



Monetary policy strategy: “Old issues and new challenges”

Joint Deutsche Bundesbank/Federal Reserve Bank of Cleveland Conference
Frankfurt am Main, 6-7 June 2007

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Discussion of „Money in monetary policy design: ECB-style cross-checking in the New Keynesian Model “

by Günter Beck and Volker Wieland

Discussion on

“Money in Monetary Policy Design: ECB-Style Cross-Checking
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The opinions expressed in this discussion are my own and do not necessarily reflect those of the Swiss National Bank.

Main issue underlying the motivation of the paper:

Why should CB look at money given that New-Keynesian frameworks imply no role for money?

Is the ECB wasting resources with its monetary analysis or is the fact that money is useless for policy in these models not a sensible reason to disregard monetary aggregates in policy?

Money is useless for monetary policy in New-Keynesian models given that:

- 1) central bankers know true “output gap” and “equilibrium real interest rate”
 - not in reality: this paper builds on this uncertainty
- 2) central bankers know where to set interest rate in a given economic situation to obtain a given inflation rate
 - not in reality: different models with different implications
 - CB need clear empirical relationship (stylized facts)
 - empirically, monetary stylized facts more informative than interest rates for subsequent inflation and output developments
 - model builders should account for it / replicate

- 3) no additional info of money: in Phillips curves, inflation is function of past or future output gaps
 - empirically, inflation function of past output gaps, and money gives early info on output gaps and thus inflation, contrary to interest rates
 - thus money can be used by policymakers, and modelers need to understand and replicate leading money movements
- 4) short-term velocity movements are just noise
 - empirically short-term velocity movements are related with subsequent inflation once certain observed rigidities are accounted for
 - “velocity shocks” seem to contain information for diverse yields
 - thus monetary transmission does not go through short-term interest rates alone, and monetary policy models need to incorporate different yields
- 5) central banks sets average inflation (via interest rule) and minimize small inflation (and output) fluctuations around a given average inflation rate
 - no empirical relationship between implied (from rule) and actual inflation
 - in reality, central banks have an inflation range, with little concern of the position of inflation within that range
 - no clear knowledge about where to set interest rate to obtain given average inflation, thus CBs minimize the risk of getting out of that range

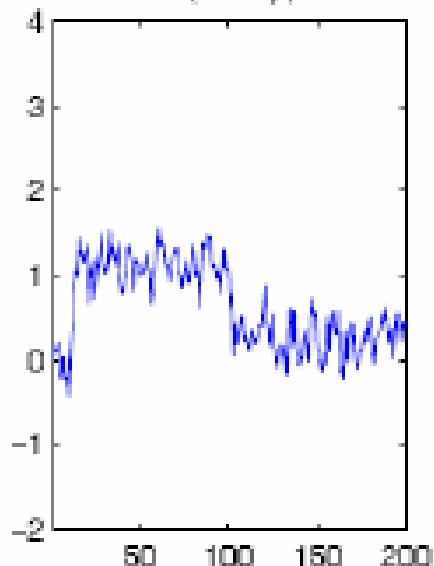
The paper could be further extended to answer the question: what is the advantage of looking at money rather than inflation itself?

(2) Money demand

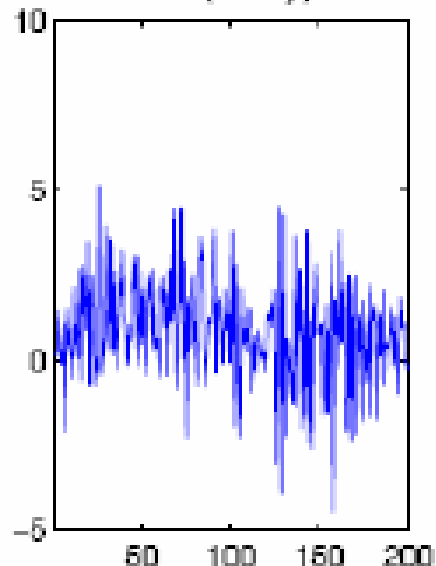
$$m_t - p_t = \gamma_y y_t - \gamma_i i_t + \epsilon_t^{md},$$

Output Gap Misperceptions and the Long-Run Link

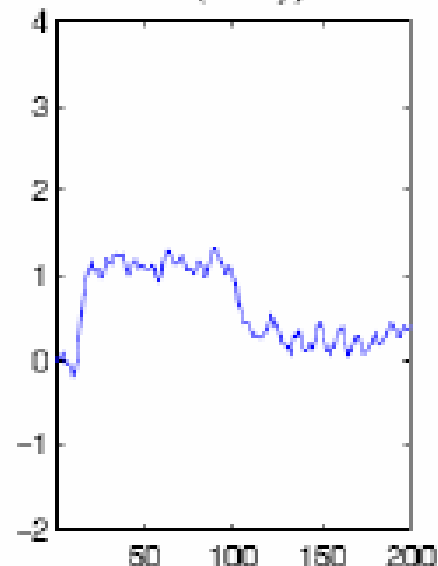
π (no adj.)



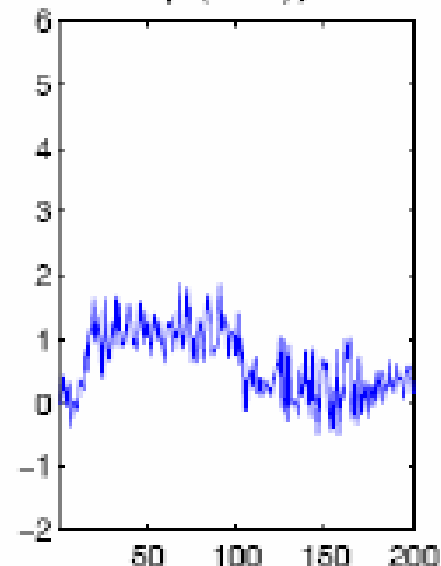
Δm (no adj.)



π^e (no adj.)



μ^e (no adj.)



