Discussion of

Undisclosed Material Inflation Risk

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Inflation: Drivers and Dynamics 2022
Cleveland Fed

The Paper in One Table & One Picture

- Measure firm exposure to inflation risk: CARs reaction to surprise in inflation

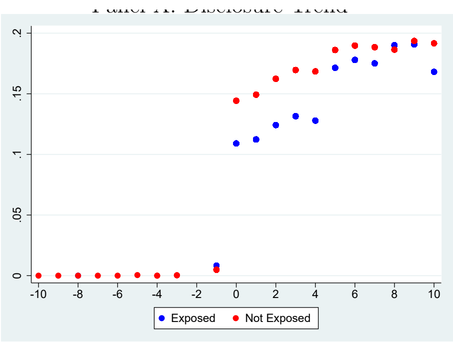
Panel A: Static Inflation Risk Exposure

Total Firms = 6,289
- Not Exposed = 5,175 (82.3%), of which
* Disclosing firm = 2,205 (42.7%)
- Exposed = 1,114 (17.7%), of which
* Disclosing firm = 434 (39.0%)

- Finding 1: MANY exposed firms do not acknowledge inflation risk (even if required)
- Finding 2: MANY non-exposed firms do report! Important for later
- Interpretation: Many expoed firms unaware of inflation risk

The Paper in One Table & One Picture

- Shock to attention (lawsuits): underreporters start to report more, become more aware of inflation risk b/c pay much more attention to careful reporting



- Shock to reporting regulation: everybody more likely to report inflation risk, in general higher awareness of potential effects inflation (on top of other channels)

Plan for Comments

- Why Important: Contribution to Literature
  - Question: Do experts (manager) recognize inflation risk?
  - Methodology: Disclosures as incentivized surveys for beliefs elicitation
- Why Do Managers Underreport Inflation Risk?
  - Rational Inattention
  - Strategic Motives
  - Correlations with other Channels
- What Economic Channels Drive the Effects of Inflation Risk?
  - Demand, Input Costs, Wages, Financing
  - Levering Textual Analysis of Topics in Disclosures

Contribution 1: Economic Question

- We know that managers/firms do not pay attention to inflation
  - Coibion, Gorodnichenko, Kumar (AER, 2018)
  - Coibion, Gorodnichenko, Ropele (QJE, 2020)

- This Paper:
- Evidence consistent with inattention in highly incentivized setting
  - Coibion, Gorodnichenko, Ropele (2022) also via actual choices
  - This paper shows that inattention/dismissal also when managers' claims/claim avoidance have major economic effects on the firm (change investors' expectations, lawsuits, etc.)
  - Important step given that incentivizing (firm-level) surveys is hard

Contribution 2: Methodology

- More broadly, relevant methodological contribution:
  - Opening black box of how managers think business cycle shocks, monetary and fiscal policy can affect their firms and hence thier choices...
  - ...in an incentivized setting
  - Narrative component of corporate disclosures as "highly-incentive surveys" to elicit beliefs, attitudes, views, choices
  - Opens the avenue of using recent methods from finance and accounting (textual analysis of corporate disclosures) in empirical macro
- Caveats (which this paper can dismiss, more later):
  - B/c of incentives, strategic motives in disclosures
  - Lack of homogeneous elicitation of economic beliefs, attitudes

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What Explains Managers' Underreporting Behavior?

- Authors' interpretation: Rational Inattention
  - Managers do not gather info on inflation risk until when it bites
  - Evidence for this channel in firm-level surveys (Coibion et al., 2018, 2020)

- Alternative interpretation 1: Strategic Motives
  - Managers know firm is exposed to inflation risk
  - They expect shareholders, market participants to not understand this form of risk
  - To avoid re-assessment of firm-level risk by investors, avoid disclosing

- Alternative interpretation 2: Correlation with Other Risks
  - Managers might disclose consequential risks that are due to inflation
  - e.g., financing risk: higher inflation→expect higher interest rates
  - Heavily indebted firms might report financing risk, not inflation risk

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Important to Disentangle Potential Drivers

- Disentangling Potential Drivers Important
  - Understand if managers are aware of macroeconomic information
  - If & how use such information in choices (price setting, wage setting, etc.) in an incentivized setting (adds to surveys)

- Evidence 1: Severe Underreporting (AND Overreporting!)
  - Underreporting: consistent with all 3 potential explanations
  - Overreporting: **barely consistent** with strategic motives & correlation with other risks!
  - The overreporting result is key to rule out both alternative interpretations

- Evidence 2: Higher Reporting After Class Action Lawsuits
  - Conistent with both rational inattention & strategic motives
  - Barely consistent with correlation with other risks, b/c reporting consequential risks enough to fight class actions

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More Tests: Disentangle Inattention vs. Strategic Motives

- Exploit the intensity of exposure
- So far, exposed (lower CARs if unexpected inflation) vs. unexposed
- BUT: intensity of exposure crucial:
  - Heavily exposed:
    likely unaware/inattentive $\downarrow$ AND incentive to underreport $\uparrow$
  - Barely exposed:
    likely unaware/inattentive $\uparrow$ AND incentive to underreport $\downarrow$
- Rational inattention should mainly arise among barely exposed
- Strategic motives among heavily exposed

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Understanding the Economic Channels

- Inflation risk relevant to firms' outcomes through at least 4 channels:
  - Demand:
    some industries lower demand when higher inflation, lower revenues
  - Input Costs:
    input good inflation, sticky-price firms might not fully pass through
  - Wages:
    if wage-price spirals, might be forced to increase cost of labor
  - Financing:
    higher inflation, expect higher rates, indebted firms will become riskier

