

Structural Monetary Instability: The Root Cause Conventional Theory Has Not Addressed

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Building on 8 independent formal disciplines ignored by standard finance theory
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The Measurement Problem: A Unit Without a Valid Definition

Every financial model, regulatory capital ratio, contract, and policy instrument is denominated in monetary units. If those units have no valid intensional definition, every quantity expressed in them is indeterminate from inception.

The standard descriptions — medium of exchange, store of value, unit of account — are use-descriptions, not definitions. They presuppose money's existence. No valid intensional definition (necessary and sufficient conditions in independently determinable terms) has ever been given for the monetary unit.

- The metre is defined by the speed of light — externally anchored, not circular. The kilogram by Planck's constant.
- Money's definition: money → exchange → value → standard → money. No element has independent existence outside the loop.
- Legal consequence (Chapter 20): a contract denominated in a unit with no valid intensional definition is indeterminate. Indeterminate contracts are void ab initio.

The Category Error and Its Operational Consequence

Once a monetary unit carries independent commodity value $B > 0$, the percentage fee is not an abuse — it is the correct operational expression of the definition.

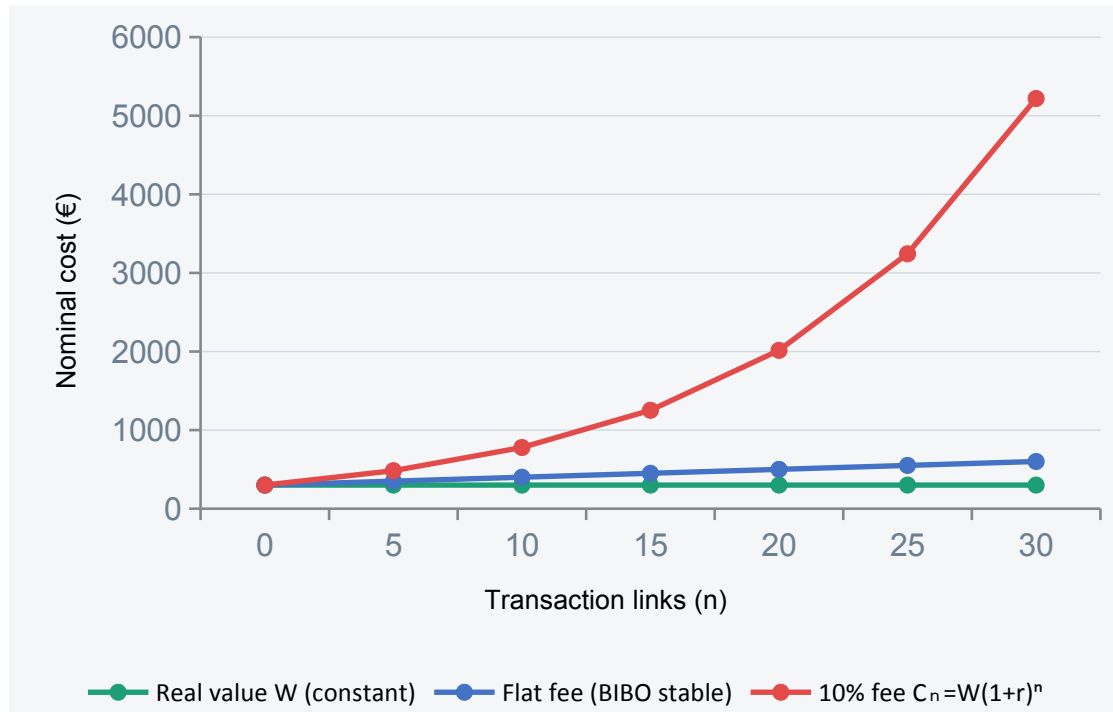
Baker sells €100 of bread.
Bank service cost: €0.50.
10% fee charges: €10.
Excess €9.50 has no corresponding activity in the bank's domain.

The fee derives its value from the baker's goods (the range), not from any activity the bank performed (the domain). This is the category error: charging for the range, not the domain.

