

# Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?

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Economics of Pandemics, Climate Change  
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Why important?

- If demand increases (i.e. borrowing $\uparrow$ ) : eq. real rate increases, possible inflationary pressures, no need of demand support
- If demand declines (i.e. saving $\uparrow$ ) : eq. real rate needs to fall. If that cannot happen (ZLB), output of **B** falls: additional inefficient contraction!

## How does a negative shock in A affect demand in B?

- *Income effect (-)*: depends on persistence of COVID shock and whether workers can access financial markets
- *Intertemporal substitution (+)*: less **Airline travel** today, increases marginal utility of **Bricks** (relative to tomorrow), higher demand for **B** (standard consumption smoothing argument)
- *Complementarity (-)*: less **A** today, lowers marginal utility of **Bags** (relative to tomorrow), lower demand for **B**

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- Main hypothesis: even if shock is temporary, a combination of complementarity and income effect through incomplete markets induces a fall in demand for **B**
  - ▶ Reduction in demand from all workers, who don't want to consume **Bags**, when **Airtravel** is not available, knowing that it will be available tomorrow
  - ▶ Reduction in demand from **Airtravel** workers who have no income and can't borrow (incomplete markets make temporary shock permanent)

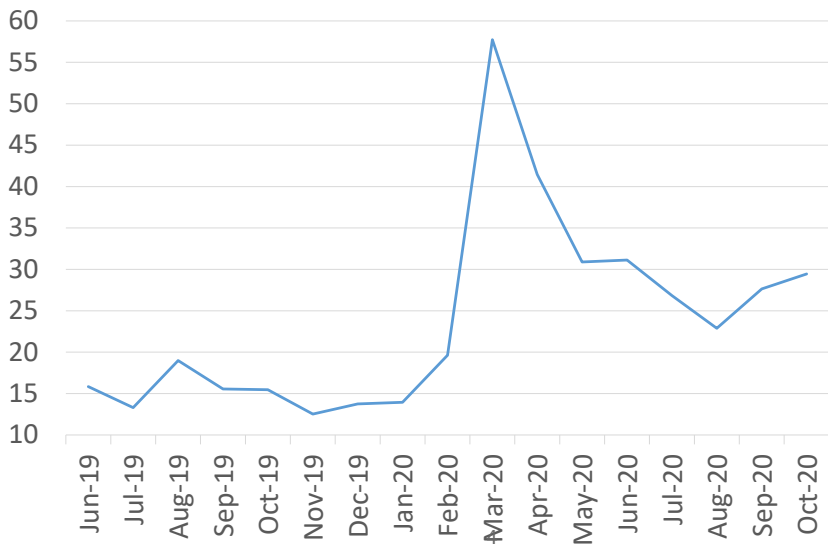


# My Discussion

- Two competing/alternative hypotheses for additional decline in demand triggered by COVID: time varying uncertainty, investment
- A cursory look at data to assess the importance of the two hypotheses

COVID brings about a very large (but temporary) increase in uncertainty!

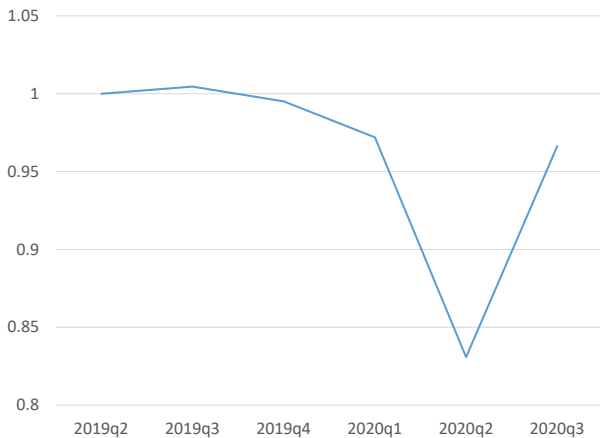
VIX



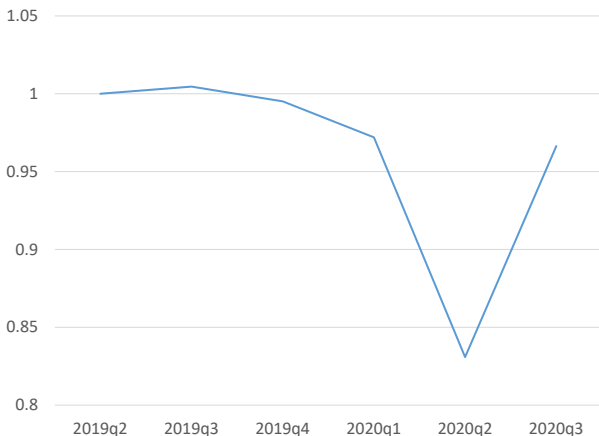
# Uncertainty and demand

- As uncertainty about future fundamentals increases (for example, on whether a sub-sector in **B** will be shutdown, on severity of disease), demand for **B** decline for two reasons
  - ▶ Value of waiting increases, firms postpone investment
  - ▶ Precautionary motive increases, consumers reduce demand to increase their buffer stock

