Monetary Transmission in Diverse Economies
Two Pertinent Issues:
Forward Guidance and
FX Reserve Requirement

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Two pertinent issues in diverse economies…

Standard monetary policy paradigm:

Change the key policy rate to affect aggregate demand.

But…

1. In developed countries: ZLB problem; have to use other instruments including QE and forward guidance.

2. In developing countries: high dollarization; have to manage the dollarized part of the economy.

Forward guidance…

Giving a full path or a partial indication of the future policy rate decision

The purpose: impact aggregate demand, reduce market volatility, improve inflation-output trade-off.

Types:

1. policy path projection (accountability) or statement (uncertainty).
2. implicit (short-term direction) or explicit (longer-term time or threshold based).
3. qualitative or quantitative.

Can be used as a part of regular communication or in extraordinary circumstances.

Forward guidance: When does it matter more?

1. A change in the policy reaction function, temporary or permanent.

2. With new instruments used: QE, RR, macropruential.

3. Generally:

- In times of other greater uncertainty (reaffirming the policy reaction function) or

- higher required accountability (policy path projection).

Forward guidance: It can harm!

1. Perverse effect:

Associating long periods of low interest rate with slower than expected recovery.

=> no impact on AD and worse inflation-output trade-off.

2. Over-commitment and time-inconsistency:

De-anchoring inflation or reducing credibility down the line.

=> worse inflation-output trade-off.

3. Simply confusing.

=> higher market volatility.

Forward guidance: Issues

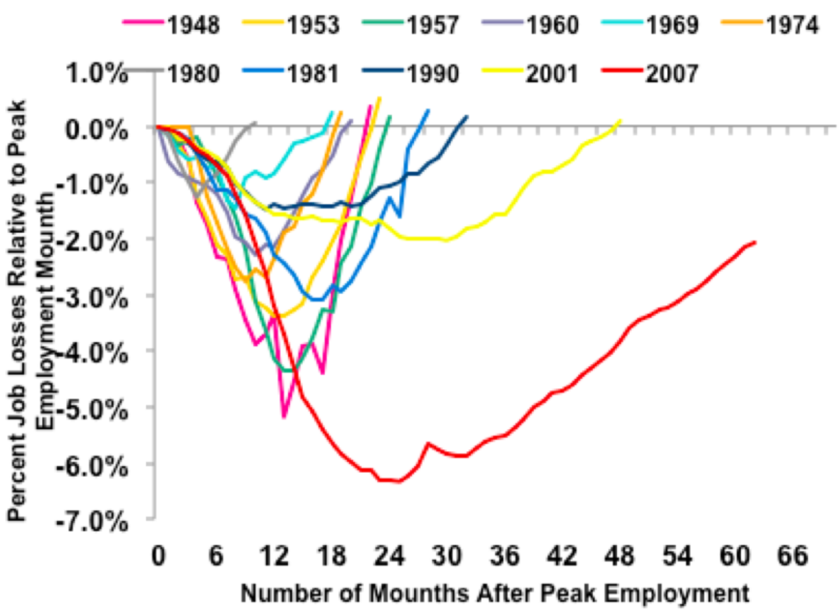
1. Is there a case for a non-linear monetary policy reaction in recessions?

