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# International Monetary Stability: A Multiple Equilibria Problem?

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# Introduction

## The international monetary stability debate

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- Should monetary policy be better coordinated across countries?
  - A classic question in international macroeconomics.
- In recent years, this question has again moved to center stage.
  - Unconventional monetary policy in the U.S., in particular, has been met with criticism from emerging markets.
  - The “taper tantrum” of the summer of 2013 re-energized the debate.
  - A surprise renminbi (RMB) devaluation in the summer of 2015 seemed to cause substantial volatility in global financial markets.

## Conventional wisdom and an alternative

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- In these remarks, I will lay out some conventional wisdom concerning international monetary stability based on a standard, multi-country New Keynesian model.
- I will then present an alternative interpretation based on a very similar New Keynesian model, but with some policymakers following “bad” monetary policy.
- “Bad” monetary policy will have a precise definition in this story.

## Multiple equilibria

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- The conventional wisdom suggests that under “good” monetary policy in each country, worldwide equilibrium is unique and international policy coordination is unnecessary.
- Key condition: The Taylor principle is followed in each country—this defines “good” policy.
- Post crisis, the zero lower bound (ZLB) has made it hard to tell if the Taylor principle is being adhered to internationally.
- In the alternative view, the Taylor principle is not met by every central bank worldwide—this defines “bad” policy.
- Research shows global equilibrium is not unique in this case.

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# Conventional Wisdom

## A traditional view

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- Some literature reflecting a traditional view:
  - Obstfeld, Maurice and Rogoff, Kenneth. “Global Implications of Self-Oriented National Monetary Rules.” *Quarterly Journal of Economics*, May 2002, 117(2), pp. 503-35.
  - Clarida, Richard; Galí, Jordi and Gertler, Mark. “A Simple Framework for International Monetary Policy Analysis.” *Journal of Monetary Economics*, July 2002, 49(5), pp. 879-904.

## The international economy in a traditional view

- There are many interacting “New Keynesian” (NK) economies.
- Capital is mobile internationally.
- All exchange rates are perfectly flexible.
- Shocks occur at the country level.
- Each country has an independent monetary policy characterized by a Taylor-type policy rule.
- “Good” policy obeys the Taylor principle: Nominal interest rates are adjusted more than one-for-one with deviations of inflation from an inflation target.



## Monetary policy cooperation in a traditional view

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- Should the world's central banks coordinate policy in this environment? No.
- Suppose all policymakers worldwide follow “good” policy focused only on domestic variables.
- Then:
  - Worldwide equilibrium is unique.
  - The payoff from international policy coordination is small.

## What are these small gains?

- Any gains from policy cooperation in the NK setting stem from taking into account the effect of foreign economic activity on the domestic marginal cost of production.
  - Under cooperation a central bank should respond to foreign inflation as well as domestic inflation.
- But policymakers do almost as well with respect to their goals by simply ignoring this effect.
- Hence, the gains are small.

## Conclusion for the traditional view

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- Many have concluded from this pre-crisis line of thinking that it does not pay to worry about international monetary policy cooperation.
- The thinking is that the possible gains are small and, practically speaking, it would be hard to get the world's policymakers to play the cooperative equilibrium.

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# An Alternative View

## An alternative view

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- Literature reflecting an alternative view:
  - Bullard, James and Singh, Aarti. “Worldwide Macroeconomic Stability and Monetary Policy Rules.” *Journal of Monetary Economics*, October 2008, 55(Supplement), pp. S34-S47.
  - Written before the crisis, but possibly more relevant today.

## The international economy in an alternative view

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- All the features of the NK international economy are the same as in the traditional view.
- The only difference is that monetary policymakers in one or more countries are not following “good” policy.
- This means that at least one national policymaker does not adjust the degree of policy accommodation more than one-for-one in response to deviations of inflation from target.
  - That is, monetary policy does not obey the Taylor principle in at least one country.

## The suboptimal policy assumption

- Is it reasonable to assume that some countries are following “bad” policy—that is, not obeying the Taylor principle? Maybe.
- These are not normal times for monetary policy in the U.S. or the world economy.
- In particular, in many countries, it is difficult for monetary policy to respond to declines in inflation when the policy rate is subject to the ZLB.
  - Quantitative easing (QE) and forward guidance may or may not substitute effectively.

## Monetary policy cooperation in an alternative view

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- Suppose some national policymakers do not follow “good” policy.
- The nature of the theoretical results:
  - Worldwide equilibrium is no longer unique.
  - This means many volatile equilibria exist, and they are all consistent with market-clearing and rational expectations.
  - Observed volatility may be much larger than what would be observed if key central banks were following more normal policies away from the ZLB.
  - Shocks to expectations around the world would be important.



## Conclusion for the alternative view

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- Under the alternative view, the problem is that some countries are not following the Taylor principle, possibly because they cannot do so due to the ZLB.
- The result is multiple equilibria and, potentially, a lot of excess volatility in the worldwide equilibrium.
- Whether the U.S. or other countries are following the Taylor principle today hinges on what one thinks about unconventional monetary policy.
  - If unconventional monetary policy is ineffective, then the global equilibrium may be overly volatile.

## Reasonable?

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- The alternative view may be one way to represent recent events in global financial markets in response to monetary policy decisions.
  - Examples may include the “taper tantrum” in 2013, the global reaction to prospective European Central Bank’s QE during the fall of 2014, and the surprise devaluation of the RMB in August 2015.

## Relation to Taylor

- John Taylor (2013) interprets recent monetary policy developments in the U.S. and other advanced economies (zero short-term interest rates and QE programs) as a deviation from rules-based policy.\*
- Deviations from rules-based policy at some central banks create incentives for other central banks to deviate.
- This results in an inefficient global equilibrium.
- This idea has a similar flavor to the one presented here.
- I interpret “deviating from rules-based policy” as “following a Taylor-type rule which does not obey the Taylor principle.”

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# Conclusion

## Conclusion

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- The conventional wisdom provides a good framework for thinking about the pre-crisis situation in international monetary policy.
- The more radical, but less established, multiple equilibria view may be one way to describe post-crisis global financial market reaction to central bank decisions.
- The difference between the conventional wisdom and the alternative view is essentially a judgment on whether U.S. and foreign monetary policymakers have been able to replicate “good” monetary policy rules in the aftermath of the financial crisis.

## Bottom line

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- A reasonable conclusion may be that not all key central banks have been able to replicate pre-crisis “good” policy with post-crisis unconventional monetary policy tools.
- This would make the multiple worldwide equilibria view more nearly correct.
- However, I admit that there is plenty of room for debate on this issue.



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