- How can money be more useful than inflation itself in case of “potential output” or “equilibrium rate” bias?
- by providing advanced info on changes in “equilibrium rate” or “potential output”
 - for example, incorporate money balances adjustment costs as in:
Andrés, López-Salido and Nelson: "Money and the Natural Rate of Interest: Structural Estimates for the United States and the Euro Area"
Federal Reserve Bank of St. Louis Working Paper 2007-005A

What do data tell us about the main advantage of looking at money for policymakers?

$$m_t^* \equiv c + m_t - y_t^* + \beta i_t^*$$

$$\mu_t^* : (m_t^* - m_{t-4}^*) * 100$$

$$p_t : (\log) \text{ price level}; \pi_t : (p_t - p_{t-4}) * 100$$

Reynard (ECB Wp 756, May 2007; JME, July 2007)

“Maintaining low inflation: money, interest rates, and policy stance”

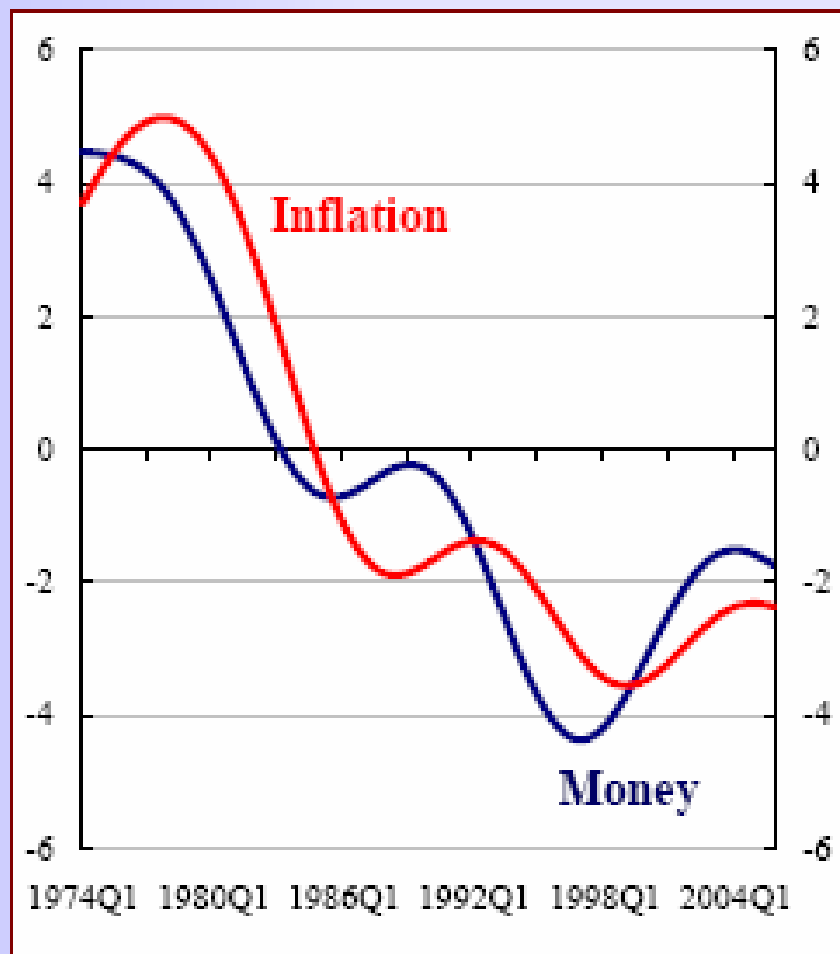
Is inflation related to money only in the long-run (i.e. low-frequency)?

Are short-run money movements noise with no relation to output and prices?

Or do money movements provide useful advanced info on inflation and output?

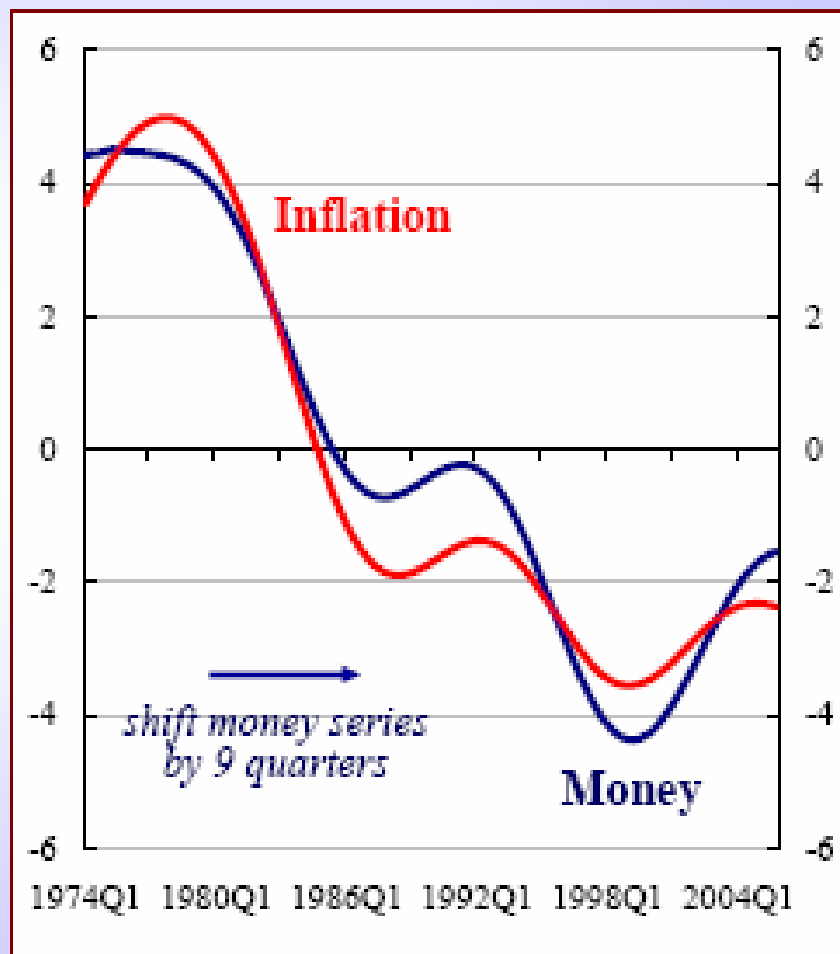
The Long-Run Link Empirically: Low Frequency Money Growth Leads Inflation

annualised quarter-on-quarter changes, deviations from mean,
periodicity > 8 years



Source: ECB calculations, based on Brzusman, et al (2005).

