# Inflation Targeting in High Inflation Emerging Economies

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# Congratulations

**40th Anniversary**

**MCMLXXVIII - MMXVIII**

**Universidad Del CEMA**

# Relation Between Inflation Targeting and Monetary Policy Rules

- A symbiotic mutually beneficial relationship:
  - One cannot reliably achieve an inflation target without a policy rule.
  - One cannot reliably design a monetary policy rule without an inflation target.
    - Inflation Target Does Not Have to be Numerical
- Monetary policy rules have different instruments
  - Recent change in monetary policy rule from an interest rate rule to a money base rule.
- International Monetary Policy & Emerging Economies

# Monetary Policy Framework

- Goal (inflation target, real GDP, employment)
  - An objective function
- A monetary instrument
  - Interest rate
  - Monetary base
  - Exchange rate
- An economic model to connect instrument to goal
  - In practice there is a tradeoff curve.
- Finding a rule for the instrument which can be communicated domestically & internationally.
  - Thus a *rules-based* monetary policy framework.
- So inflation targeting is not enough. You need to have a policy procedure—a policy rule—to achieve the target.

# Some Early Inflation Targeters' Views on Inflation Targeting and Policy Rules

"…it is a mistake to think of inflation targeting as some kind of new approach to monetary policy

- All the debates about how to formulate monetary policy in order to deliver the best outcomes are still relevant.
  - Should we use monetary aggregates?
  - Should we use Taylor rules?
  - Should we simply adjust interest rates so that…the exchange rate produce[s] the desired effect on the domestic price level?"

-- *Don Brash*

"inflation target is an efficient framework to conduct monetary policy.

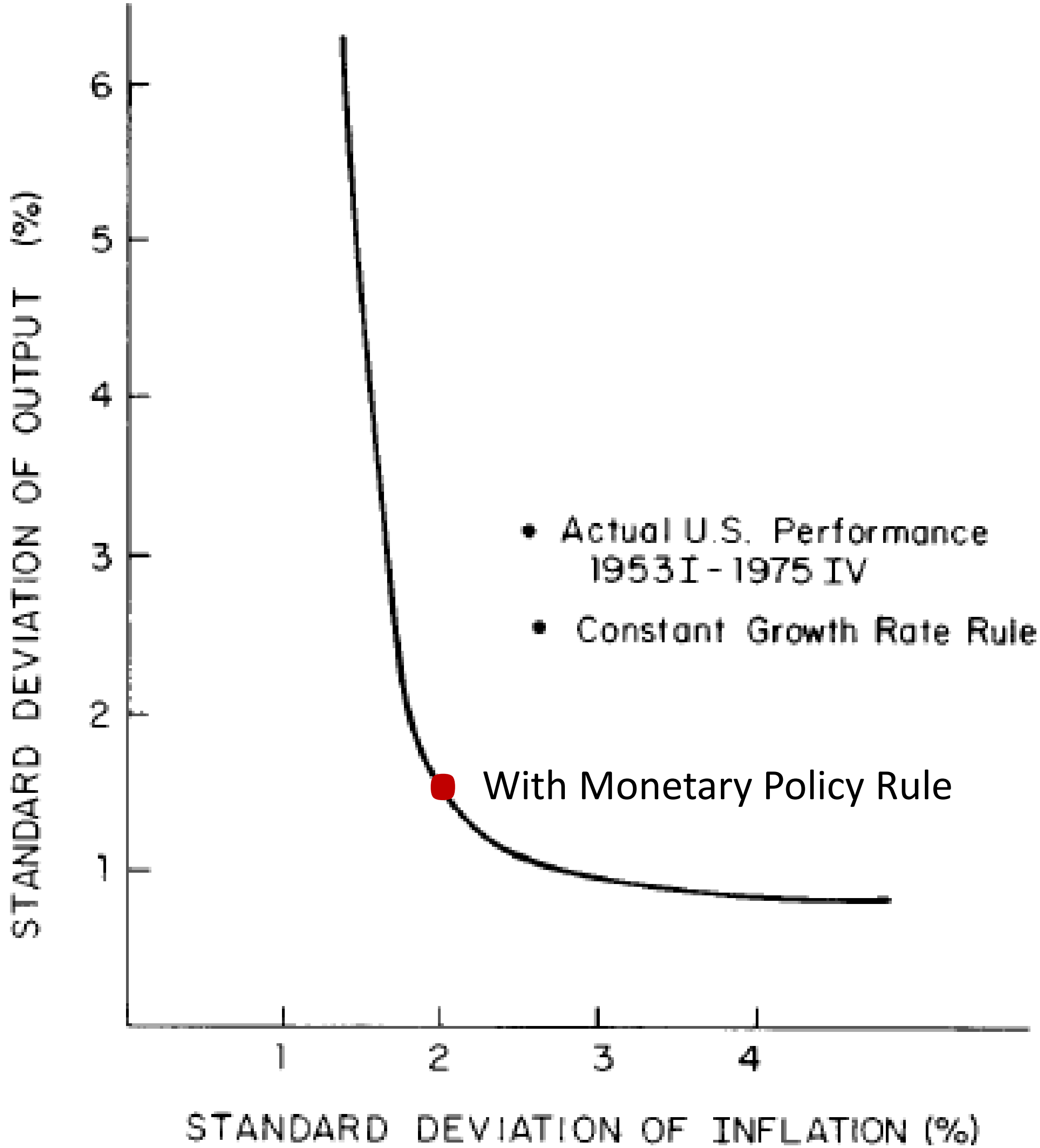
- The issue then is how to operationalize this framework.
- When should monetary policy be tightened or loosened? The most traditional answer is the Taylor rule…."

A good policy rule is one in which the fluctuations round the target inflation rate are small."

-- *Jose De Gregorio*

# Money Growth Rules & Inflation Targeting

- From the start, for me (1968), instrument = money.
- With empirical models, calculated a policy rule—an equation—for the growth rate of money.
- Accordingly:
  - The central bank increases the money growth rate by a certain amount if inflation falls below the inflation target or if real GDP falls below potential GDP.
  - The central bank decreases the money growth rate by a certain amount if inflation rises above the inflation target or if real GDP rises above potential GDP.