2. Does forward guidance help bring market interest rates down across the curve?

3. Will that transmit to an improved inflation-output trade-off?

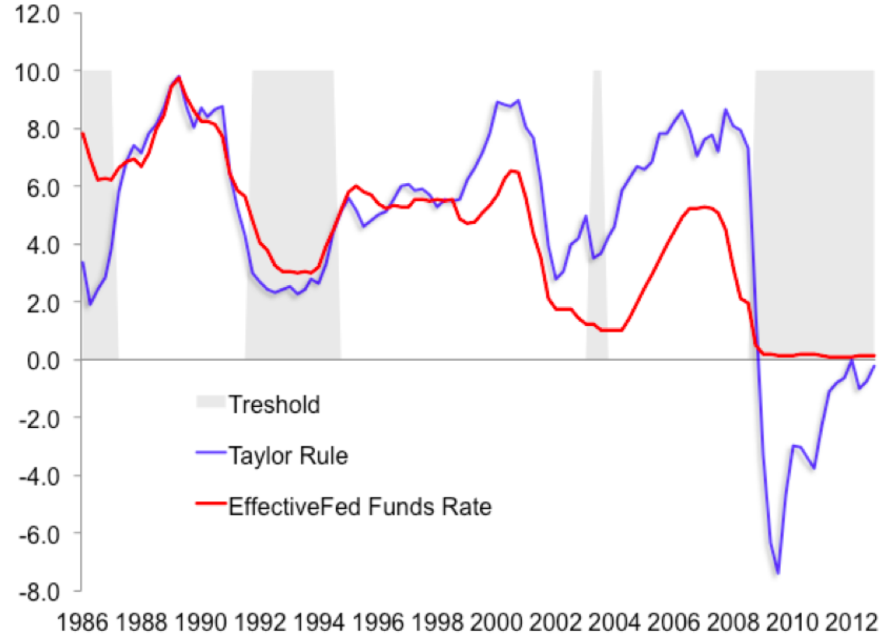
Is there a case for a non-linear policy in recessions?

Chart 1: Percent job losses in post-WWII recessions



Source: U.S. Department of Labor: Bureau of Labor Statistics

Chart 2: FED funds rate and Taylor rule



- current financial crisis is large and prolonged
- large GDP and employment losses: risk of hysteresis trap
- ZLB constraint – risk of liquidity trap

Non-linear policy reaction in recessions (2)

No consensus of what should be the proper response to hysteresis or liquidity trap, but more aggressive ‘non-linear’ cut might be a valid option.

Stockhammer and Sturn (2012): OECD countries that cut interest rates more aggressively in recessions, experienced a smaller raise in NAIRU.

Akin to overreacting to inflation to bring inflation expectations down?

Any non-linear reaction must be further explained, and threshold-based forward guidance may help.

Clarifying policy reaction with forward guidance

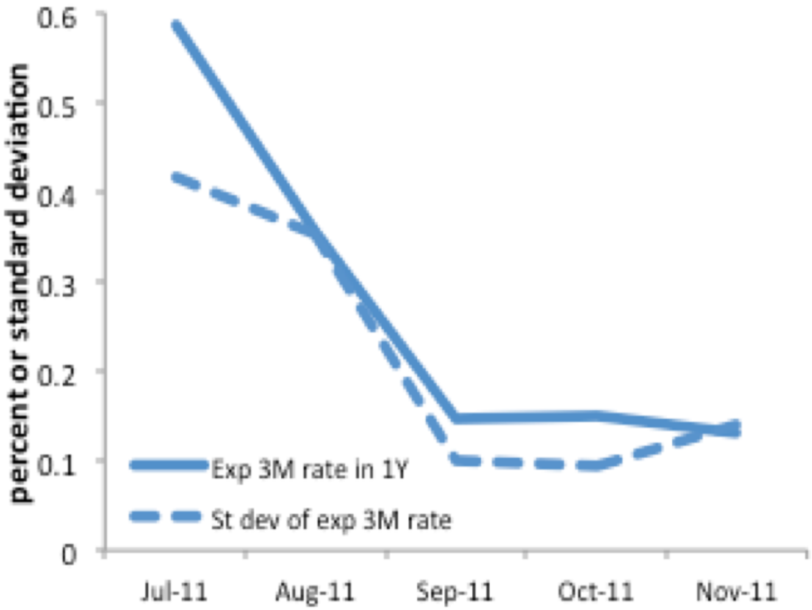
The biggest issue: time-inconsistency

Would it help if the threshold-based forward guidance remains a permanent part of the policy framework?

Whenever we have recession that is expected to bring unemployment to more than x% for more than x quarters, we will act more aggressively to output, as long as inflation expectations remain below x %.