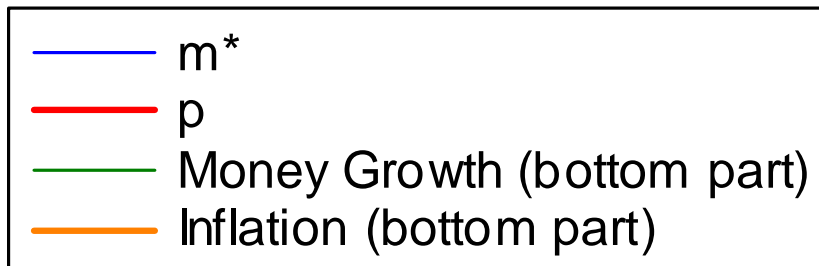
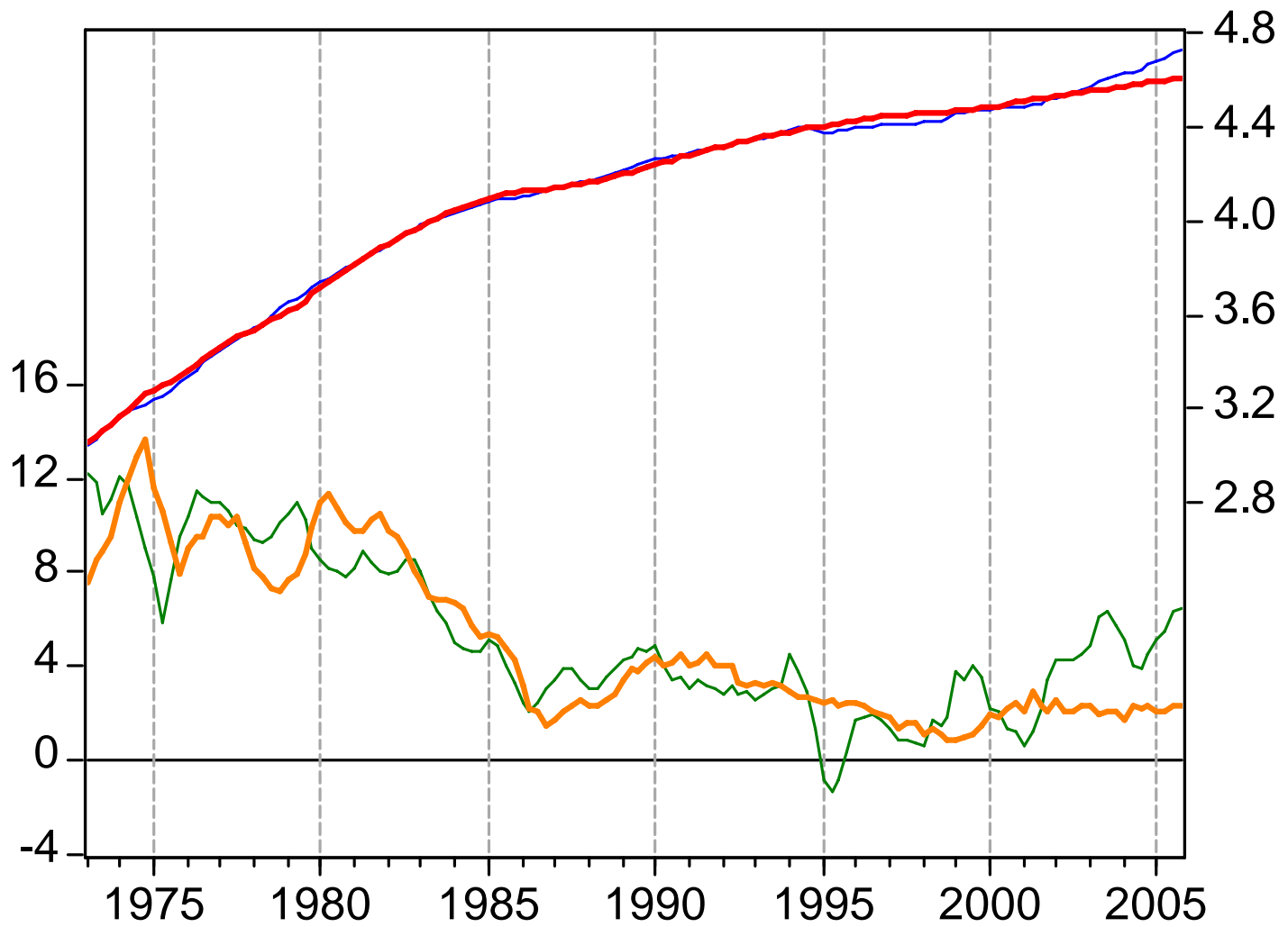
annualised quarter-on-quarter changes, deviations from mean,
periodicity > 8 years



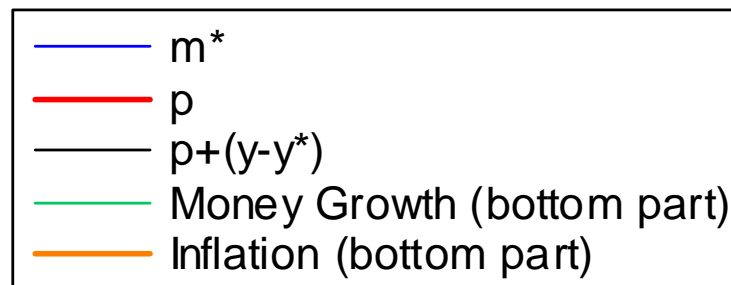
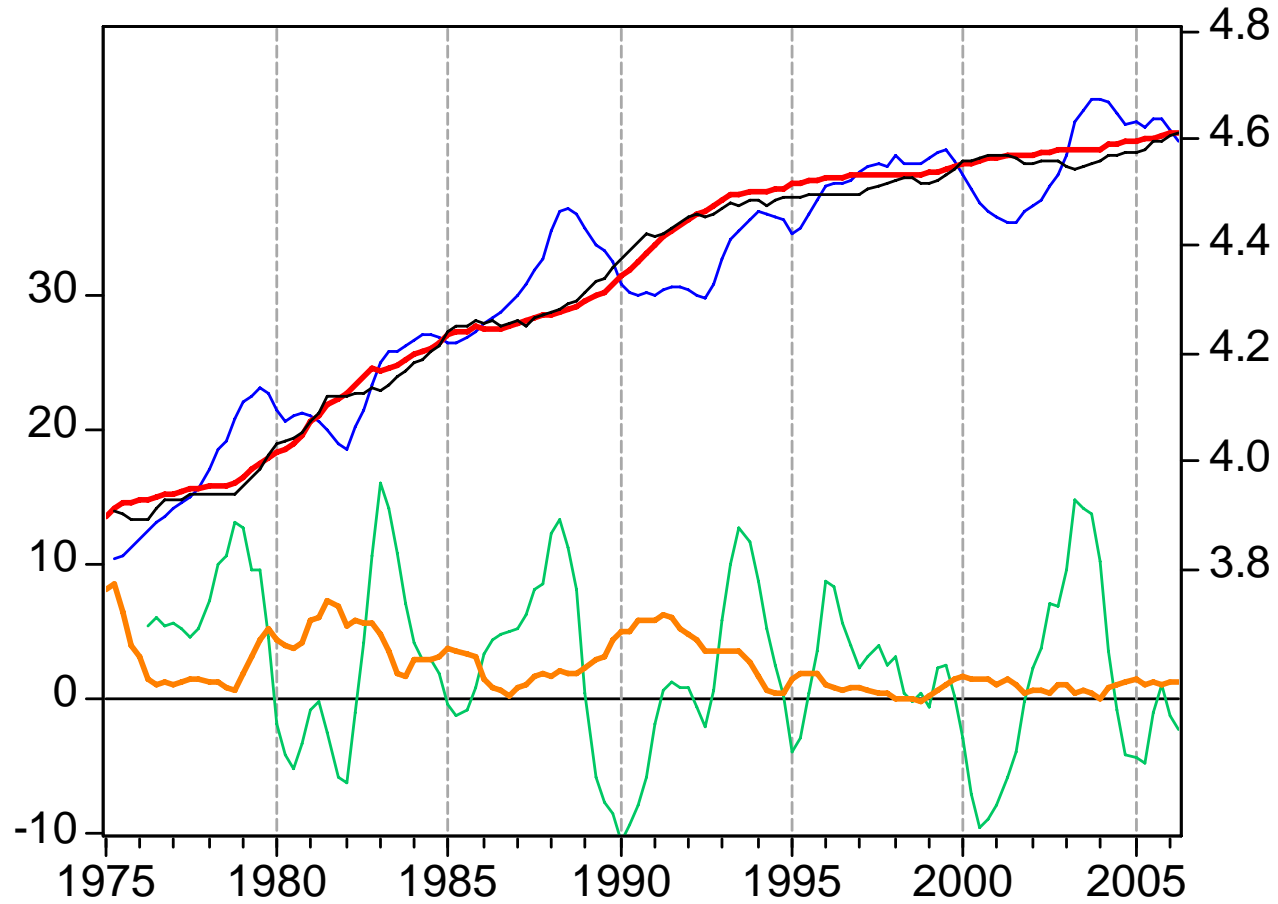
Source: ECB calculations, based on Brzusman, et al (2005).