6
5
4
3
2
1
STANDARD DEVIATION OF OUTPUT (%)
• Actual U.S. Performance 1953 I - 1975 IV
• Constant Growth Rate Rule
With Monetary Policy Rule
1
2
3
4
STANDARD DEVIATION OF INFLATION (%)

# Interest Rate Rules & Inflation Targeting

- "Taylor rule" paper published in Dec 1993, 25 years ago.
  - Equal time on money rules & interest rate rules.
- Accordingly:
  - The central bank decreases the interest rate by a certain amount if the inflation rate falls below the target or if real GDP falls below potential GDP
  - The central bank increases the interest rate by a certain amount if inflation rate rises above the inflation target or if real GDP rises above potential GDP.
- Coefficients
  - Inflation target = 2%
  - Real interest rate in equilibrium = 2%
  - Response of interest rate: .5 times GDP gap & 1.5 times inflation rate

# Similarity Between Money Rules and Interest Rate Rules

- If money demand depends on interest rate and on GDP, then with a constant growth rate rule:
  - increase in real GDP calls for an increase in interest rate
  - decrease in real GDP calls for a decrease in interest rate
  - increase in inflation calls for an increase in the interest rate
  - decrease in inflation calls for a decrease in the interest rate.
- Same <u>signs</u> as Taylor rule; response <u>sizes</u> may differ

# Similarity Is Very Important

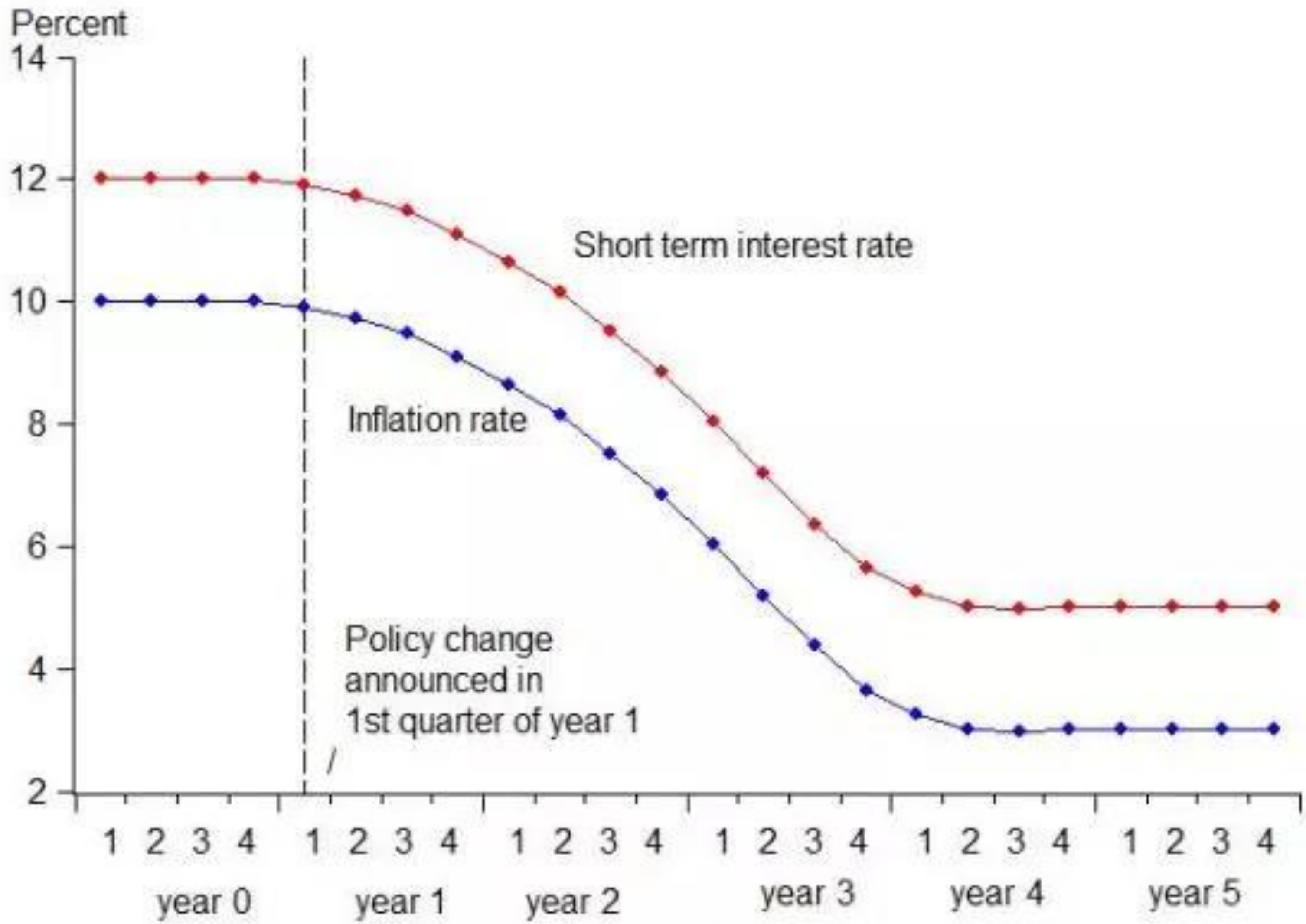
- Helps one design good rules: the good properties on one type of rule can be copied in another.
- Helps make rules more robust: That money supply rules mimic, in certain ways, interest rate rules, gives more confidence.
- If interest rate rules become unreliable because of very high inflation, then one can emphasize money rules.
  - Interest rate rules need to be supplemented by money supply rules in cases of either high inflation or extended deflation. Taylor (1996)

# Transitions from High Inflation

- Must distinguish the <u>operation</u> of a policy rule in one regime from the <u>transition</u> from a high inflation rate to a lower inflation rate.
- Interest rate rules need to be placed within a band. Outside band the central bank should rely on money growth rules.
- Transition to price stability 1979-82 was achieved by focusing first on money
  - "I don't set the interest rate"
- Later moved to focus on the interest rate.

