

Discussion of:
“The Expectations Channel
of Climate Change:
Implications for Monetary Policy”
by Dietrich, Muller & Schoenle

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An intriguing paper!

- High (subjective) expectations of natural disaster in near future create negative demand impulse
 - A positive theory of low r^*
- Policy: CB should accommodate in response to pessimistic climate change beliefs
- Based on survey data on beliefs fed into a “standard” DSGE model

Comments

1. Validating the mechanism empirically
2. Measurement of beliefs
3. Potential mechanisms from beliefs to outcomes
4. Policy implications

1. Validating the mechanism empirically

- Suggestion to validate the mechanism:
 1. Link beliefs to choices (or to other beliefs!)
 - Is it true that pessimists save more? in safe assets?
 - That they expect low inflation?
 2. Test across US regions
 - Natural disaster risk very uneven in the US
 - Are these effects stronger in high risk areas?

2. Measurement of beliefs

- *“As a result of climate change, the risk of natural disasters is likely to increase. The economic damage of such disasters may be sizeable.
What is the probability over next 12m of a large disaster causing damages of about 5% of GDP?”*
- Median response: 12%
- Half of the people think the prob of a disaster 4 times larger than Katrina (1.3% of GDP) next year is $\geq 12\%$
- Fairly pessimistic!
- Would be interesting to benchmark by asking same Q to climate change specialists

2. Measurement of beliefs

- Paper discusses various reasons for pessimism:
 - Peso problem, Tipping point, Behavioral biases
- Framing of Q?
- Quantitative Literacy?
 - complex question - probability, horizon, size ...
- Do people interpret the Q as local risk?
 - effect of past disasters interpreted as “salience”
 - but could also be rational forward-looking local risk

3. Potential model mechanisms

- Does the model provide a reasonable link from beliefs \rightarrow outcomes?
- How does risk of near-term disaster affect economy?
 1. Flex price: more risk leads to higher invt & output if capital is not risky or if IES is low
 2. Sticky price: lower Y & π if MP not reactive enough
- How do we model natural disaster?
 - capital destruction and productivity loss
 - but is productivity shock permanent in the US?

3. Potential model mechanisms

- More generally: suppose you think risk of disaster is high. What do you **do** today?
 - if you think you may be affected by disaster
 - invest in adaptation: power generator...
 - save more in assets not exposed to disaster
 - invest less in real estate
 - buy (more) insurance
 - if you think some other region in the US might be
 - nothing?

4. Policy implications: Trend vs. Shocks

1. A permanent shift towards “climate change pessimism” (or realism?) means a lower r^*
Lots of work on policy implications of a low r^*
e.g., key motivation for new Fed policy framework (AIT)
In principle, can adjust to slow-moving r^*
2. A source of additional “demand shocks”
May require high-freq CB response, but not unlike other demand shocks - so standard Taylor rule should do OK

4. “Paradox of Communication”?

- *“to the extent that central bankers engage in the debate about climate change... they may foster adverse expectations”*
- True, but given the current expectations seem perhaps unduly pessimistic, CB communication could improve both accuracy & optimism!

Conclusion

Great paper, intriguing

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