- Chapter 3 proves this is a logical entailment, not a policy choice: $B > 0$ makes the percentage fee the only coherent internal pricing structure
- This is why regulatory caps on interest rates always fail or migrate: the fee is structurally rational within $B > 0$
- Only correcting $B = 0$ at the definition level makes the percentage fee irrational — and therefore eliminable

Theorem 1: The Formal Proof — Finance Translation

$C_n = W(1+r)^n$ — proved by mathematical induction (Chapter 8)



Key results:

- $W = €300$ real value — constant
- After 20 links at 10%: €2,015
- After 30 links: €5,219
- For any $r > 0$, $C_n \rightarrow \infty$
- Only $r = 0$ is BIBO stable
- Independent of productivity, demand, or GDP
- Rate Insensitivity (Corollary 2): any $r > 0$ suffices

$V = PQ/M$ — A Formally Indeterminate Policy Signal

Identical velocity readings are consistent with radically different economic realities. No policy response is valid for all simultaneously.

Circulation Pattern	V	Policy Signal	Reality
€1 × 40 participants	1.0	Healthy — distributed	Correct
€2 × 20, €20 idle	1.0	Healthy	WRONG: 50% idle
€4 × 10, €30 idle	1.0	Healthy	WRONG: 75% idle
€10 × 4, €36 idle	1.0	Healthy	WRONG: 90% idle

- Two independent grounds for conventional policy impossibility (Chapter 21): (1) no parameter adjustment removes instability while $r > 0$; (2) the signal $V = PQ/M$ is formally indeterminate — the instruments are structurally blind.
- PQ is contaminated by phantom wealth: financial claims ~\$900T vs real assets ~\$100–300T (Bain 2012; BIS 2024). That gap is $F_n = W[(1+r)^n - 1]$ at macroeconomic scale.
- Inflation targeting operates on $V = PQ/M$ while leaving both explicit and implicit per-unit cost mechanisms intact.

Why Conventional Policy Cannot Succeed — The Structural Argument

Effective extraction rate = $(r + r_{\text{attenuation}}) / \bar{\tau}$

Every policy intervention — QE, bailouts, capital requirements, rate suppression — imposes a real cost passed through the value chain as a percentage-based extraction. This cost enters the effective instability rate through the same $C_n = W(1+r)^n$ formula it was deployed to suppress.

QE

→ Instability → bank sheets → sovereign debt → inflation

Austerity

→ Instability → financial sector → household income

Capital requirements

→ Instability → regulated sector → shadow banking

Rate suppression

→ Instability → savers → debtors → asset inflation

The apparatus loses ground because it accelerates the depletion of the productive base it was designed to protect.

Chapter 13: International Price Transmission — The Category Error at Planetary Scale

Under a $B > 0$ reserve currency, a supply shock in a distant region transmits to a nation whose own productive costs are entirely unchanged:

Imported inflation

Nominal energy costs rise despite unchanged real extraction costs

Currency depreciation

Trade balance is nominally affected through exchange rate mechanism

Interest rate pressure

Central bank responds to a nominal inflation signal with no real basis

Debt servicing increase

Dollar-denominated obligations rise with no change in productive capacity

Under $B=0$ with n passive currencies: exchange rates are transaction-specific agreed ratios reflecting real productive relationships. No phantom transmission. No reserve currency dominance.

Gold, Bitcoin, and CBDCs — The $B=0$ Criterion Applies Equally

The criterion is not the technology. It is whether $B = 0$.

Gold	$B \gg 0$	Physical scarcity, industrial & speculative value. Gold standard collapsed repeatedly — not policy failure but structural inevitability of $C_n = W(1+r)^n$.
Bitcoin	$B \gg 0$ by design	Algorithmically enforced scarcity creates commodity value. Seven structural failures predicted in 2013 confirmed: hoarding, deflationary traps, collateral lending at interest, speculative contamination.
CBDC ($B>0$)	$B \gg 0$ accelerated	Reduces $\bar{\tau}$ without correcting r . $i_{\text{eff}} = r/\bar{\tau}$ increases. Same instability, faster pump, more surveillance.
Passive Unit ($B=0$)	$B = 0$	Units created by transactions, cancelled on reciprocation. Flat service fees. No compounding. Satisfies all 13 conditions of Chapter 18.