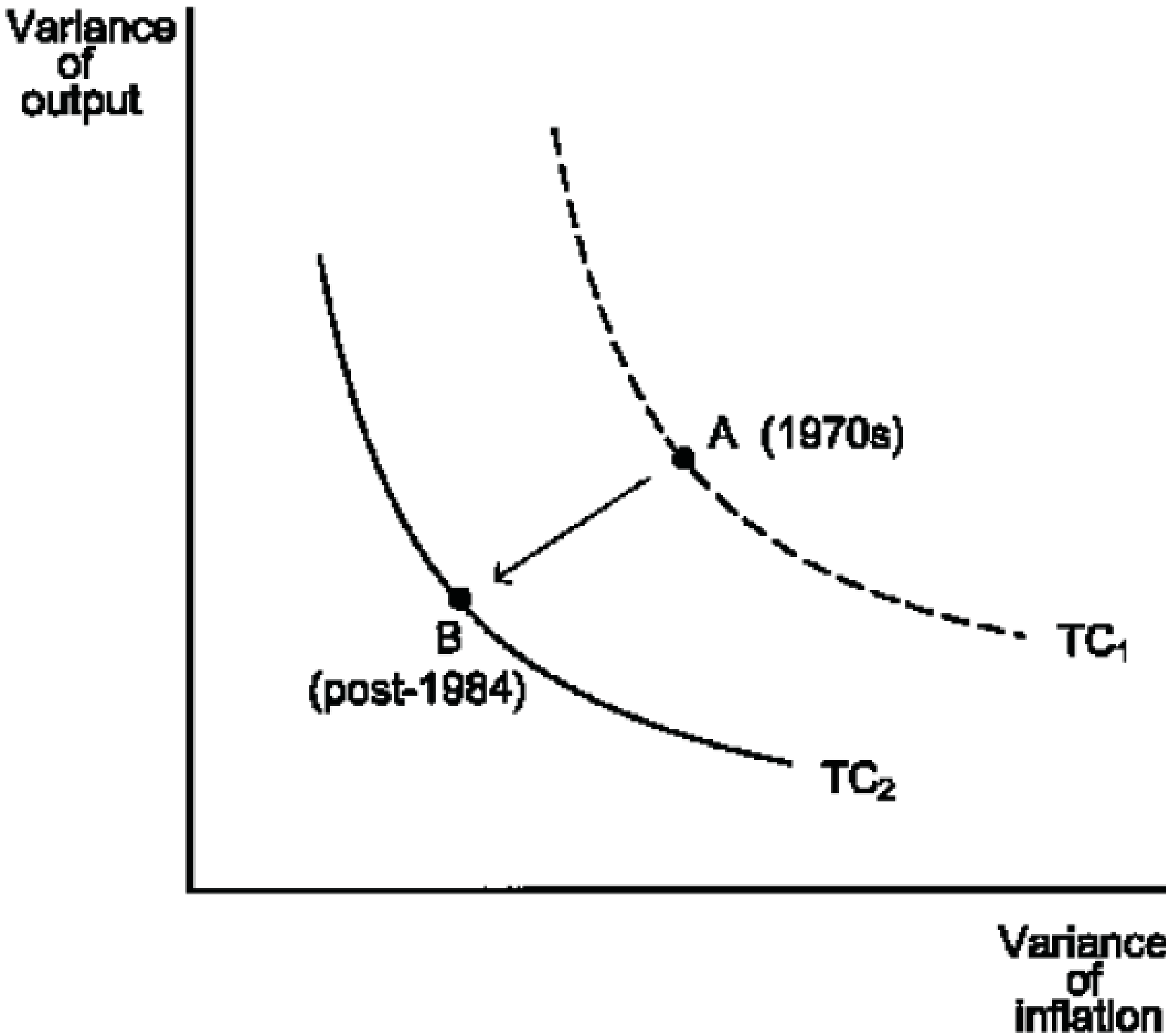
# Disinflation Path with Money Growth

- Money growth for transition from high to low inflation
  - with little effect on output & real interest rate
- Interest rate equals the unchanged real interest rate plus the expected inflation rate.
  - Figure shows interest rate path and inflation rate path
  - Expectational effect offsets liquidity effect.
- Money provides anchor. Interest rate determined in market.
- Comparison with actual policy




