

# M<sub>a</sub><sup>i</sup>cro-Bite FACET Series

Framing Analytical Components of Economic Trends:

Five Grey Theorem Macroeconomic Models for framing of National economic health

USA 1968 – 2025

  
Grey THEOREM

# Outline

The **FACET** series explores five core facets of national economic health, with the purpose of understanding and diagnosing the components of the system. Applications in framing internal business performance to the macroeconomic environment, and refined forecasting across quarterly, annual, and longer time frames.

- ∞ Total Economic Product (GDP) | AGF: Applied Growth Factor

- ∞ Globalized correction of nationalized GDP shows when growth is and isn't keeping up with the world.

- ∞ Consumer Sentiment | CGFI: Consumer Gut Feeling Index

- ∞ Historical normalization of the UMichigan Survey of Consumers to contextualize present-day sentiment.

- ∞ Inflation | CLIR: Consistent Life Inflation Rate

- ∞ Model for *real* inflation, without continuously trading down and moving into worse housing.

- ∞ (*Quantitative*) Business Condition | BEG: Business Efficiency Grade

- ∞ Macroeconomic environment for consumer-driven business, relaying market/consumer's ability and affinity to spend money.

- ∞ National Financial Health | NOIS: National Outlay-Inlay Score

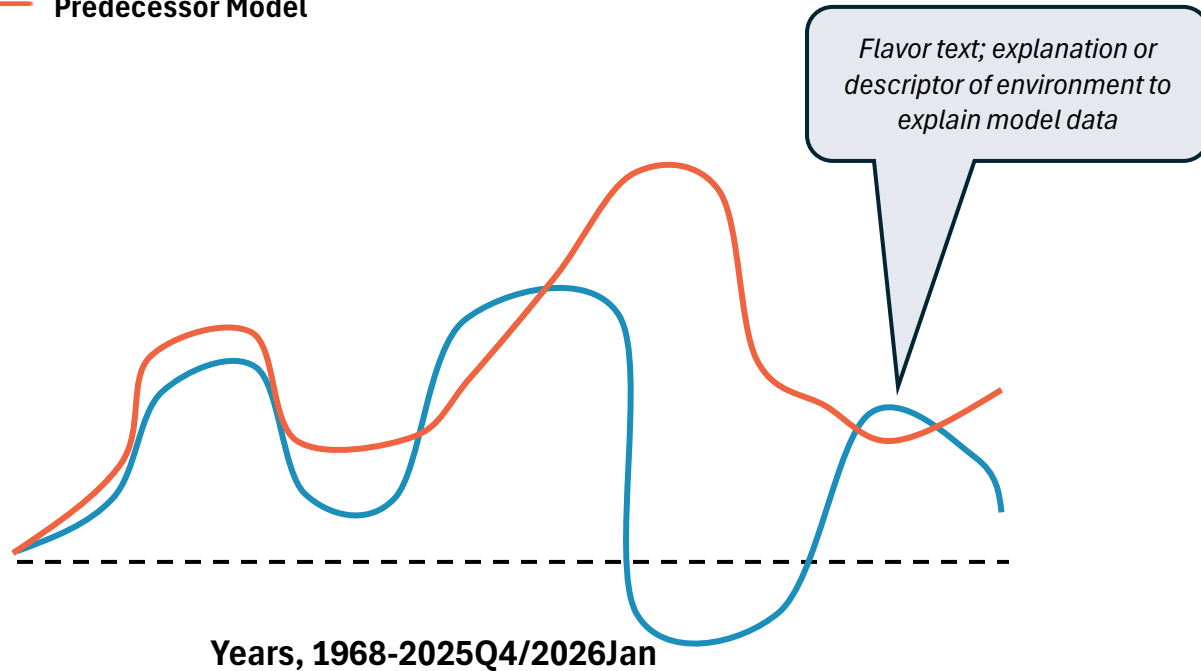
- ∞ Novel characterization of Inlays and Outlays for diagnosis and potential remediation of national fiscal health.

# Guide & Example Format for FACET

The following five models are internally developed by Grey Theorem, for the analysis and forecast of national economic data. This slide serves as an example, and walkthrough for the following slides.

This section will contain a brief description of each model and the Predecessor model or data, as well as a brief explanation of how Grey Theorem's internal model improves upon or corrects shortcomings or flaws in the Predecessor model.

— Grey Theorem Model  
— Predecessor Model



**Q4 Quarterly or Annualized Value**  
**GT Model    Predecessor**

2025  
2024

Key distinguishment about GT Model.