Source: ECB

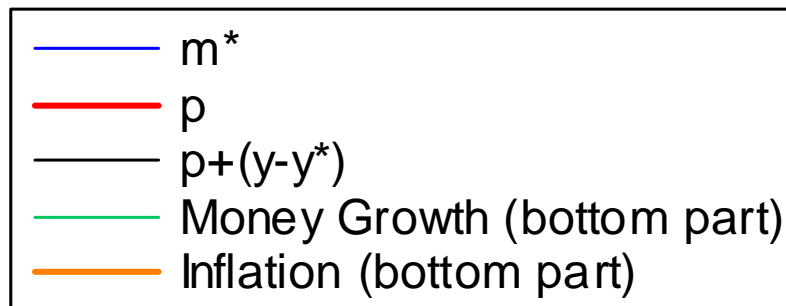
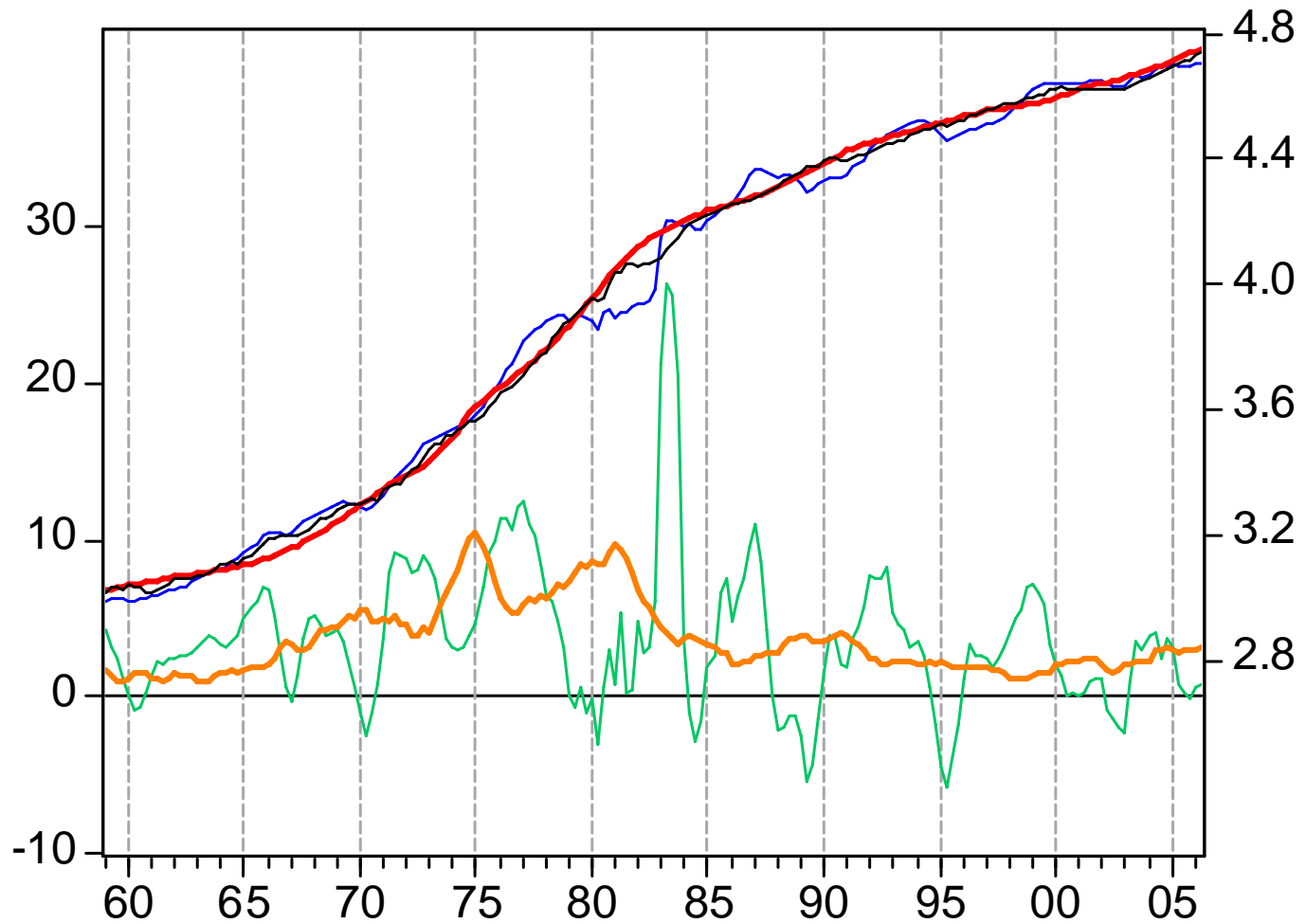
EA



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US



- clear relationship between money fluctuations and subsequent output and inflation; need to account for downward price rigidity when interpreting money growth rates
- no significant short-term velocity movement not followed by corresponding inflation movement, once price asymmetry accounted for
- looking at monetary trend-only neglects crucial info, given 2-3 year monetary policy horizon
- structural models need to account for these short-term dynamic relationships

Practically, I see the two pillars as having different functions, given that:

- leading information of money, reflected later in output gaps, and then in prices; output gap info just reflects earlier monetary info!
- output gap info is available only with a delay for assessing policy stance: given lags between policy actions and effects on activity & prices, central banks should not wait till see signal in real activity!