Reduction in interest rate - Mixed annual and mulityear wage setting

# Taylor Curve (TC) Calculation by Bernanke (2004)

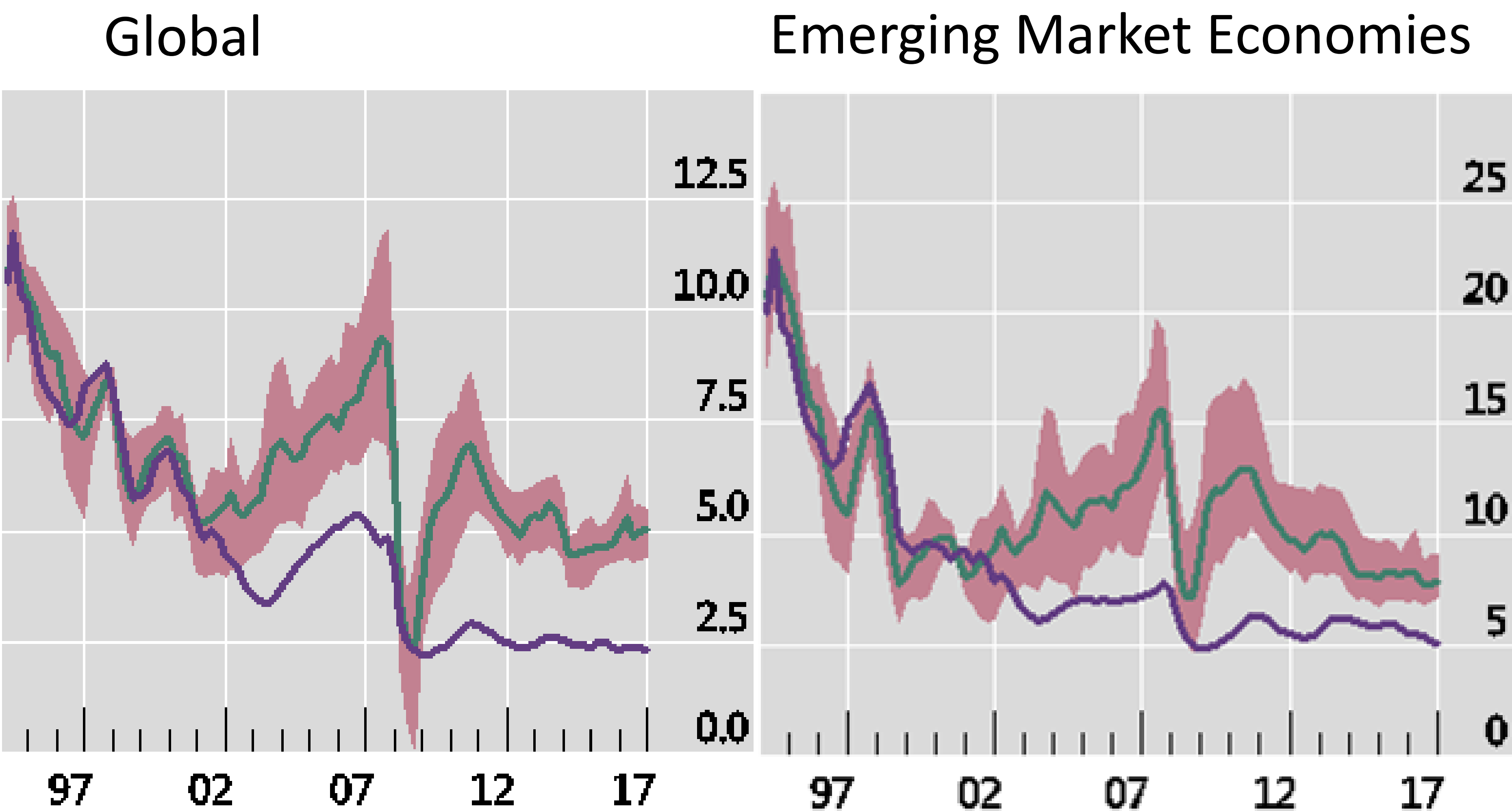


# ZLB & Monetary Policy Rules

- Another issue for interest rate rules
- Policy rule may imply interest rate below zero.
  - Not a new thing.
  - Research in ‘80s dealt with it by switching to money growth.
- Interest rate rules are really part of a “meta” rule in which the instrument can switch to money growth
  - Christiano & Rostagno (2001), ‘‘Money Growth Monitoring and the Taylor Rule,’’
  - Christiano & Takahashi (2018) “Discouraging Deviant Behavior in Monetary Economics
- Or can switch to forward guidance
  - Reifscheinder & Williams (2001)

# International Monetary Policy and Inflation Targeting in Emerging Economies

- *International Monetary Fund:*
  - “many EMEs found the monetary policy of ‘center’ countries imperfectly calibrated, and in many cases out of sync, to their own…”
  - “EMEs’ central banks…were therefore compelled to adapt their policy framework and toolkits”




Mean Taylor Rate

Policy Interest Rate

Range of Taylor rates

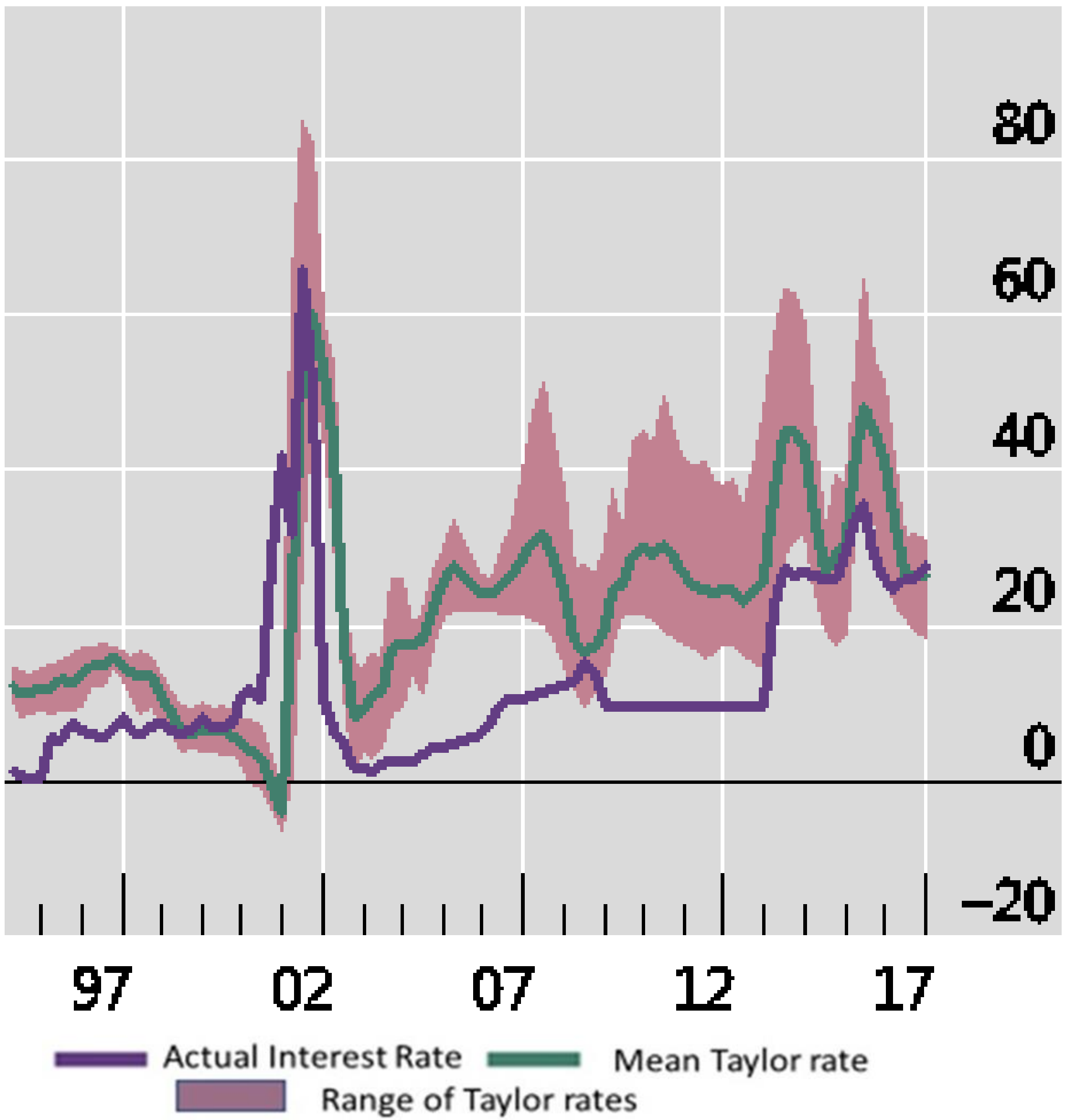
$i = \pi + 0.5(\pi - \pi^*) + 0.5y + r^*$