Chapter 23: Network Clearing — A Withheld Efficiency

Multilateral obligation netting — automatic cancellation of offsetting obligations in cycles of 3+ parties — is computationally trivial and has existed in the interbank system for decades, reducing settlement requirements by up to 90%.

It has never been extended to productive agents. The barriers are not technical — they are institutional. Every obligation netted is a transaction on which no percentage fee is earned. The $B>0$ system withholds from its clients the same efficiency it deploys among its own institutions — because clients' gross transaction volume is the extraction base.

- Under $B=0$: zero balance is the rational optimum for every agent — multilateral netting is what rational clearing looks like in operation
- Operationalises peer enforcement through mathematically derived reciprocity maps, not surveillance
- Absorbs real shocks without financial amplification
- Prior to $B=0$ correction: no clearing network can move any of the four thresholds — $C_n = W(1+r)^n$ continues to diverge within and beyond any clearing network

Chapter 18: The Passive Unit — Finance Specification

The thought experiment: if cash is destroyed overnight but ledgers survive, the bank reissues from records — no loss. If ledgers are destroyed, cash becomes non-distributable. Cash is a portable record of an account balance, not an independent store of value.

Transaction flow:

Value given → units created → held pending reciprocation → value returned → units cancelled.
No extraction, no compounding, no phantom wealth.

Service fees:

Flat charges grounded in the independently determinable real cost of the service rendered. Never a percentage of the value transacted.

Collective provision:

Flat contributions from beneficiaries proportional to agreed share of real cost. No compounding overhead.

Transparency:

All account balances publicly visible at all times. All transaction details private. Sum of all balances = 0 at all times — publicly verifiable proof no units created from nothing.

B=0 as Shock Absorber vs B>0 Financial Amplification

Consider an exogenous x% drop in global real productive capacity $V_{\max}$:

B > 0 System

- Financial claims $C_n = W(1+r)^n$ continue to compound independently of $V_{\max}$
- System does not absorb the shock — it amplifies it
- Financial cascade on top of the real crisis
- $\eta(n,r) = 1/(1+r)^n$ was already < 1 ; falls further
- Policy tools relocate Stein's dirt without eliminating it

B = 0 System

- Monetary claims track real production: $C_n = W$ for all n
- 25% fall in $V_{\max} \rightarrow$ 25% reduction in available real value recorded
- No financial amplification
- Recovery limited only by genuine resource constraints
- No compounding claims pressing on a reduced productive base

System efficiency under current parameters: $\eta(50, 0.03) \approx 0.23$ — approximately 23% of productive capacity reaches real value.

Chapter 22: UN Policy Framework — Normative Requirements

R1 Formal Definition

All monetary units must satisfy all 13 conditions of Chapter 18.
B=0 necessary but not sufficient.

R2 Interim Passivity

All percentage-based transaction fees eliminated immediately.
Applies equally to percentage-based taxation (VAT, income tax, capital gains).

R3 Legal Validity

New international contracts denominated in passive units.
Existing contracts assessed under Chapter 20.

R4 Transparency

Full formal specification of unit definitions, fee structures, and recording mechanisms published.

R6 Technology Governance

No new financial technology increasing transaction velocity deployed without prior compliance with R1 and R2.

R7 International Monetary System

No B>0 currency used as global pricing standard. All international arrangements satisfy B=0 independently.

Chapter 20: The Legal Imperative — Post-Alert Liability

The fungibility failure — five steps:

1

A fungible thing is legally defined as one where every unit is interchangeable — quality (purchasing power) must be constant.

2

For fungibility, one unit received today must exchange for the same real value as one received yesterday.

3

Theorem 1 proves purchasing power is not constant under $B > 0$ — it erodes at rate r per period (observable definition of inflation $\pi \approx r$).

4

Therefore the monetary unit under $B > 0$ does not satisfy the legal definition of a fungible thing.