Thus, for applied purposes:

- “**economic analysis**” useful to make precise **short-term forecasts** (autoregressions, special factors)
- “**monetary analysis**” useful to assess monetary **policy stance** (less precise but earlier info on stance)

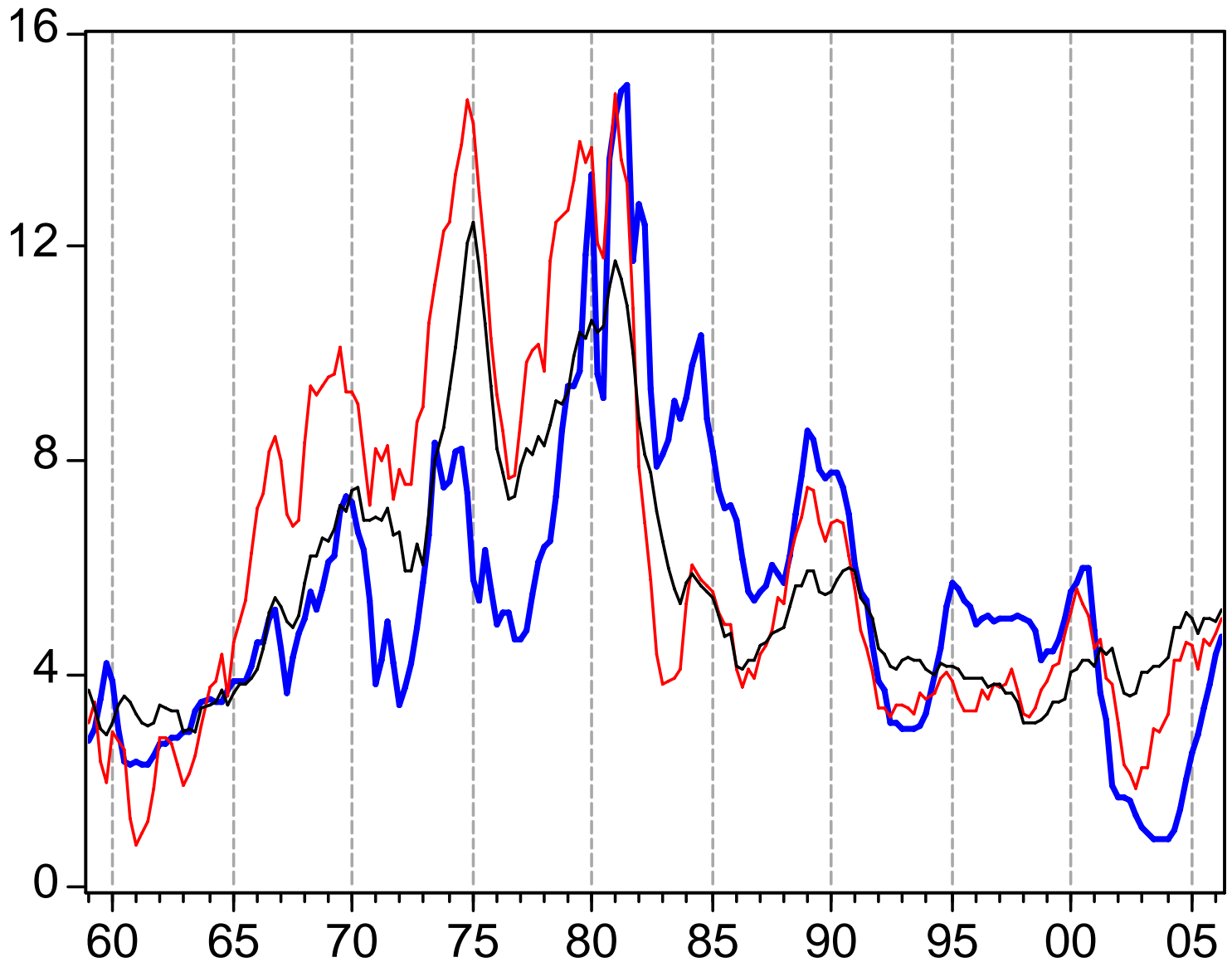
Why is looking at money better than looking at interest rates to assess policy stance?

- clear empirical link money/inflation vs. no empirical link interest rate/inflation