Source: BIS

United States

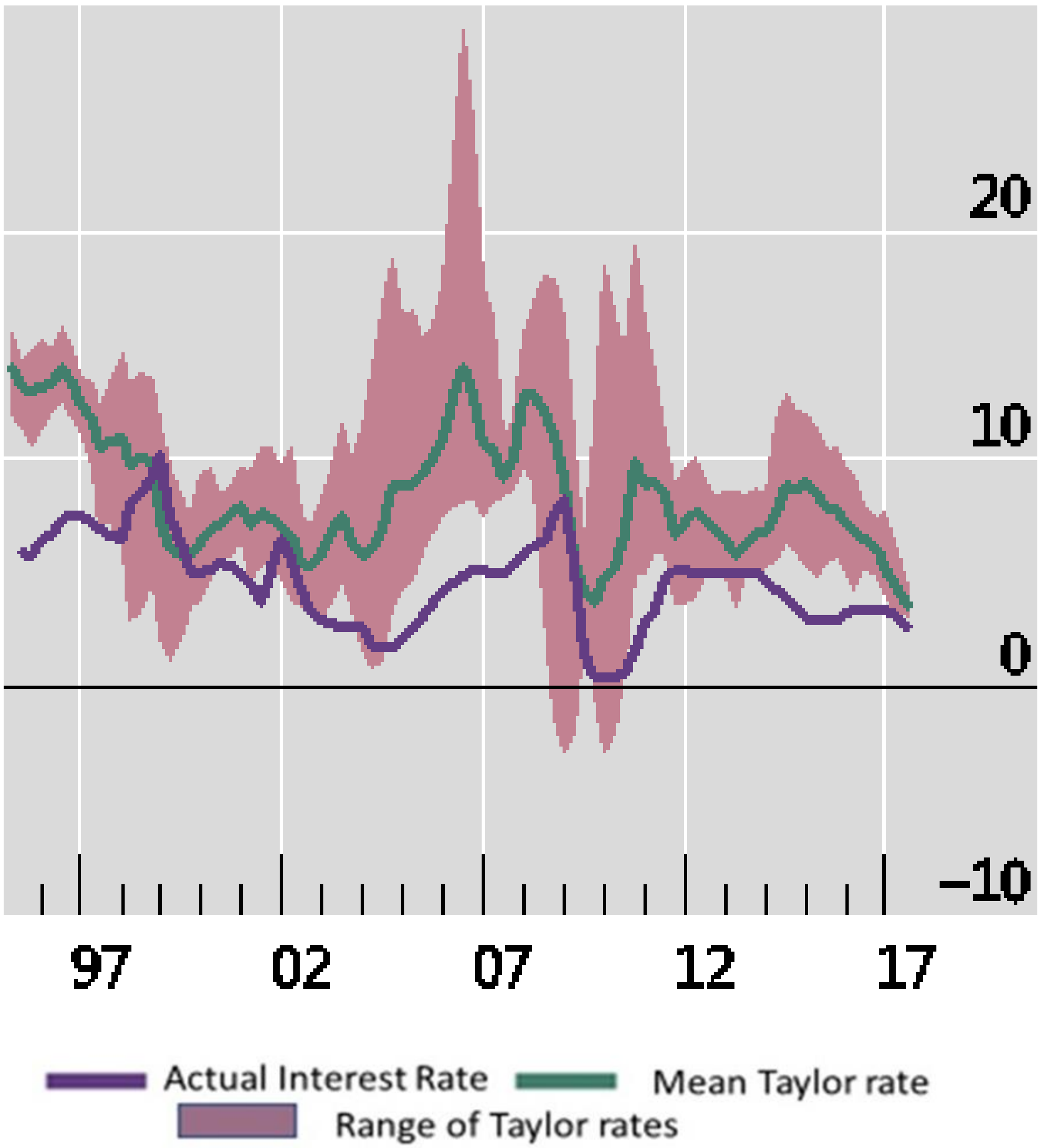

Source: BIS

Argentina

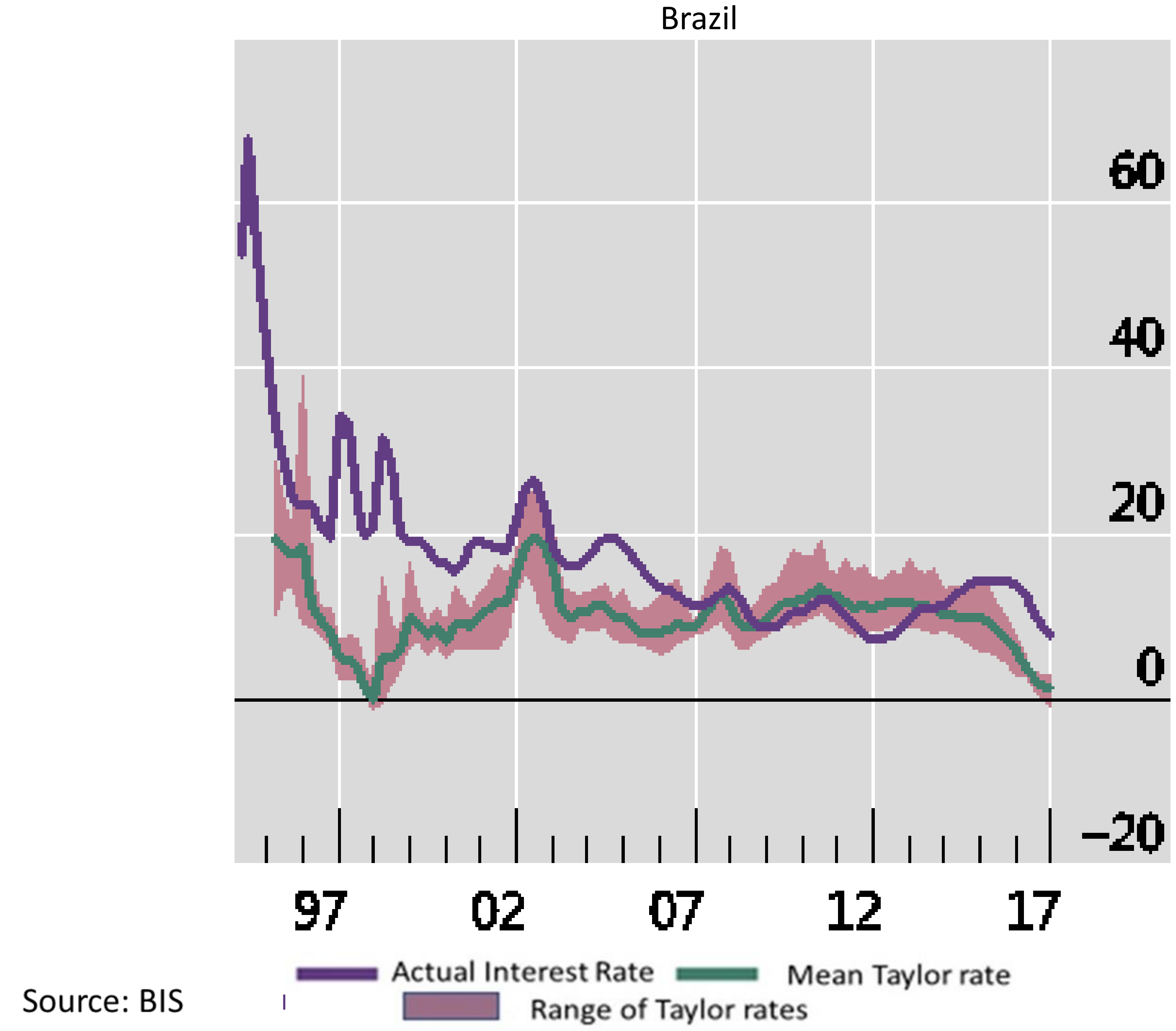



Source: BIS