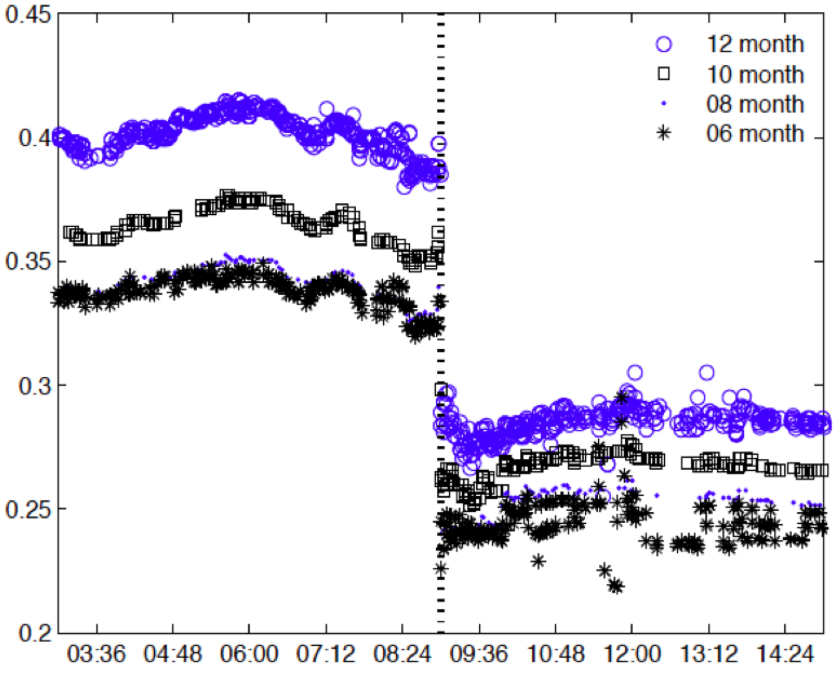
Will forward guidance help bring down market interest rates across the curve?

Chart 3: Expected 3-month rate in the US (August 2011 event)



Source: Consensus Forecast

Chart 4: OIS rates in Canada on 21 April 2009

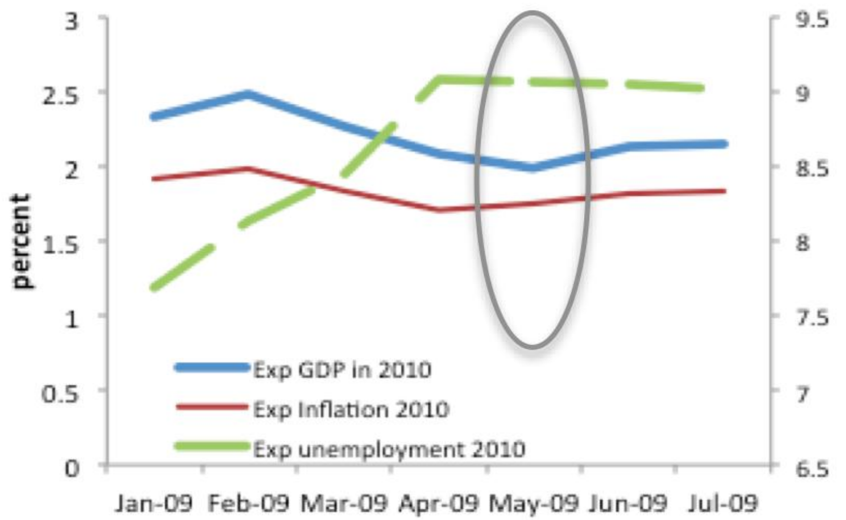


Source: Woodford (2012)

Yes: suggests empirical evidence.