Taylor Rule

$$i = r^* + \pi^* + 1.5 (\pi - \pi^*) + 0.5 (y - y^*)$$

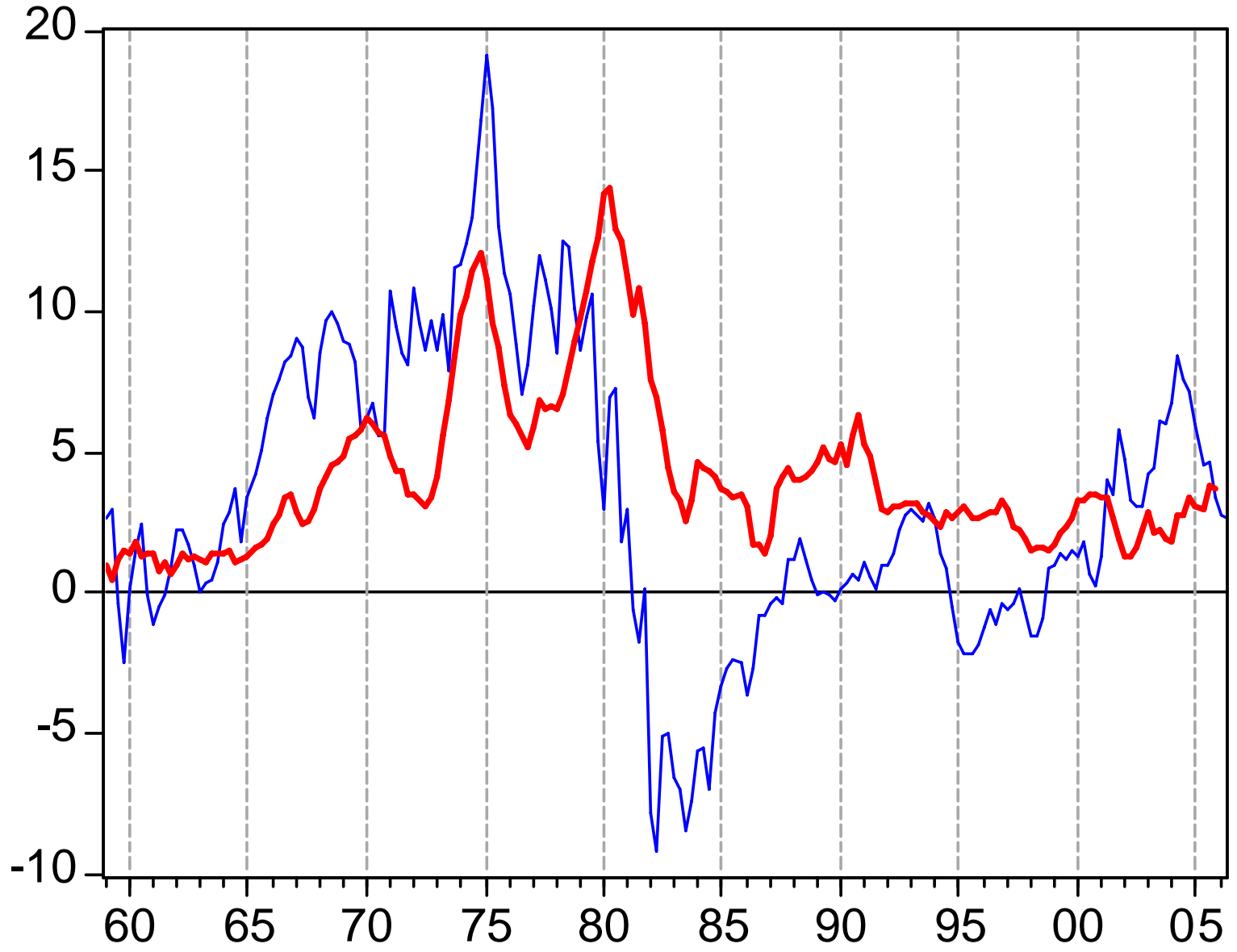
US



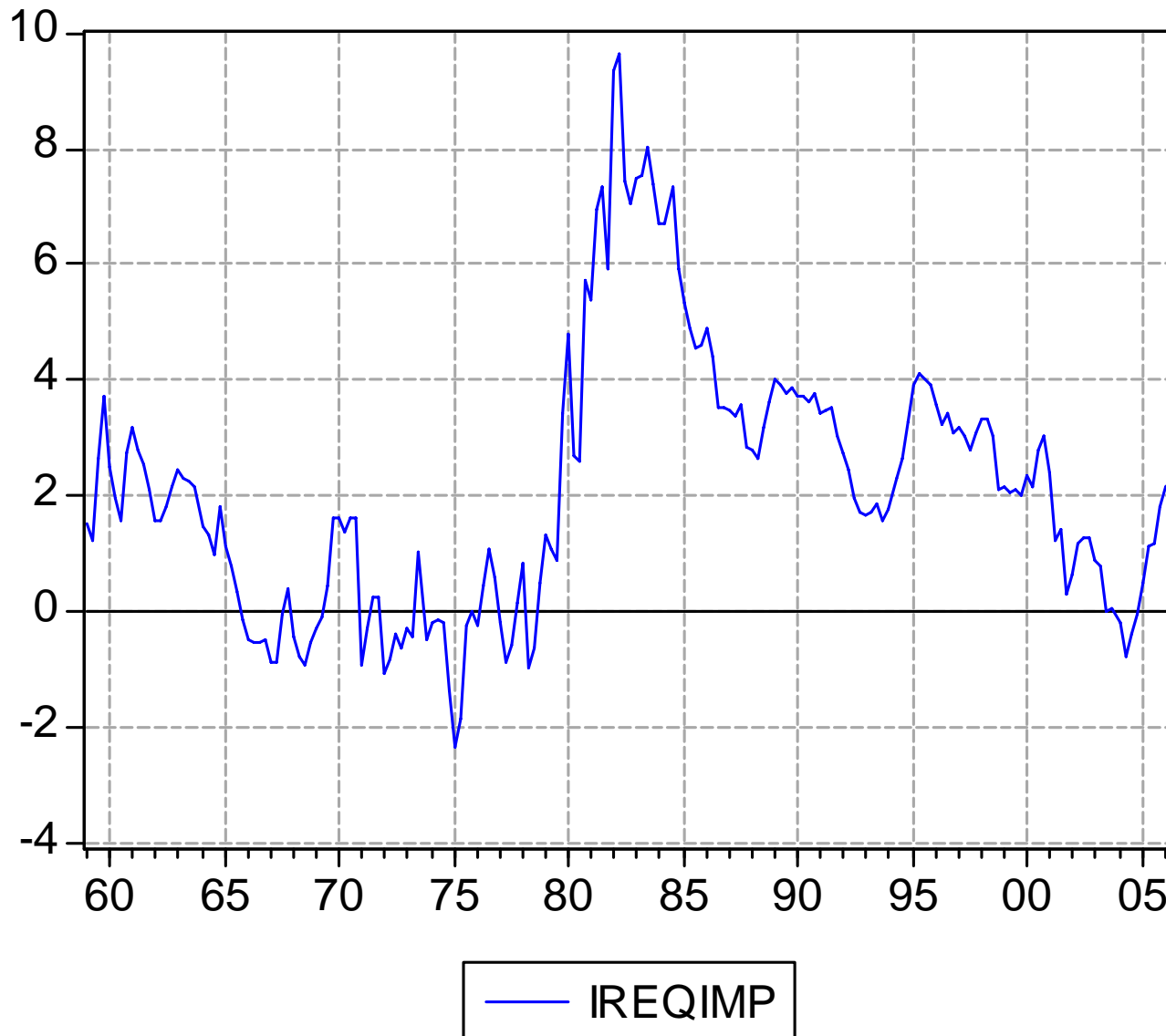
Taylor rule implied target

$$\pi_t^* = 2(\pi_t + r^* - i_t) + \pi_t + (y_t - y_t^*)$$