# Chile

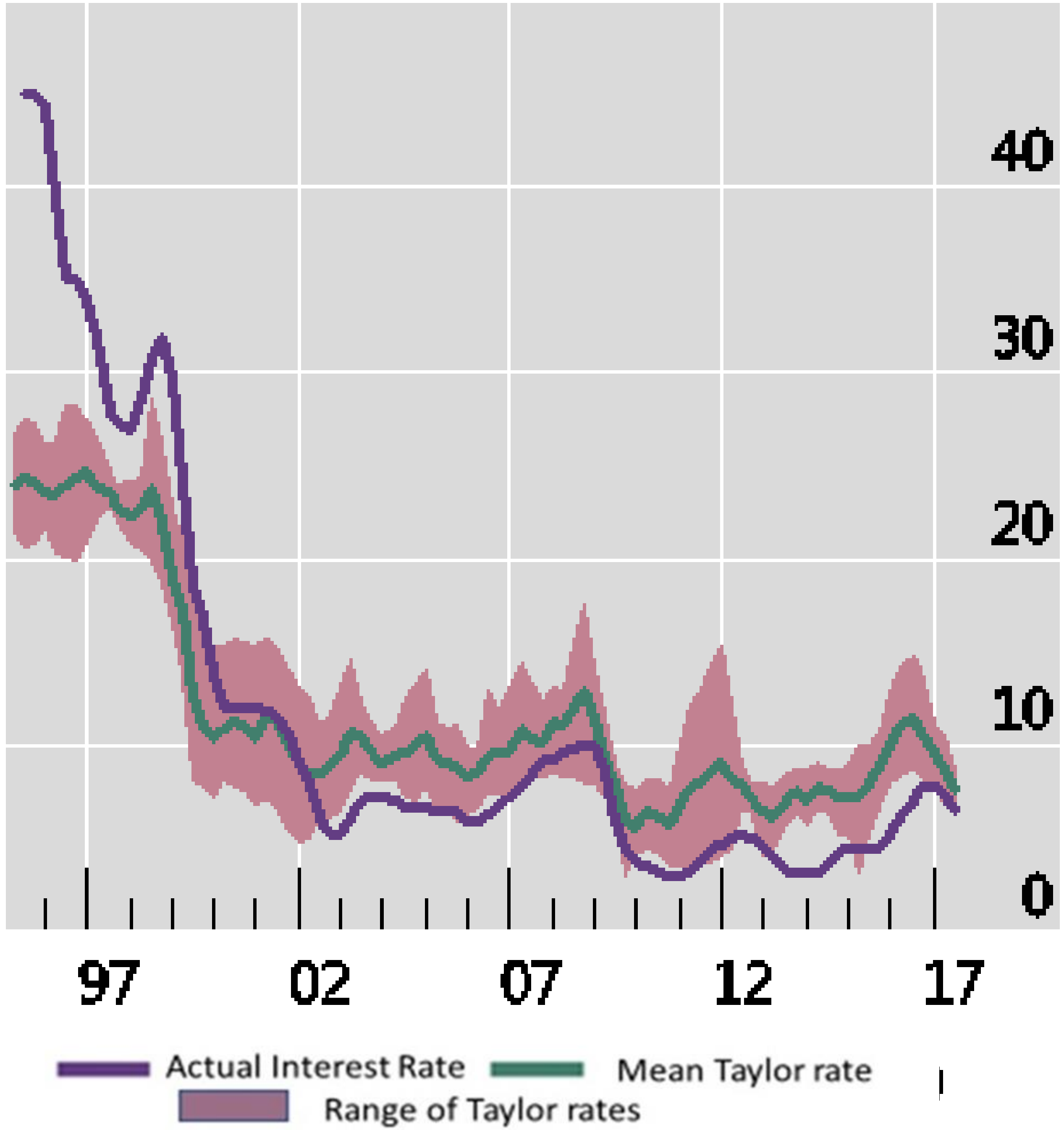



Source: BIS


Brazil
60
40
20
0
−20
97
02
07
12
17
Actual Interest Rate
Mean Taylor rate
Range of Taylor rates