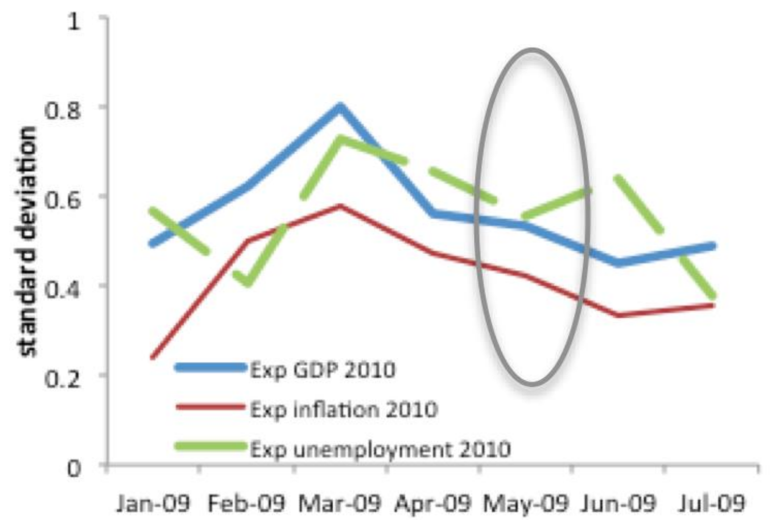
Will that transmit to an improved inflation-output trade-off?

Chart 5: Expected 2010 GDP growth, inflation and unemployment in Canada (April 2009)



Source: Consensus Forecast

Chart 6: Dispersion of 2010 GDP growth, inflation and unemployment expectations

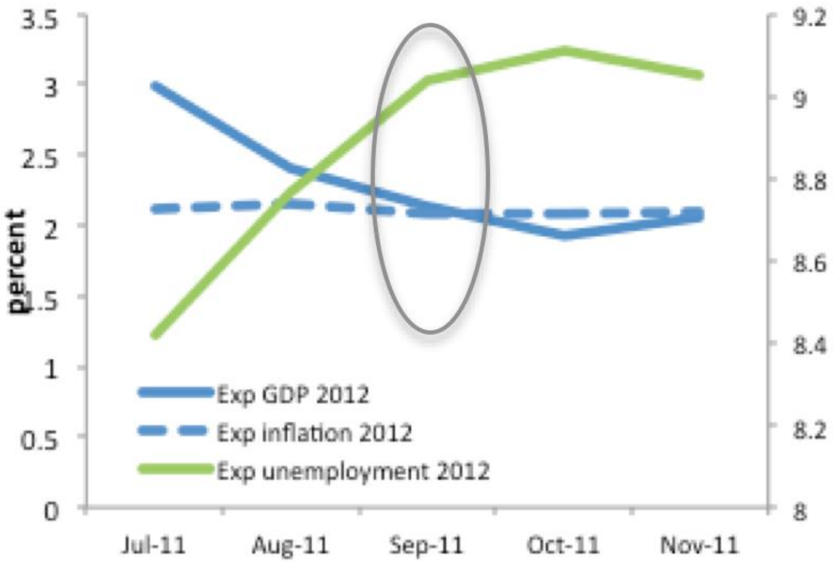


Source: Consensus Forecast

Evidence from April 2009 episode in Canada suggests yes.

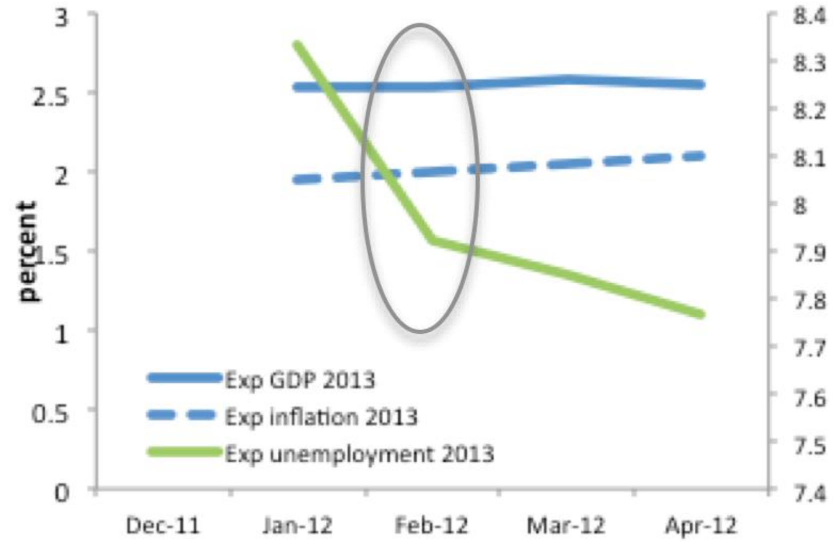
Will that transmit to an improved inflation-output trade-off?

