolate the role of policy?

- Use a regression to understand selection into policy use – then control for these factors
- Exogenous use of programmes – not correlated with unobserved growth opportunities
  - Difference in use of FOGAPE by firms that had debt rollover needs in due in May-July 2021
  - Heterogeneous impact on (exogeneous) supplier networks



Conclusion

- Very interesting analysis and facts
  - Not sure if some stylised facts are composition effects due the heterogeneous nature of the Covid shock
- A lot of potential
  - Paper almost sets our a research agenda
- Clearly still work in progress
  - Focus on specific research questions