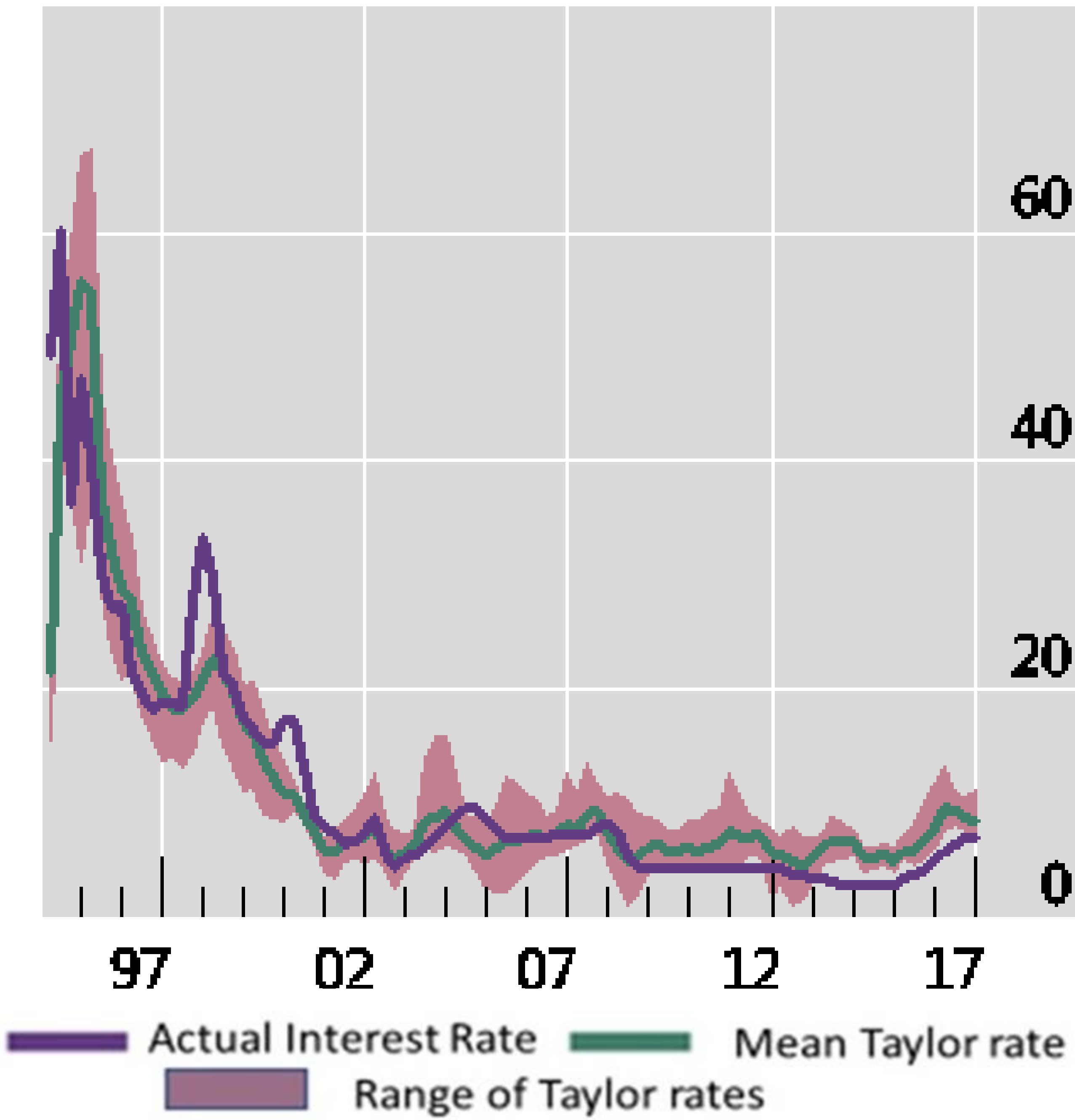
Source: BIS

Colombia




Source: BIS

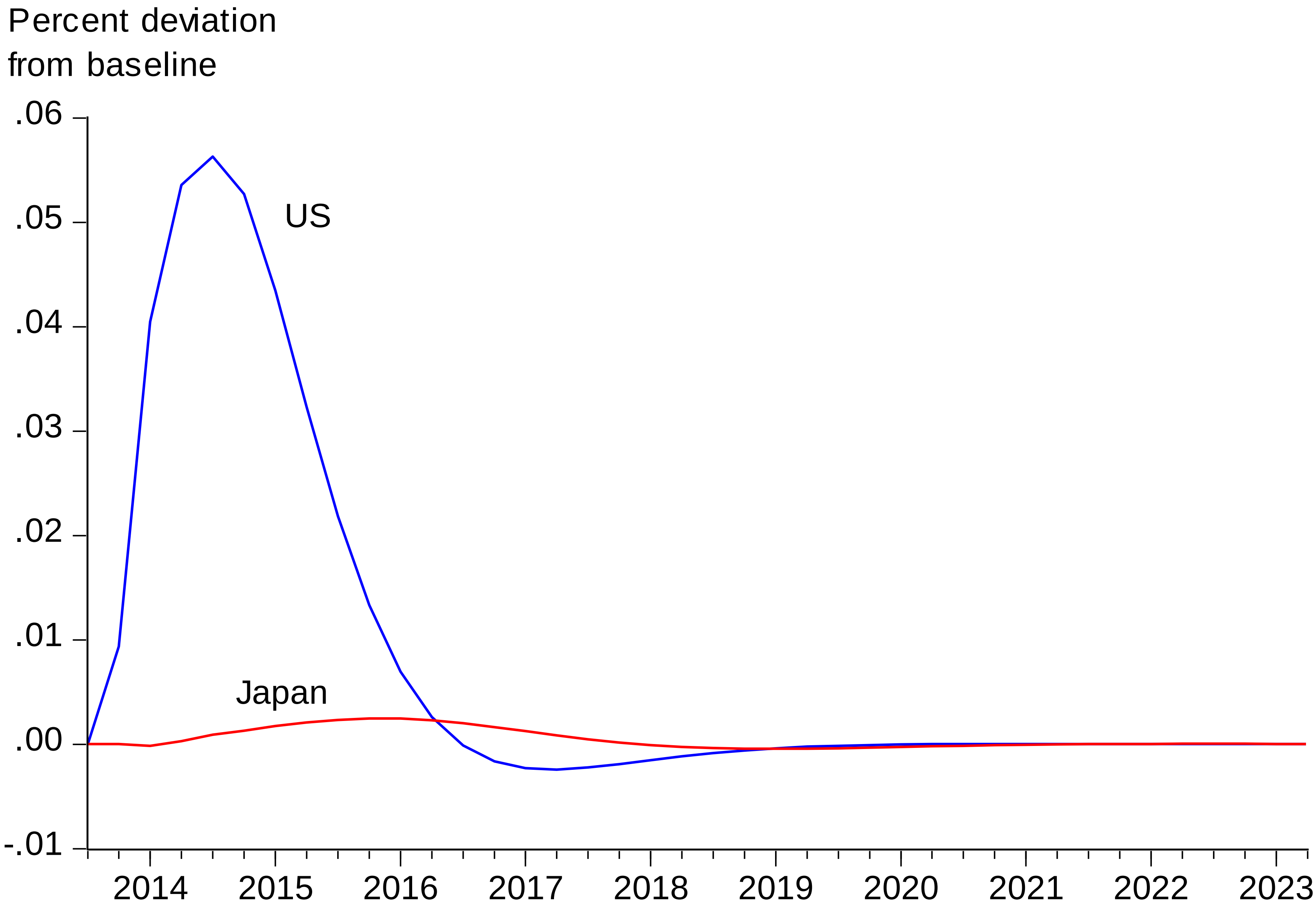
Mexico



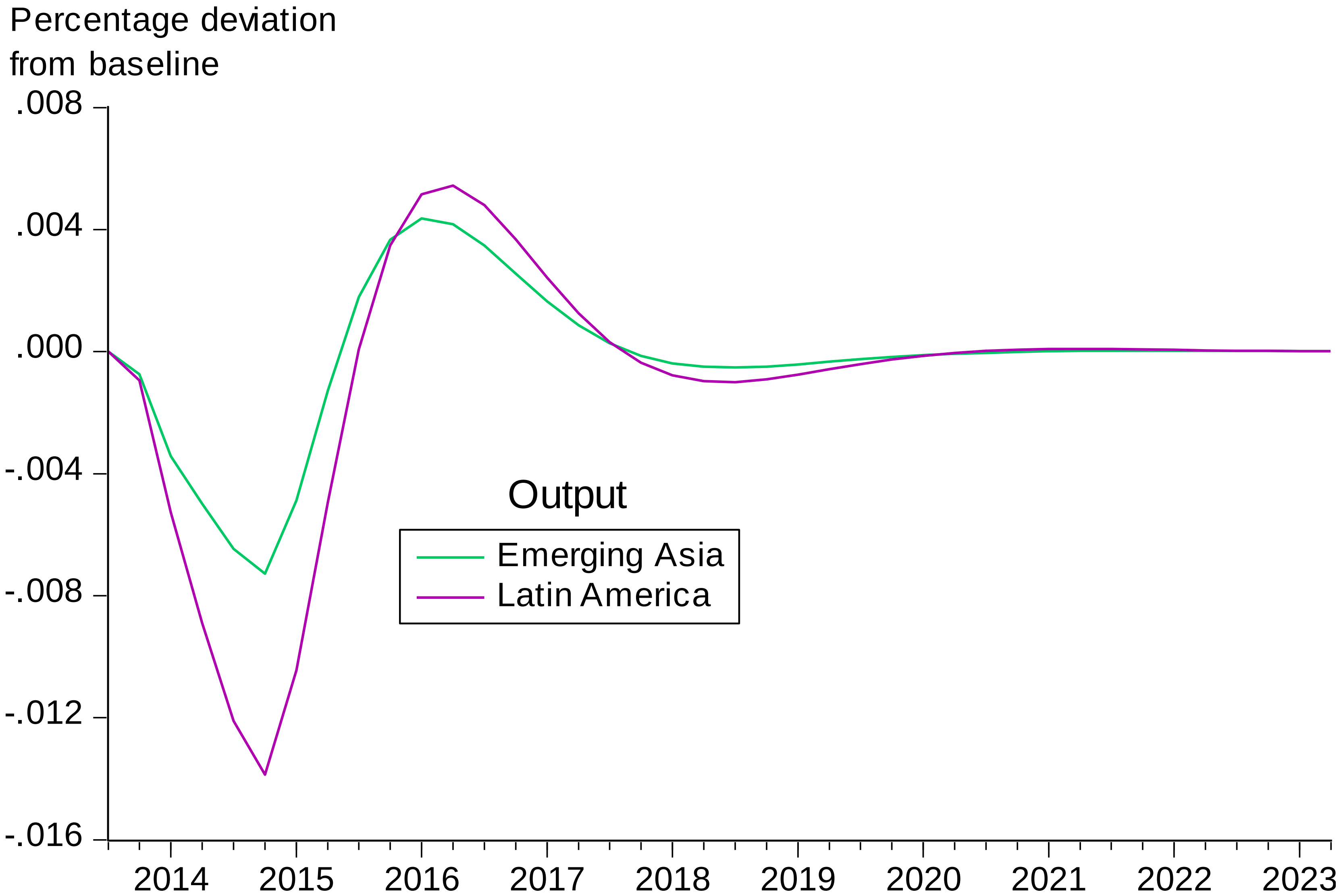

Source: BIS

# Causes of Great Global Deviation

- Policy deviations cause appreciations elsewhere.
- In EME, exchange rate effect dominates output
  - Model simulations from IMF
- Hence, central banks tend to resist
- Much empirical evidence
  - From regressions
  - From central banks
- Other explanations?


Percent deviation
from baseline
.06
.05
.04
.03
.02
.01
.00
-.01
US
Japan
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

GPM6 - IMF


Percentage deviation
from baseline
.008
.004
.000
-.004
-.008
-.012
-.016
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Output
Emerging Asia
Latin America

GPM6 - IMF

# Responses and Interventions

- Capital controls or temporary "macro-prudential" actions aimed at international investment.
- Ghosh, Ostry, and Qureshi (2017): capital controls used "to stem inflows in the wake of historically unprecedented accommodative monetary policies of the US Federal Reserve"
  - The IMF's "Institutional View" was created.
- However, capital controls can have adverse effects.

# A Better Approach: International Monetary Reform

- Each central bank would describe &commit to a strategy for setting policy instruments.
  - Could have different instruments
- Flexible exchange rate between countries or currency zones.
- Open capital markets as a long-run goal

# Change may be on the way

- Fed has begun to bring monetary policy back on track as it emphasizes a strategy and use of monetary policy rules.
- Notable changes starting in 2017 and 2018
- Support
  - Paul Volcker: “the absence of an official, rules-based, cooperatively managed monetary system has not been a great success.”
  - Raghu Rajan:“what we need are monetary rules”
  - Mario Draghi: “We would all clearly benefit from…improving communication over our reaction functions…”

# Conclusion

- Symbiotic connection between inflation targeting & monetary policy rules.
- Applies to money rules and to interest rate rules.
  - IMF is not correct to say: “replacing the inflation targeting regime with a monetary base target.”
- Interest rate rules are designed to keep inflation low once a low-inflation regime has been achieved.
- Getting inflation down in a transition is different
  - Role of money supply or monetary base is crucial
  - Very hard to assess the level of the real interest rate
- Global Impact on Emerging Economics
  - International Monetary Reform is needed too

# A Better Approach: International Monetary Reform

- Paul Volcker: “the absence of an official, rules-based, cooperatively managed monetary system has not been a great success.”
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