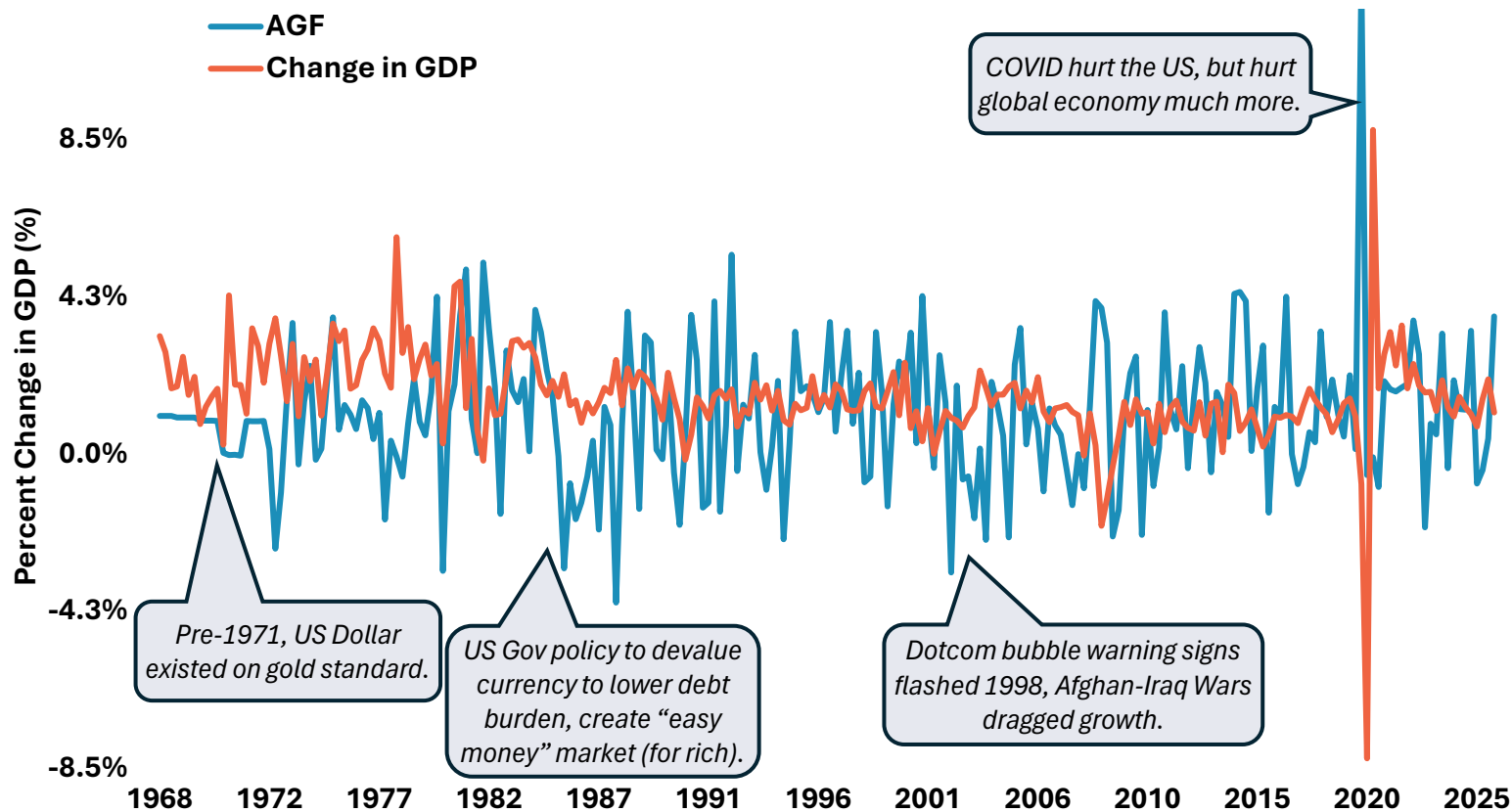
Core issue with Predecessor model, resulting in value differences.

# GDP | AGF: Applied Growth Factor

**AGF, or Applied Growth Factor:** Grey Theorem's Globally-corrected national economic growth; modification to change in GDP to account for the global economy.

GDP, or Gross Domestic Product, is the international economic benchmark for size and growth. Calculated by sum of Government Spending, Consumer Spending, Net Exports, and Foreign Investments; GDP has significant issues in accounting for delays in spending, trade balances, and investment realization. AGF utilizes top-down and bottom-up mechanisms; a recreation of GDP using government-published data removes smoothing, while monetary-axis translation normalizes growth within the global environment.

