Discussion of "Inflation Expectations and Firm Decisions: New Causal Evidence" by O. Coibion, Y. Gorodnichenko and T. Ropele

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Introduction

- This paper is part of a broader literature that studies the role of beliefs in shaping aggregate outcomes
- A big part of this literature studies the formation of beliefs
- This paper: how changes in beliefs are translated into economic decisions
- Specifically, how changes in inflation expectations translate into changes in pricing, hiring, investment plans, credit utilization
- Strength of this expectations channel is especially relevant for the effects of forward guidance, fiscal policy announcements

How Expectations Affect Firm Decisions

- Answering this question is difficult
- We want to run regressions of the form

  $$y^i_{t+k} = \alpha_k + \gamma_k F^i_t \pi + controls + errorr^i_{t,t+k}$$

  where y^i_{t+k} is some decision of firm i and $F^i_t \pi$ is the firm's forecast of future inflation
- But expectations are endogenous. How can we generate exogenous variation in expectations, orthogonal to economic conditions?
- This paper: manipulate firms' information about inflation → random variation in expectations ⇒ big real effects

My Discussion

1. The information treatment
2. Interpreting how firms respond

The Treatment

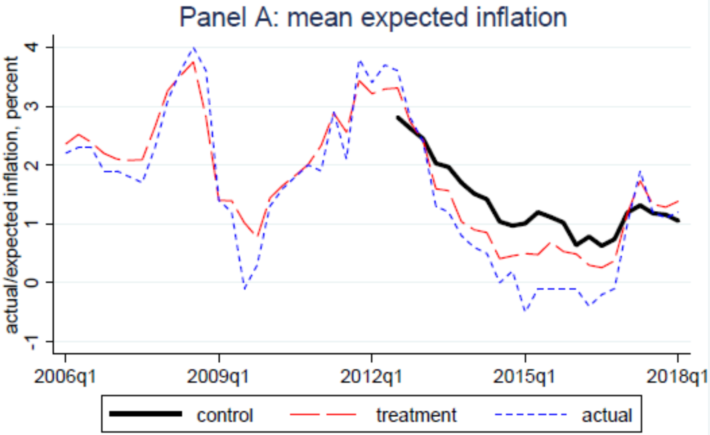
- Survey of Italian firms reporting expectations about economic conditions & past and planned choices (pricing, hiring, ...)
- Treatment: some firms are randomly chosen to be told last month's inflation in Italy and Euro area prior to answering
- Control: the remaining firms are not given any information
- That this information should affect firms' expectations is backed by evidence in Coibion, Gorodnichenko & Kumar (2018): firm managers (in NZ) are not very well informed about recent inflation dynamics

The Treatment

- Also confirmed here: the treated firms subsequently report inflation expectations that differ significantly from the firms in the control group
- Firms do not have RE: that this treatment systematically changes the mean forecast of the treated firms means that firms' expectations are biased to begin with (also consistent with other survey evidence)

The Treatment

Figure 3. Time series of inflation expectations for treatment (with past actual inflation) and control groups.



The Instrument

- Use dummy if treated x last month's inflation as an instrument for inflation expectations in regressions of firm decisions
  - Without the info treatment, recent inflation should be correlated with decisions in the same way for all firms (and through all the usual channels)
  - Any systematic difference in the decisions of treated firms can be attributed to the treatment

The Instrument

- One wrinkle: The treatment has two effects:
  - → It generates exogenous variation in inflation expectations
  - → It also reduces uncertainty about the state of the aggregate economy
  - → May make firms more responsive to the aggregate state, and contribute to finding big effects
  - → Would like to control for this reduction in uncertainty to isolate the effect of changing expectations alone

The Instrument

- Another wrinkle: Future decisions y^i_{t+k} are affected by the sequence of treatments between $t-1$ and $t+k-1$, and these treatments are serially correlated

  $\rightarrow$ May explain why effects are growing with horizon k

  $\rightarrow$ Would want to include these treatments as controls

Interpreting the Findings

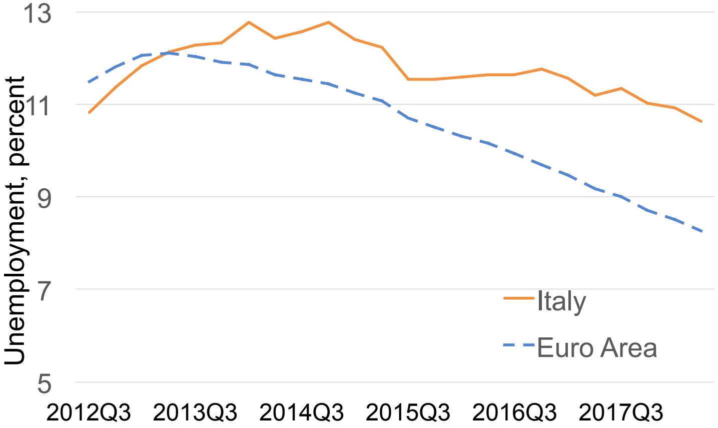
An increase in inflation expectations is associated with

- small and transient price increases
- large reductions in the number of employees
- plans for lower investment
- gradual increases in the utilization rate of credit lines and expectations of reduced access to credit
- expectations of worsening, persistent economy-wide and firm-specific conditions
- higher uncertainty about the economic outlook
- effects change a lot after 2014.Q3 (onset of the ELB)