Chart 7: Expected 2012 GDP growth, inflation and unemployment in the US (August 2011 event)



Source: Consensus Forecast

Chart 8: Expected 2013 GDP growth, inflation and unemployment in the US (Jan 2012 event)



Source: Consensus Forecast

But, the evidence is inconclusive.

While the January 2012 event in the US suggests yes, the August 2011 event in the US suggests no.

Forward guidance: Conclusion

1. There may be the case to react in a non-linear way when faced with hysteresis trap.

2. Threshold-based forward guidance may help clarify non-linear reaction.

3. But, if deemed time-inconsistent, it can lead to an unfavourable inflation-output trade-off?

Forward guidance might also help when using multiple instruments in dollarized economies…

Dollarization…

Common phenomenon around the world.

Types:

1. official (full dollarization, dual currency regimes)
   - 15 countries, including currency boards
2. transactional
3. financial

Financial dollarization exists in many inflation targeting or managed floating countries, many of which have de-dollarization programs, which take decades to succeed.

What to do in the meantime?

Using FX reserve requirement as a tool to affect dollarized part of the economy

How it works?

$$i^{LCL} = i^{NCB} + f(RR^{LC}) + \varepsilon$$

$$i^{FCL} = i^{ECB} + f(RR^{FX}) + \varepsilon$$

If non-remunerated, RR resemble a tax on the banking sector and widen the wedge between deposit and loan interest rates.

The purpose of FX reserve requirement

1. As a monetary policy tool to affect credit conditions.

2. As a financial stability tool to protect (FX) depositors.

3. To allow a quick FX supply in case of a bank run on FX deposits.

4. To manage exchange rate through FX interventions from gross FX reserves.

FX reserve requirement: It can harm!

Potent, but blunt instrument:

1. A change in RR affect directly banks’ balance sheets and the profitability, so too frequent or abrupt changes can pose a risk to financial stability.

2. It is imposed on the whole deposit base (or wider liabilities), and it is thus retroactive as opposed to interest rate changes (unless marginal reserve requirement is used).