- Which (perhaps multiple) channels drive underreporting?
- Very important to understand for what macroeconomic channels firms are inattentive, do not gether information, do not understand effects
- Also, important for policy through communication

Homogenize Elicited Info from Disclosure Texts

Item 1A. ***Risk Factors***

You should carefully consider the risks described below in addition to the other information set forth in this Annual Report on Form 10-K, including the Management's Discussion and Analysis of Financial Conditions and Results of Operations section and the consolidated financial statements and related notes. If any of the risks and uncertainties described in the cautionary factors described below actually occur or continue to occur, our business, financial condition and results of operations, and the trading price of our common stock could be materially and adversely affected. Moreover, the risks below are not the only risks we face and additional risks not currently known to us or that we presently deem immaterial may emerge or become material at any time and may negatively impact our business, reputation, financial condition, results of operations or the trading price of our common stock.

- ***Economic conditions in the U.S. and international markets could adversely affect our business and financial results.***

As a retailer that is dependent upon consumer discretionary spending, our results of operations are sensitive to changes in or uncertainty about macro-economic conditions. Our customers may have or in the future have less money for discretionary purchases and may stop or reduce their purchases of our products or switch to Starbucks or competitors' lower-priced products as a result of various factors, including job losses, inflation, higher taxes, reduced access to credit, changes in federal economic policy and recent international trade disputes. Decreases in customer traffic and/or average value per transaction without a corresponding decrease in costs would put downward pressure on margins and would negatively impact our financial results. There is also a risk that if negative economic conditions or uncertainty persist for a long period of time or worsen, consumers may make long-lasting changes to their discretionary purchasing behavior, including less frequent discretionary purchases on a more permanent basis or there may be a general downturn in the restaurant industry.

- ***Our success depends substantially on the value of our brands and failure to preserve their value could have a negative impact on our financial results.***

We believe we have built an excellent reputation globally for the quality of our products, for delivery of a consistently positive consumer experience and for our global social impact programs. The Starbucks brand is recognized throughout the world, and we have received high ratings in global brand value studies. To be successful in the future, particularly outside of the U.S. where the Starbucks brand and our other brands are less well-known, we believe we must preserve, grow and leverage the value of our brands across all sales channels. Brand value is based in part on consumer perceptions on a variety of subjective qualities.

Business incidents, whether isolated or recurring and whether originating from us or our business partners, that erode consumer trust can significantly reduce brand value, potentially trigger boycotts of our stores or result in civil or criminal liability and can have a negative impact on our financial results. Such incidents include actual or perceived breaches of privacy or violations of domestic or international privacy laws, contaminated food, product recalls, store employees or other food handlers infected with communicable diseases or other potential incidents discussed in this risk factors section. The impact of such incidents may be exacerbated if they receive considerable publicity, including rapidly through social or digital media (including for malicious reasons) or result in litigation. Consumer demand for our products and our brand equity could diminish significantly if we, our employees, licensees or other business partners fail to preserve the quality of our products, act or are perceived to act in an unethical, illegal, racially-biased, unequal or socially irresponsible manner, including with respect to the sourcing, content or sale of our products, service and treatment of customers at Starbucks stores, or the use of customer data for general or direct marketing or other purposes. Additionally, if we fail to comply with laws and regulations, publicly take controversial positions or actions or fail to deliver a consistently positive consumer experience in each of our markets, including by failing to invest in the right balance of wages and benefits to attract and retain employees that represent the brand well, our brand value may be diminished.

Identify Topics = Economic Channels: LDA

- They use the Latent Dirichlet Allocation (LDA) procedure

  Blei et al. (2003), Kelly et al. (2019), D'Acunto et al. (2021)

- Two Steps:
  - 1. Use large *corpus* of disclosure texts to define library of topics
    - Topics are groups of words consistently mentioned close to each other
  - 2. Assign each sentence in disclosures in sample to a topic

- Identify topics that are discuss in each disclosure

Constructing Topics from Full Sample of Contracts

- LDA assumes the full sample of contracts covers N topics
  - 1. Cluster words into the N topics based on how often they appear close to each other in the full corpus of contracts ($\approx$PC analysis)
  - 2. For each word, assign probability belonging to the topic based on how often it appears close to the other words in the topic
- From text to topic matrices:
  - List of words (topic) with attached probabilities of belonging
- Topic matrices can be represented as clouds ($\uparrow$ probability, $\uparrow$ size)

Levering Textual Analysis to Measure Channels

- Authors use LDA to identify topics in disclosures→economic channels

Demand

Input Costs

Wages

Financing

Tests to Assess Economic Channels

- Direct Test:
  - Which topics (beyond inflation) more likely in disclosures by previous underreporters after lawsuits = attention shock?
  - Direct evidence on which channels were dismissed by managers before
- Indirect Test:
  - Assess heterogeneous effects of class action lawsuits based on differential pre-exposure to economic channels
    - Demand:
      compare firms with high/low demand elasticities
    - Input Costs:
      compare firms with high/low price stickiness
    - Wages:
      compare unionized vs. non-unionized firms
    - Financing:
      compare high/low financial leverage firms

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Wrapping Up

- Evidence consistent with managers dismissing inflation risk in highly-incentivized setting
- Can push rational inattention interpretation even more than currently done using existing results
- Important to dig deeper into economic channels, also for policy
- Very impactful contribution methodologically, too!
  - Open avenues by eliciting on firms' beliefs, attitudes, choices from public & free disclosure documents