

SUMMARY

[Graph 1's Detrended² Credit-to-GDP ratio vs GDP reveals an unstable feedback system unleashed on August 15th, 1971 via financial leverage](#)

Yet, neither Graph 1, nor the fact that its values turned out as Hyman Minsky predicted in his 1985 [Financial Instability Hypothesis](#) are widely known

The concept behind the chart is fundamental: High vs Low Exponential IRR behavior. Yet, proving it accurately takes a pair of differential equations and some fishing knowledge³. Minsky's Long Cycle⁴ 'Ponzi' (speculative) Debt vs Capital model traces a "Predator-Prey Dynamics System of Unstable Focus"⁶. Hence, charted in blue, PRINCIPAL PLUS INTEREST-CARRY represents Predator Size, while CAPITAL PLUS INCOME in red, denotes Prey Size. Just glancing at the chart shows why Greenspan and later central bankers have all been in an interest-rate cutting race after 1985.

OPINION NOTE: So-called "Top-Down (TD) Controlled⁶" Resource Competition Dynamics (RCD) systems, like the above, rarely happen in nature⁶. Yet, as Minsky and other researchers⁵ attested, 'Ponzi' TD dynamics is recursive in our species. Below, I venture a few -unsupported- thoughts on Why Homo Sapiens (HS) RCD truly is different from nature's:

Due to Abstract Thinking, the primary driver for HS survival over its short era on earth is Cultural Dominance, not Genetic Evolution

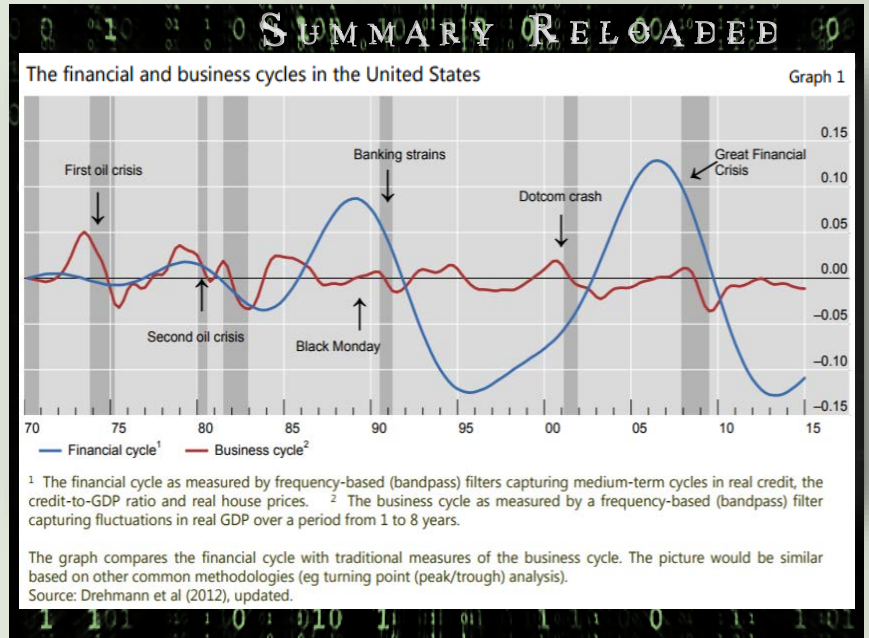
It would be safe to assume that over eons, contemporary survivors eventually achieve some degree of [Information Symmetry \(IS\)](#)

As HS RCD hinges on Information-Resources (IR), IR owners and their offspring aim to curb IS expansion. Yet, as they acquire, transmit, accrue and deploy IR over time, IS grows to critical mass among contemporaries and their TD cycle inevitably collapses

A Bottom-Up-Controlled (BU) system restarts the cycle. Yet, as soon as newly dominant IR owners arise, a new TD cycle begins

In sum, as implied by the extraordinary fit of the current BIS chart to Minsky's 1985 FIH model, it seems the global economy is currently ending a Top-Down Controlled cycle. On the other hand -of the page! [My notes remain the same.](#)

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What separates science from non-science is the margin for interpretation¹

Though Economics introduced many appealing concepts since Adam Smith's original theories, static assumptions continue failing to describe the powerfully nonlinear nature of human interaction. Yet, two decades into the 21st-century, we continue to apply grossly inadequate arithmetic recipes to manage our global resources, while knowing, for instance, that a pair of simple ODE developed in the 1920s can trace the High vs Low Exponential IRR patterns underlying the Financial vs Business cycles. Hence, instead of serving billions of people, Economics has become a snake-charmer's quintessential magic wand (aside from his mandatory 64,000 crayon-case of Misleading Indicators²).

Curiously, submitting Economics to scientific rigor could save the lives of millions...

As the real dynamics governing Economics become obvious to everyone, illusionists like those presently devastating Venezuela, Argentina or Brazil ([see bottom 10%](#)) would be rapidly recognized. Even G-7 central-bank intentions would become instantly transparent: For instance, on the BIS chart above, notice that since the 70s, the US financial and business cycles have traced the predator-prey dynamics³ pattern of unstable focus (a system that keeps moving away from equilibrium after any initial shock), better known today as Minsky's "Long Cycle"⁴.

The good news is human economics follows laws common to every living creature⁵

The bad news is Minsky's "Long Cycle" tracks "top-down controlled⁶ predator-prey dynamics: As unlimited bailouts by central banks/governments make unlimited predation possible, the predator (Debt) to prey (GDP) proportion escalates exponentially with each cycle oscillation. Then, based on Arditi-Ginzburg "For very efficient predators, the only possible outcome is complete extinction of the system: the predators die out after exhausting the prey." Fortunately, a top-down controlled cycle would lead to collapse, not catastrophe, so as excess-debt collapses, excess asset-prices evaporate and the new cycle starts with prey size (GDP) growing unchallenged ("bottom-up controlled").

- 1 There must be a hundred better definitions, unless one favors perceptual relevance
- 2 [Statistics require detrending](#), as data providers tend to pick modes (nominal, percent change, indexed, sum, average, etc.) or parameters (price, time, relevant unit) that back their assertions, yet might be statistically irrelevant or mathematically meaningless
- 3 The [Lotka-Volterra](#) (1925-26) ordinary differential equations were originally employed to study predator-prey dynamics in Theoretical Biology
- 4 Minsky's "Long Cycle" is typified in the BIS chart by the US financial cycle's pattern of greater amplitude waves (characteristic of unstable feedback systems) that forms over decades, as the proportion of Debt to GDP rises exponentially with each oscillation
- 5 "[Predator-prey dynamics](#)" equations have been applied in economic theory, since at least 1967, when Richard Goodwin used Kolmogorov's version. Their application to Minsky's Long Cycle was first proven by Asada in the late 90s, then Keen and others
- 6 See details in Arditi-Ginzburg's 1989 ("[ratio dependent](#)") version of Lotka-Volterra's predator-prey dynamics