AGF “double-checks” GDP growth, with intent for use in short- and medium-term forecasting.



## Q3 to Q4 Change in GDP

(%)	AGF	GDP
2025	3.71	1.11
2024	3.33	1.06

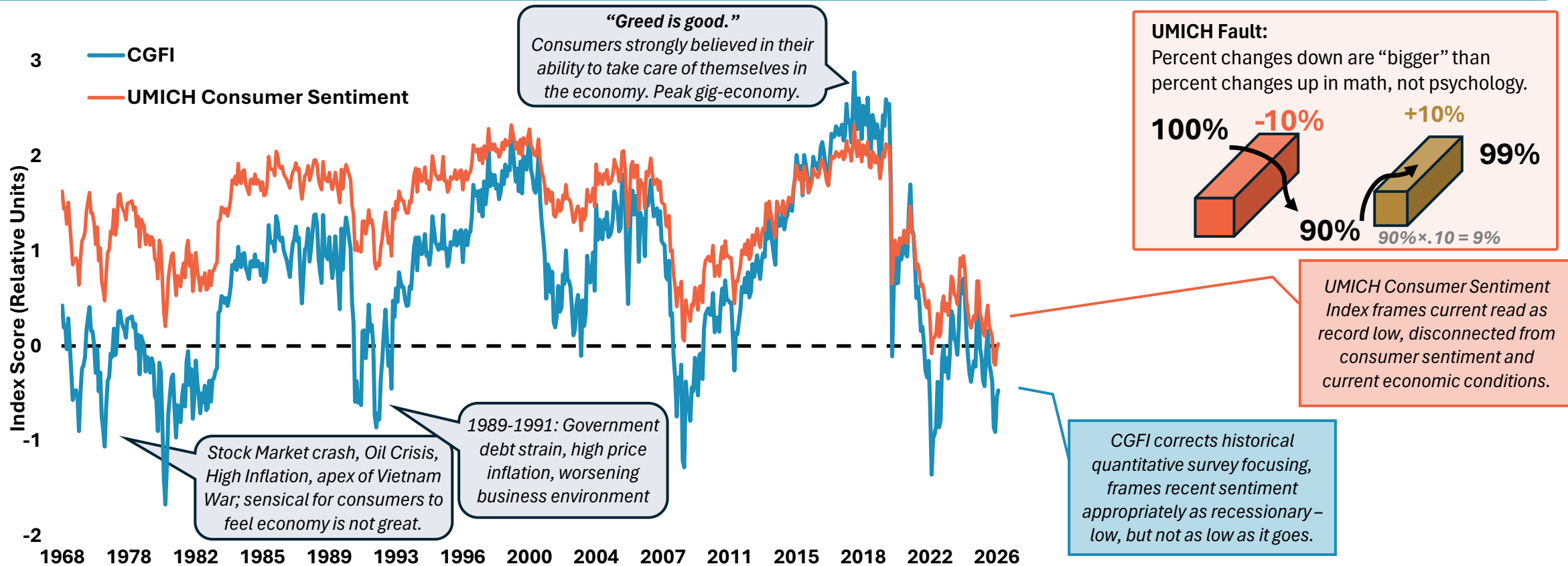
AGF shows a carrying negative balance Q1-Q3, while Q4's strong reading came from Dollar gains, relating to both risk asset weakness AND seasonal effects.

GDP growth driven by increased consumer spending (from inflation), decreased imports improving trade balance, and foreign investments. BEA often “borrows” growth from strong quarters for weaker quarters, labeled as ‘smoothing’.

# CONSUMER SENTIMENT | CGFI : Gut Feeling Index

**CGFI, or Consumer Gut Feeling Index:** How the Consumer feels about where the economy is and it's going; Grey Theorem's internal translation of University of Michigan's Surveys of Consumers data.

