

Discussion of:
**“Measuring Firm-Level Inflation Exposure: A
Deep Learning Approach”**

by
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What paper does

- Uses machine learning to evaluate firms' earnings conference call transcripts.
- Measures words discussing price changes.
- Comes up with a text-based measure of “inflation”.
- Documents the extent to which this inflation affects firms' stock returns.
 - Input vs “output price changes.
 - Market power

Inflation

- Inflation refers to the aggregate level of prices
- Usually thought to be a “monetary phenomenon”
 - Milton Friedman: “Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.”
- Most famous example:
 - Germany prints lots of marks in 1920s and prices rise so much marks becomes worthless
- Aside: Current inflation does not appear to be monetary phenomenon

Cost and Demand Shocks

- *Real* prices change all the time because of changes in costs and demand.
- Rather than a macroeconomic/monetary phenomenon, these shocks tend to be firm or industry specific
- These changes occur in inflationary or deflationary times.
- Conceptually very different from inflation, which reflects the aggregate level of prices.

Does paper measure inflation or cost/demand shocks??

- Where could we expect inflation to affect firms differently?
 - Nominal contracts
- If all contracting were in real terms, inflation would affect all firms the same.
- Is paper's measure picking up nominal contracting??
 - Does not seem likely.

Measuring inflation at a time when there was none??

- Paper's sample period was 2007-2021
- Average inflation during this period was about 2.5%
- People really didn't talk about it that much, since it wasn't that important.
- Is this the right sample period to measure inflation using a text base index??

Influence of Market Power

- Paper claims firms with high market power are more likely to increase output prices and pass the input price pressure onto customers.
- Competitive industry: $P = MC$.
 - An increase in costs from inflation is passed along to consumers
- Monopoly pricing $(p-c) / p = 1 / e$, where e is the price-elasticity of demand.
 - This equation implies that the relative change in p should be the same as that in c .
- The optimal output price increase in response to cost increase does not depend on market power
- Unlikely that firms' stock price reaction to inflation will differ based on market power, at least based on the basic economics.



Overall

- Interesting approach to studying firms pricing.
- I like the idea of using textual analysis to understand better firms' cost structure and the demand they face.
- Perhaps it is just semantics, but I think the paper's measure concerns firm-specific costs and demands rather than inflation.