A Presence of Absence: The Benign Emergence of Monetary Stability

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Motivation 1: Growing Monetary Stability

Diminishing Regime Churn



Growing Regime Stability



Motivation 2: Rising Cross-Country Effectiveness in Hitting Key Monetary Policy Goals



Motivation 2, cont.: Crisis Avoidance, Management across Countries



Growing Effectiveness Explains Rising Durability

- Countries are sticking with monetary regimes that work; "If it ain't broke, don't fix it"
 - Inflation stabilizing at low rates
 - (Inevitable) business cycle volatility unchanged
 - Financial crises avoided, managed
- 1. Rising monetary stability and efficacy: positive, under-appreciated
 - What's missing is excitement: titular "presence of absence"
- 2. What explains it?
 - a. EMU, and more importantly
 - b. Advent of Inflation Targeting

Three Stable Monetary Regimes

- 1. (Old) Unilateral Fixed Exchange Rates
 - Ex: Bahamas, Djibouti, Micronesia, Denmark, Hong Kong
 - Mostly small
- 2. (Old) Multilateral Currency Unions
 - Historically developing countries, Africa & Caribbean: CFA franc zones, ECCA
 - Used to be small, poor, but EMU (1999)
- 3. New: Inflation Targeters
 - NZ in 1990; now 45 countries, >50% global output
 - Vary in size, higher income, good institutions
 - Resilient: Argentina only crasher
 - Retain sovereignty (unlike fixes, monetary union)

And a "Messy Middle" of Instability

Non-Durable Regimes still Pervasive

- China, many Latins, Africans, ... and Switzerland ...
- >50% countries ... but ~20% output
- Diminishing rapidly in numbers, importance

Implementing the Taxonomy

• Straightforward

- Fix/CU: IRR, LYS, AREAER usually agree
- IT: Gil Hammond "State of the Art of Inflation Targeting"
 - Update with AREAER ...
- Messy middle is leftover residual

Up to 212 "countries", annual data 1990-2022 (with gaps)

Monetary Regimes over Time

Countries



GDP



A Different View



Declining Importance of Messy Middle



What Drives Choice of Monetary Regime?

- Literature makes for Modesty
 - Mundell's trilemma: consequences of different shocks should, in principle, depend on monetary regime
 - Optimal policy implies regime choice to maximize insulating effects
 - Open economies with real shocks (financial) float (fix)
 - Stockman (2000) "the evidence supporting the predictions of these models is only slightly better than the evidence for cold nuclear fusion."
 - No strong reliable results
- Klein and Shambaugh (2012)
- We try to make progress with more *monetary regime* cells
 - Not just fix vs float ... what does the monetary authority do?
 - MANY do not have well-defined strategies and disintegrate
- Note: no exogenous variation, so causality questions linger

A few hints on regime determinants...



Often (Univariate) Data Unclear ...



Capital Openness (Mundell's Trilemma)



Institutions



Multivariate Statistical Evidence

- Regressand: four-cell categorical variable: country-year observations:
 - Inflation Targeters
 - Multilateral Currency Union
 - Unilateral Fixers
 - Others (messy middle) the omitted cell
- Multinominal logit regressions on
 - Log-population
 - Log-real GDP per capita
 - Polity
 - Capital Account openness
 - Intercepts, year effects

Determinants of Monetary Regimes

	Inflation Targeting	Multilateral Currency	Unilateral Fix
		Union	
Log Population	.29**	21**	91**
	(.04)	(.03)	(.05)
Log Real GDP per	.77**	.04	.32**
capita	(.07)	(.05)	(.06)
Polity	.12**	.01	09**
	(.01)	(.01)	(.01)
Capital Account	.04	.05	.20**
Openness	(.05)	(.04)	(.05)

Observations = 4,123. Pseudo R² = .19. Four-cell categorial variable regressand. Multinomial logit coefficients (and standard errors). Annual data 1990-2022 with up to 212 countries; regime intercepts and year effects included but not recorded.

Summary: Monetary Regime Determinants

- Size, Income, Institutions
 - All evolve slowly, consistent with slow turnover
 - Does not explain *trend towards stability*
- Lots of heterogeneity remains!
 - Models don't work well

What About Regime Consequences?

Caveats

- 1. No instrumental variables, so continuing questions about causality
- 2. Literature delivers weak results

Hence low expectations

Regime Consequences: Inflation



Durable Regimes: Fewer (Bad) Outliers

Annual CPI inflation, 191 countries, 1990-2022:

Observations with inflation	>10%	>20%
Inflation Target	6.6%	0.6%
Unilateral Fix	5.0%	0.5%
Multilateral CU	3.6%	1.4%
Other	33.6%	15.8%

- <u>No</u> inflation targeters or currency union member had inflation >100%
- 1.2% messy middle observations in <u>hyper</u>-inflations (>500%)

Consequences cont.: Business Cycle Volatility



Formal Econometrics Delivers Same Results

Regression:

 $Y_{it} = \beta^{IT}IT_{it} + \beta^{CU}CU_{it} + \beta^{FIX}FIX_{it} + \{\gamma_i\} + \{\gamma_t\} + \epsilon_{it}$

- Time-, country-specific fixed effects
- $\{\beta\}$ are deviations from messy middle

Consequential Characteristics, 1

	Inflation	Multilateral	Unilateral
Regressand	Targeting	Currency Union	Fix
Inflation, CPI	-25.1	48.4	-5.9
	(24.1)	(32.4)	(94.7)
Inflation, GDP	-49.9	67.4	45.4
	(28.6)	(38.6)	(101.8)
Absolute Deviations of GDP Growth	.15	1.35	-11.05**
from Country-average GDP Growth	(.75)	(1.03)	(2.87)
Squared Deviations of GDP Growth	86.1	174.2	-618.2
from Country-average GDP Growth	(115.0)	(157.3)	(440.4)

Coefficients (and standard errors) in each row estimated from a panel with least squares, fixed time- and country fixed effects. Annual data 1990-2022 with up to 212 countries.