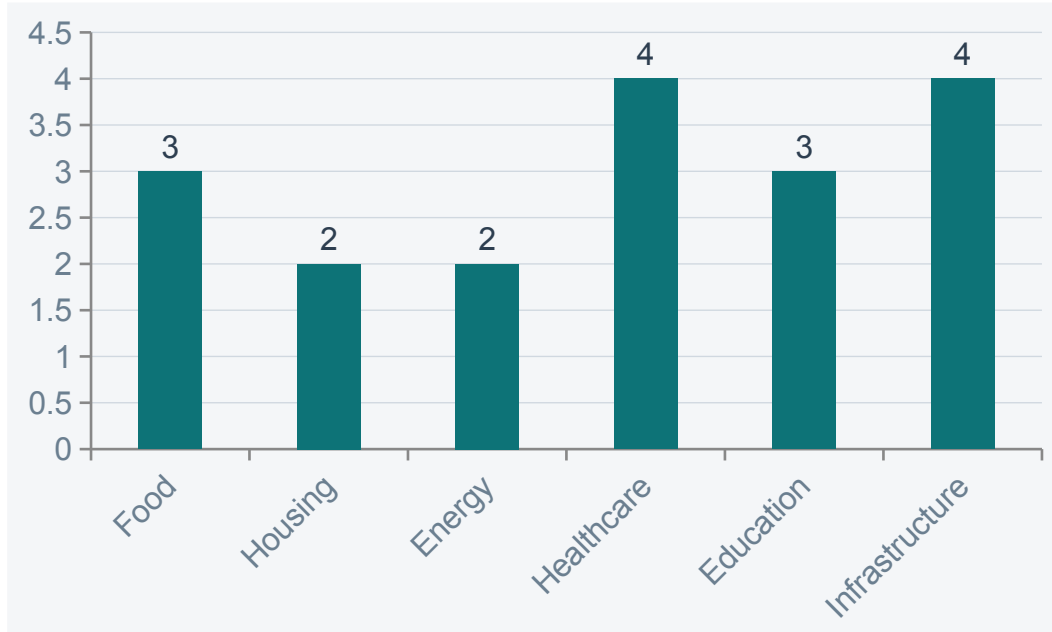
5

All monetary contracts presuppose fungibility. A contract whose unit is not fungible is void ab initio: Quae ab initio non valent, ex post facto convalescere non possunt.

Post-alert liability: once this argument has been formally presented to an institution — as it has to the BIS, ECB, and Spanish Central Bank — continued presentation of monetary contracts as valid without qualification constitutes at minimum negligent misrepresentation.

Chapter 26a: The Achievable Optimum — Economic Implications of $r = 0$

Correcting the unit to $B=0$ sets the required workweek by two verified inputs: worker compensation ($\sim 47\%$ of GDP) and the real-asset/financial-claims ratio ($\sim 1/3$, Bain 2012). The gap between them — a ~ 14 -point structural phantom — is what Theorem 1 extracts. Closing it drops the required workweek from ~ 33 hours to ~ 11 hours for the same full OECD/EU middle-class standard.



- Current ~ 33.4 h week (OECD 2025): workers produce the full 33% of GDP at real-economy scale but consume only 11–16% in real-economy terms
- Under $B=0$: ~ 11 h for the full middle-class standard (~ 5.5 – 7 h for a guaranteed dignity floor) + ~ 22 h/week recovered per worker
- Power law consequence (Chapter 26): unique human capacities — including the irreplaceable productive tail — are freed from economy-of-scale suppression
- The world already produces enough food for 10 billion people; current technology can house everyone; renewable energy is sufficient — the failure is distribution caused by extraction

The Formal Case — Summary

- The monetary unit has no valid intensional definition — every contract denominated in it is indeterminate from inception
- Theorem 1 (proved by induction): $C_n = W(1+r)^n$ — bounded real input, unbounded nominal output for any $r > 0$
- Eight independent formal frameworks converge on the same verdict — convergence is structurally necessary, not coincidental
- Conventional policy cannot succeed: (1) no parameter adjustment removes instability while $r > 0$; (2) the policy signal $V=PQ/M$ is formally indeterminate
- The remedy ($B=0$) costs nothing to implement, penalises no agent, and satisfies all eight frameworks simultaneously
- The period of plausible ignorance is over. The window is open. The remedy is specified.

The Simplicity of the Remedy

Record the value of goods and services by their own value (domain) — not as a proportion of the value of what is being recorded. Never assign the value of one's service on the basis of the value of the goods and services of others.

The formal specification is complete.
The period of plausible ignorance is over.
The remedy costs nothing to implement.
There is no valid rational basis for delay.