US

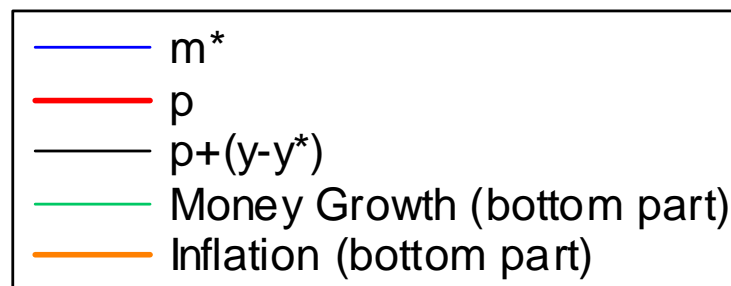
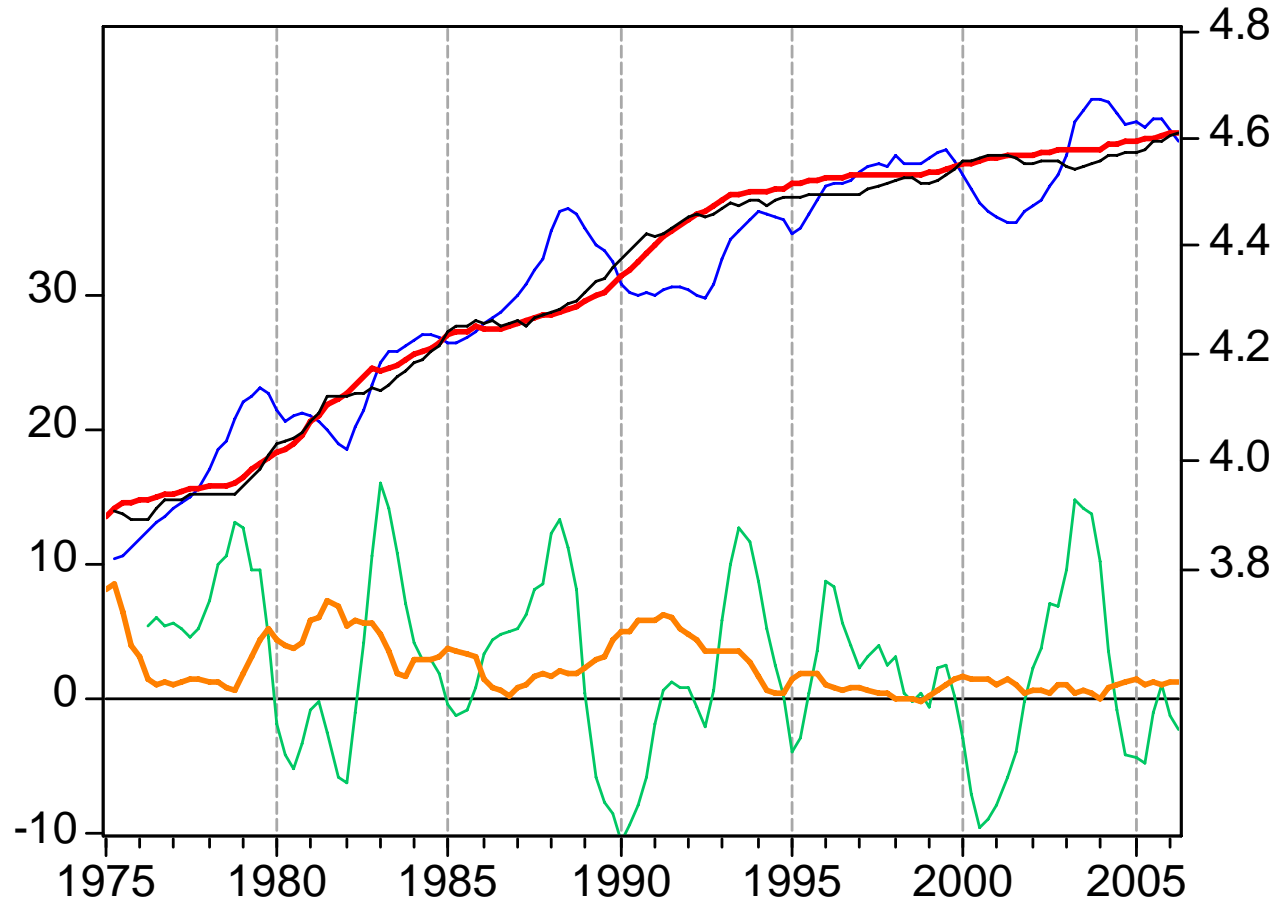


Implicit equilibrium real interest rate

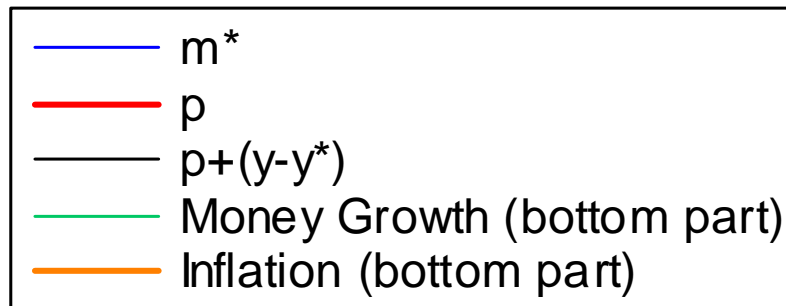
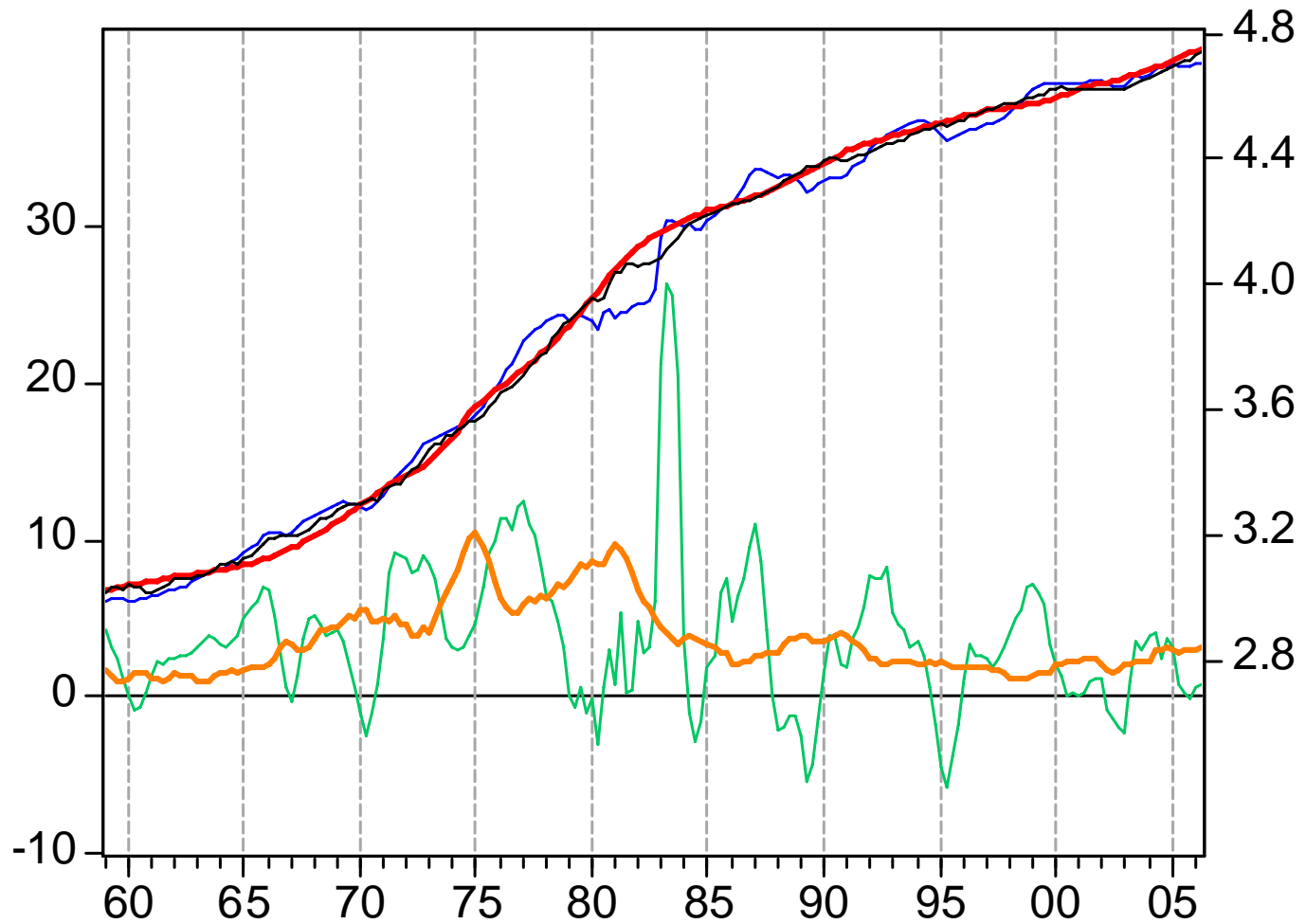