Consequential Characteristics, 2

	Inflation Targeting	Multilateral Currency	Unilateral Fix
Regressand		Union	
GDP growth	91	-1.12	-3.30
	(.98)	(1.35)	(3.77)
Unemployment rate, ILO	.19	81**	79
	(.16)	(.22)	(.56)
Unemployment rate,	.89**	.14	.09
national	(.24)	(.30)	(1.05)
Nominal Effective	20	.12	-8.46**
Exchange Rate Volatility	(.16)	(.17)	(.70)
Real Effective Exchange	-1.11	.73	-3.86
Rate Volatility	(.86)	(.94)	(3.84)

Consequential Characteristics, 3

	Inflation	Multilateral	Unilateral
Regressand	Targeting	Currency Union	Fix
Measure of Aggregate Trade	-1.44**	75**	05
Restrictions	(.11)	(.16)	(.44)
Current Account (% GDP)	.4	2.6*	.7
	(.7)	(1.0)	(2.7)
Trade (% GDP)	3.8*	29.6**	-6.5
	(1.5)	(2.1)	(5.3)
Reserves (% Imports)	1	-4.5**	.8
	(.2)	(.3)	(.7)

Monetary Regimes and Crisis Incidence

- Updated annual panel, Nguyen et. al (2022)
 - 199 countries, 1990-22
- Four types of crises
 - 1. Currency
 - 2. Banking
 - 3. Sovereign Debt
 - 4. Twin/Triple Crises
- Conventional probit, (necessarily) random country effects

 $Pr(CRISIS_{it}) = \beta^{IT}IT_{it} + \beta^{CU}CU_{it} + \beta^{FIX}FIX_{it} + \{\delta_i\} + \{\gamma_t\} + \epsilon_{it}$

Crises and Monetary Regimes

	Inflation Targeting	Multilateral Currency	Unilateral Fix
Regressand		Union	
Currency Crisis	24	80**	-1.28**
	(.14)	(.21)	(.23)
Banking Crisis	.04	.95**	-1.11**
	(.15)	(.15)	(.24)
Twin/Triple Crises	20	60*	93**
	(.21)	(.30)	(.27)
Sovereign Debt Crisis	-1.02** (.16)	1.02** (.33)	-1.87** (.29)

Probit coefficients (and standard errors) in each row. Fixed time- and random country effects. Annual data 1990-2022 with up to 212 countries.

Effects of Monetary Stability: Good, Limited

- 1. Messy middle: <u>more outliers</u> in inflation, business cycle volatility
- 2. <u>Striking similarities</u>: effects of stable regimes close to each other
- 3. Stable regimes have <u>limited benefits</u> compared to messy middle
 - Effects on inflation, business cycles statistically insignificant
 - Consistent with weak literature results across monetary/exchange rate regimes
- 4. IT and fixers experience lower crisis incidence
 - EMU: more bank, debt crises ... historically

Summary

- Three distinct durable monetary regimes
 - Unilateral fixes
 - Multilateral currency unions
 - Inflation targeters
- Weak results on causes, consequences
 - Consistent with literature
 - Much heterogeneity; weak statistical results
- But ... inflation targeting and EMU young

Durable Regimes

- Distinct in *determinants*
 - Fixers: small, worse institutions
 - Inflation targeters: bigger, richer, better institutions
 - Currency unions in between (EMU mixed with CFA franc, ECCA)
- Alike in goals of monetary policy
 - Inflation
 - Business cycle volatility
 - Mostly alike in crises (but EMU & banking, debt crises)
 - Fewer outliers than messy middle
- Shouldn't overstress monetary regime role (weak results)
 - Modest but enduring benefits of stability (like marriage)
 - Avoid truly terrible outcomes

Conclusion

- Countries Reveal their Preference for Monetary Stability
 - Choose to stick with stable regimes
 - Continuing issue for academic economists, but not policy makers
 - Fast growth of <u>inflation targeting</u>; survival of fit(test)
 - Underappreciated because quiet
 - Third stable alternative to fix/CU, retaining sovereignty
- We do NOT live in interesting times, at least for monetary stability
 - Tragedy in economy elsewhere

Appendices

Data Sources

- World Development Indicators: most macroeconomic series
- Center for Systemic Peace: polity, state fragility, and executive constraints
- Nguyen et. al.: crisis indicators
- Chinn Ito: financial openness
- BIS: monthly effective exchange rates (nominal, real)
- Data set freely available online

Regime Consequences: Univariate Evidence by Regime