# Real Gross Private Investment



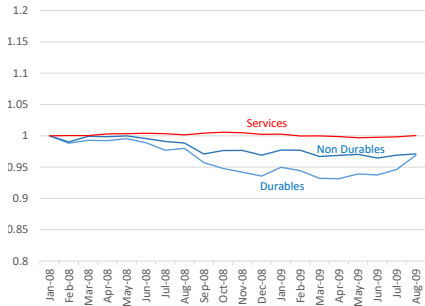
## Real Gross Private Investment



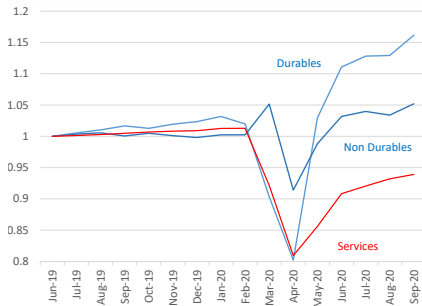
- Decline in investment demand possibly first order to account for reduction in demand for **B**
- Large decline in investment can happen because
  - ▶ Increase in uncertainty
  - ▶ If shutdown expected to be persistent, **A** firms (Airlines) might want to trim down their capital stock, which requires large fall in investment flow

# Consumption expenditures in A and B, in two recessions

## Great Recession



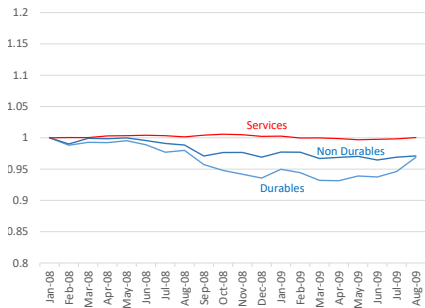
## Covid



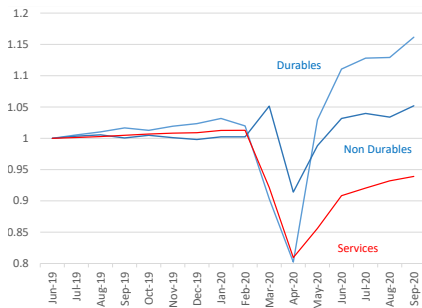
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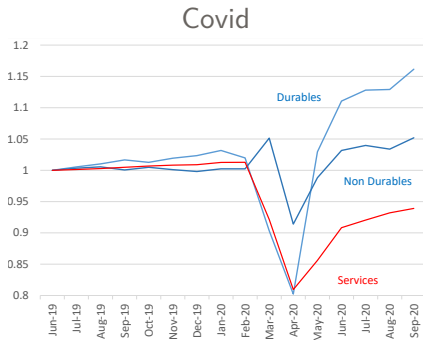
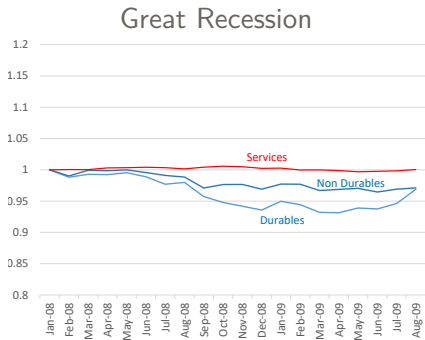


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- Initial phase of COVID recession consistent with complementarity story!
- Second part less so: Services (A) still depressed, yet Durable and Non Durable (B) largely recovered
- Possibly time varying uncertainty also playing an important role in bust-boom in non shutdown sector



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- Thinks in new ways about how sectoral shocks can reverberate through the economy, and potential policy responses!
- Next steps:
  - ▶ How big is the demand drop coming from channels highlighted in the paper v/s alternatives?
  - ▶ Use data on (together with model) possibly useful to answer the question