What do data tell us about the main risks of ignoring money?

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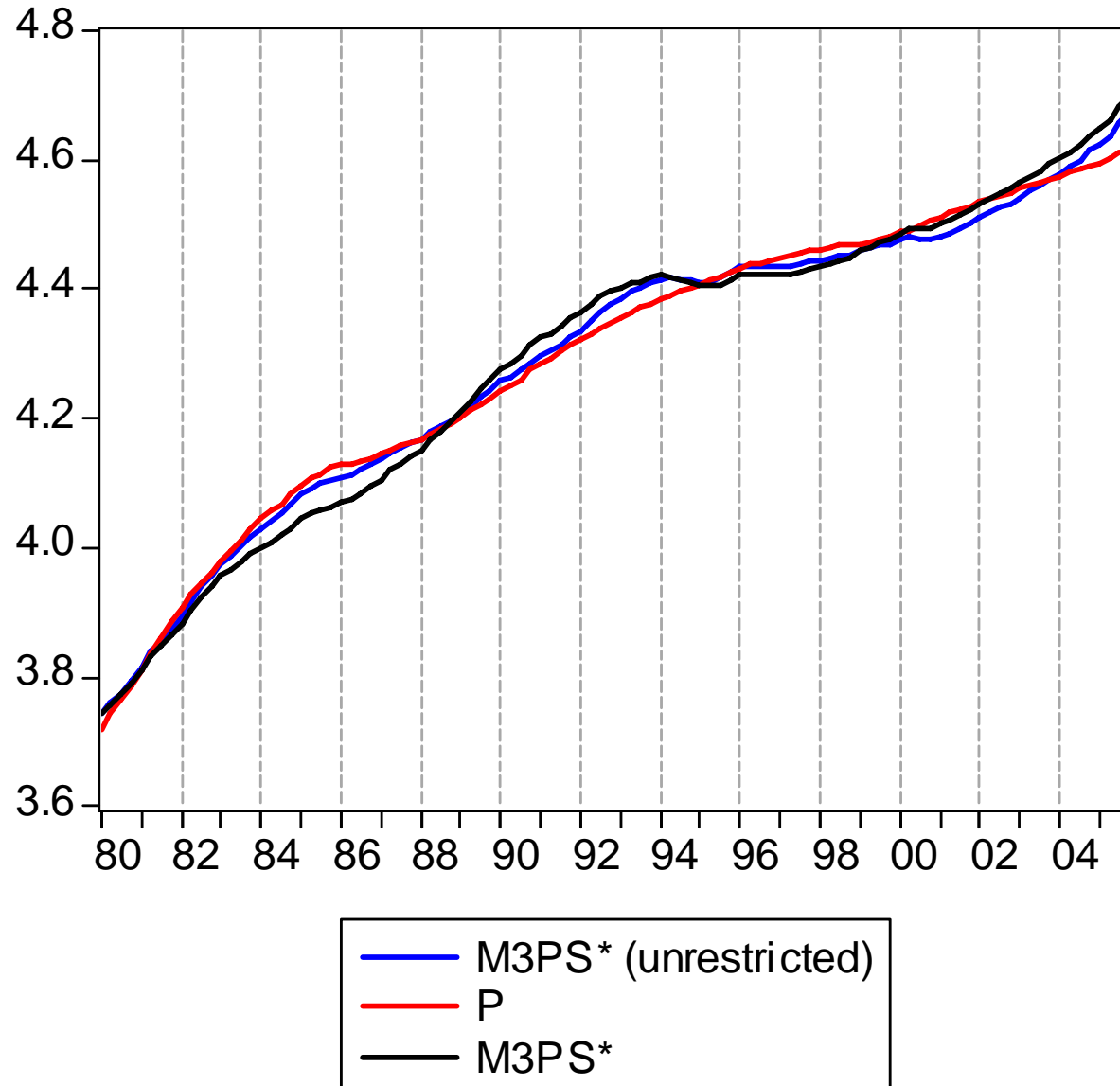


	π	μ^*	$\Delta\pi$	$y - y^*$	$m^* - p$
US					
59-79	4.22	4.42	0.09	0.46	1.93
70-79	6.41	6.21	0.12	-0.42	2.94
79-06	3.18	3.01	-0.06	-1.26	-2.41
59-06	3.63	3.62	0.01	-0.52	-0.54
85-06	2.45	2.46	0.01	-0.67	-0.77
90-06	2.29	2.31	0.01	-0.84	-1.30
94-06	2.11	1.52	0.02	-0.55	-0.83
CH					
76-93	3.21	3.36	0.00	-0.19	0.65
76-02	2.42	2.56	0.00	-0.65	-0.72
85-02	2.00	1.68	-0.04	-0.40	-1.88
94-02	0.85	0.96	0.01	-1.56	-3.47
EA					
73-79	9.33	9.95	0.09	0.18	-0.53
80-03	3.69	3.75	-0.09	0.00	-0.57
73-03	4.97	5.15	-0.05	0.04	-0.56
85-03	2.58	2.90	-0.04	0.00	-0.69
94-03	1.93	2.43	-0.01	-0.06	-1.39

Conclusions

- Beck & Wieland provide a useful framework for modeling the usefulness of money in an uncertain world
- need to incorporate more dynamics to give money an advantage over looking at inflation itself
- account for stylized facts

M3 portfolio shift adjusted, with and without imposing unitary income elasticity: same message



M2 with a backward filter for the equilibrium velocity adjustment: same message