Interpreting the Findings: Full Sample

- Why do firms expect lower economic activity going forward when they find out that recent inflation has been high?
- Firms are not told why recent inflation went up
- They seem to understand that this info treatment is not an exogenous shock orthogonal to aggregate conditions
- The reason for the increase matters, as does the expected policy response
- Firms are quite sophisticated in how they respond to this information and their responses are state-dependent
- What are they responding to? Possible story: external factors

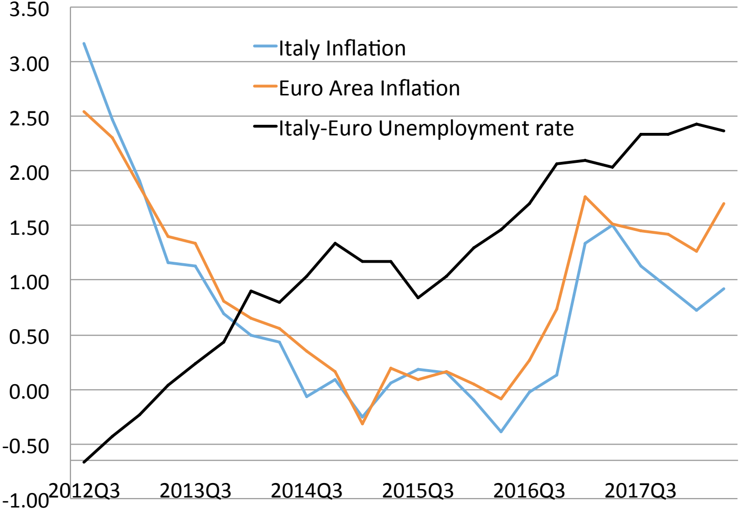
Interpreting the Findings: Italy vs. Euro Area



Interpreting the Findings: Italy vs. Euro Area

- Starting in 2013Q3, the unemployment rate in the Euro area starting falling faster than in Italy
- But inflation in Italy was very close to the Euro area rate

Interpreting the Findings: Italy vs. Euro Area



Interpreting the Findings: Italy vs. Euro Area

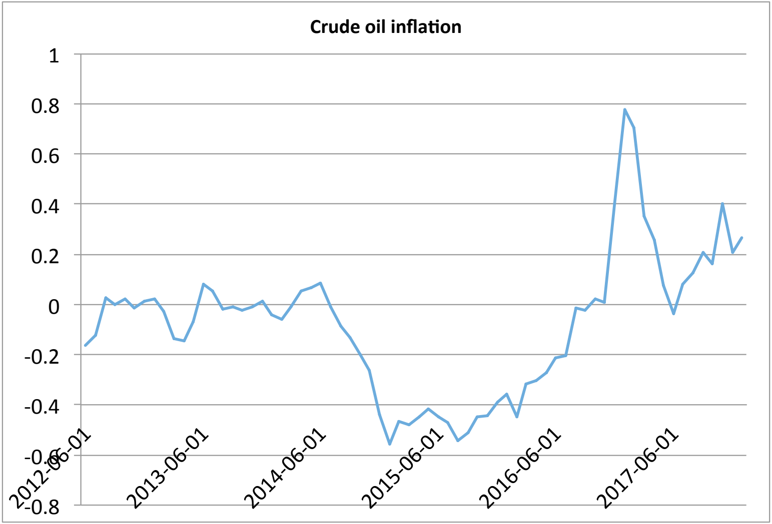
- Starting in 2013Q3, the unemployment rate in the Euro area starting falling faster than in Italy
- But inflation in Italy was very close to the Euro area rate
- Expectations of higher inflation (in both Italy and the Euro area)

  $\rightarrow$ the ECB might become less accommodative at a time when Italy continues to struggle $\rightarrow$ bad for Italy's economy
- Firms might nevertheless raise prices if treatment makes them more attentive to inflationary pressures in input costs and if they attribute recent inflation to higher oil prices - tend to see strong association

Interpreting the Findings: Oil Prices

- There was also a big increase in crude oil prices starting in 2016Q4

Interpreting the Findings: Oil Prices



Interpreting the Findings: Oil Prices

- The oil price increase might be confounding the ELB effects
- Firms could expect it to translate into higher input costs and lower household purchasing power, though perhaps expected to be transitory (hence firms don't reduce employment, but use their credit lines more)
- Consistent with firms' statements about raising prices due to higher input costs
- Transitory nature of the increase consistent with firms' expecting higher uncertainty only in the short run
- Lastly, occurring during a time of falling unemployment, which might explain expectations of stronger demand

Conclusion

- Neat manipulation of firms' beliefs about the state of the economy + wealth of information about what firms are thinking
- Evidence that inflation expectations affect decisions significantly (which suggests firms might want to be less inattentive to inflation!)
- But firms' responses are quite sophisticated: whether higher expectations are stimulative or recessionary depends on the context: at vs. away from the ZLB, and as a function of what firms believe is moving inflation
- Still, difficult to disentangle if responses reflect the change in expectations about inflation specifically or the reduction in uncertainty about the state of the economy