Its monetary transmission varies across countries

1. Are FX RR remunerated?

2. Are FX RR held in the central bank or abroad (Suriname)?

3. Are there exceptions to FX RR (Serbia prior to 2010)?

4. Are FX RR held in FX or local currencies?

5. How are FX RR calculated (average of current or previous period)?

6. Are there alternatives to domestic funding (easily accessible cross-border loans)?

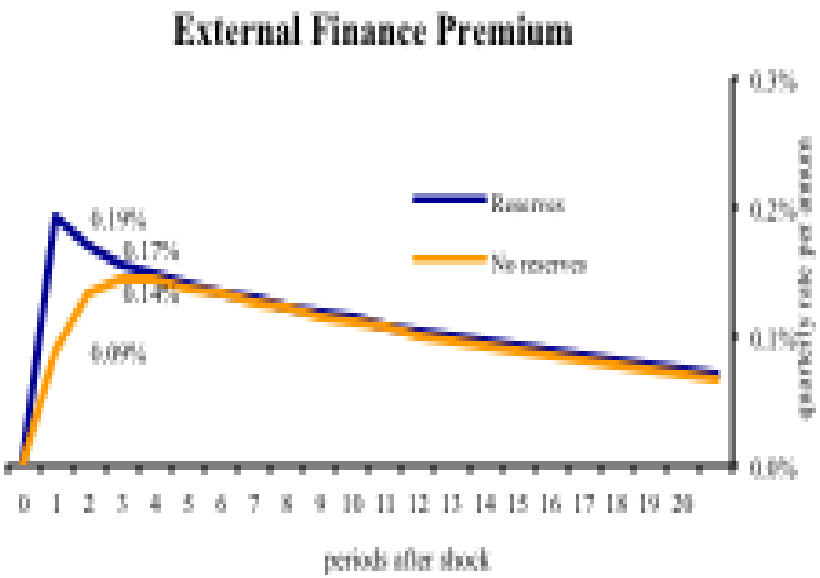
Any RR interacts with policy rate MTM

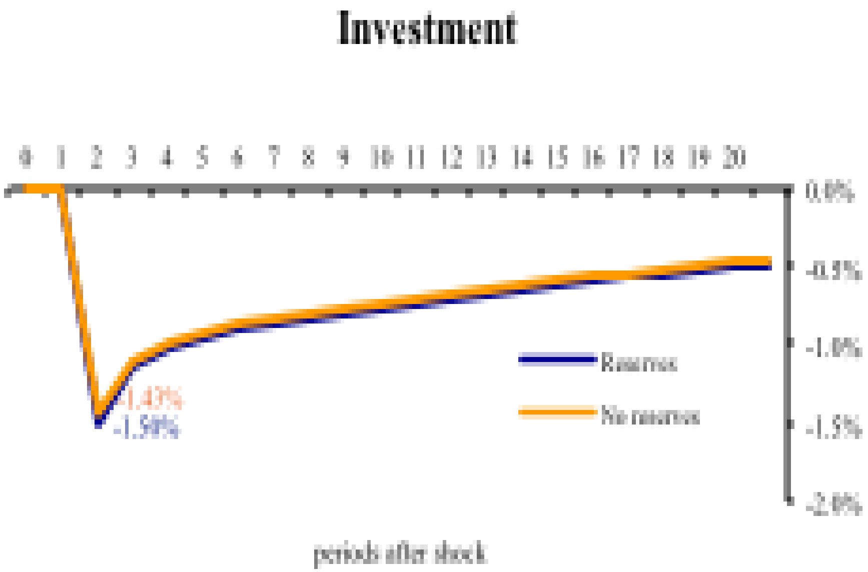
Table 1: Long-term implications in the BGG type model

Parameter		$rr = 0$	$rr = 0.1$	LR effect
Probability of loan default	$F(\overline{\omega})$	4.05%	3.98%	
External finance premium	$R^K - R$	1.77%	1.84%	
Ratio of external to total finance	$\frac{L}{QK}$	47.53%	47.39%	
Reserve requirements	rr	0%	10%	
Volume of loans	L	3.2201	3.1818	-1.2%
Firms' net worth	N	3.5544	3.5322	-0.6%
Investment	I	0.1694	0.1678	-0.9%
Output	Y	0.8467	0.8431	-0.4%
Consumption	C	0.4404	0.4398	-0.1%
Firms' consumption	C^e	0.0540	0.0537	-0.6%

Any RR interacts with policy rate MTM (2)

Chart 9: Short-term implications of RR in case of 1% policy rate shock in the BGG type model





This analysis does not show financial stability benefits of reserve requirement.

But FX RR additionally interact with key policy MTM

In many countries market participants can choose whether to take FX or local currency loan.

Portfolio rebalancing effect:

If the relative cost of FX loan goes up, as a result of hiked FX RR, some market participants may switch to local currency loans, and vice versa.

Two academic questions:

1. Is there a portfolio rebalancing effect, which reduces the strength of the transmission of FX reserve requirement or the key policy rate in dollarized economies? What is the empirical evidence?

2. How to optimally combine two instruments with the different monetary transmission mechanism affecting economic conditions at the same time?

FX RR and key policy rate.

But also more general: QE and key policy rate; macroprudential and key policy rate.

FX reserve requirement: Conclusion

1. Best available instrument to affect the dollarized part of the economy.

2. But also a useful tool for FS safety net, and managing the exchange rate.

3. Multiple goals may pose a problem.

4. Interacts to standard tools of monetary policy and may cause a portfolio rebalancing.

5. Need to analyse the optimal way to use it.

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