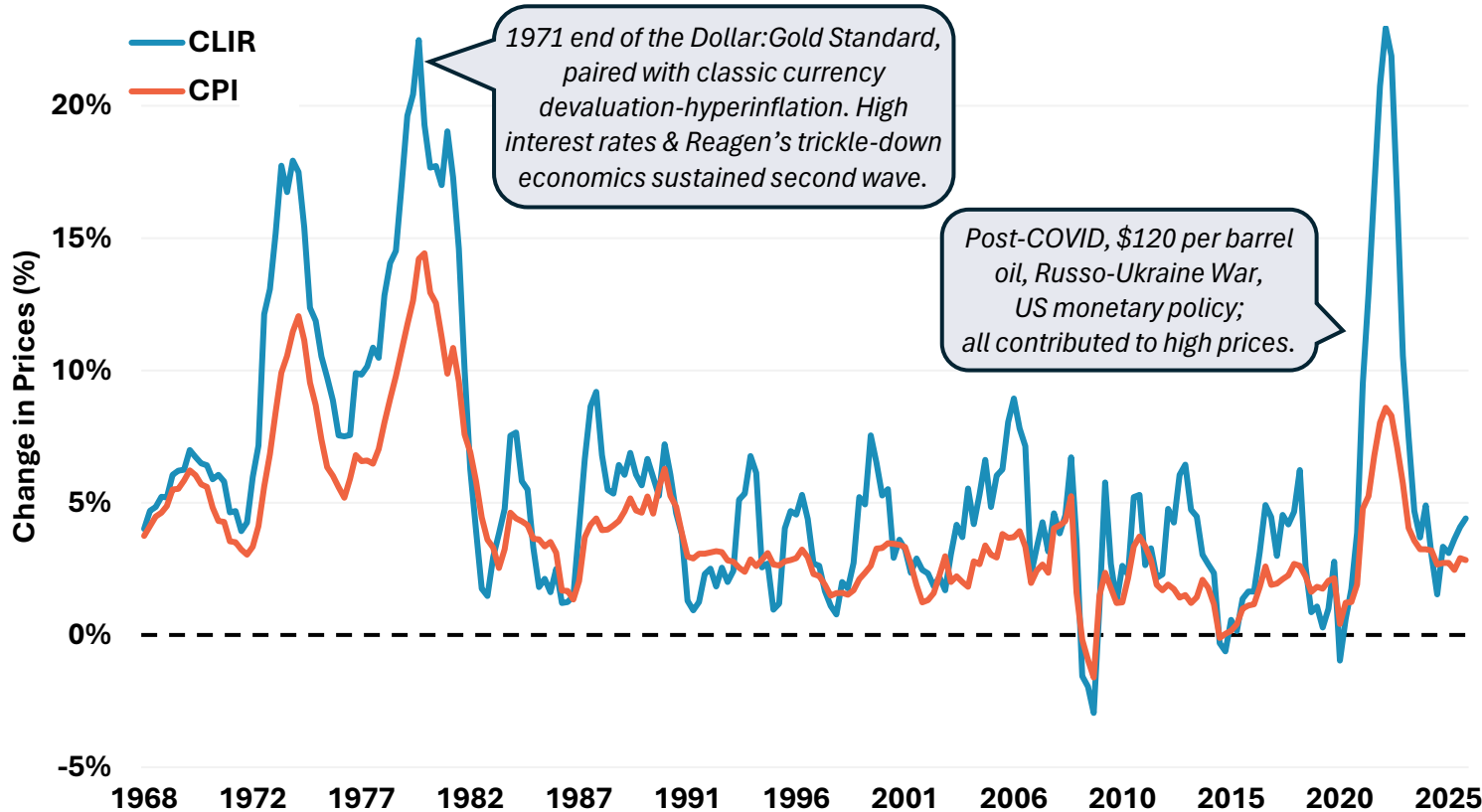
UMich utilizes percent-based changes to calculate index scores, which will incorrectly drag the scores down over time – preventing historical referencing, and falsely promoting current consumer sentiment as record-low. CGFI corrects for this with appropriate mathematics, and normalization of consumer's "feelings" of change through historical change. CGFI shows Consumer Sentiment *is* low, but just regular-low for a recession.



# INFLATION | CLIR: Consistent Life Inflation Rate

**CLIR, or Consistent Lifestyle Inflation Rate:** The Inflation rate for maintaining a standard of living without continuous substitutions to lower quality goods and services. Distributes inflation across basket consumption groups for the “normal” American matched to the period’s *real* consumption.

CPI, or Consumer Price Inflation, is a historical catalog of prices in the US by the Bureau of Labor Statistics. Core changes to BLS include price per quality (hedonic modeling), substitutions of similar or lower quality goods, and a shift in housing from home prices to rent-ownership equivalency (also allowing substitution of lower quality housing); all of which resulted in large declines of reported inflation. CPI mutes 2025-tariffs, pushing much to 2026 and beyond, while relying on domestic substitutions that may have been more expensive at start, but did not increase in price from import tariffs.



Q4 Annualized Inflation Rate		
(%)	CLIR	CPI
2025	4.40	2.83
2024	3.34	2.72

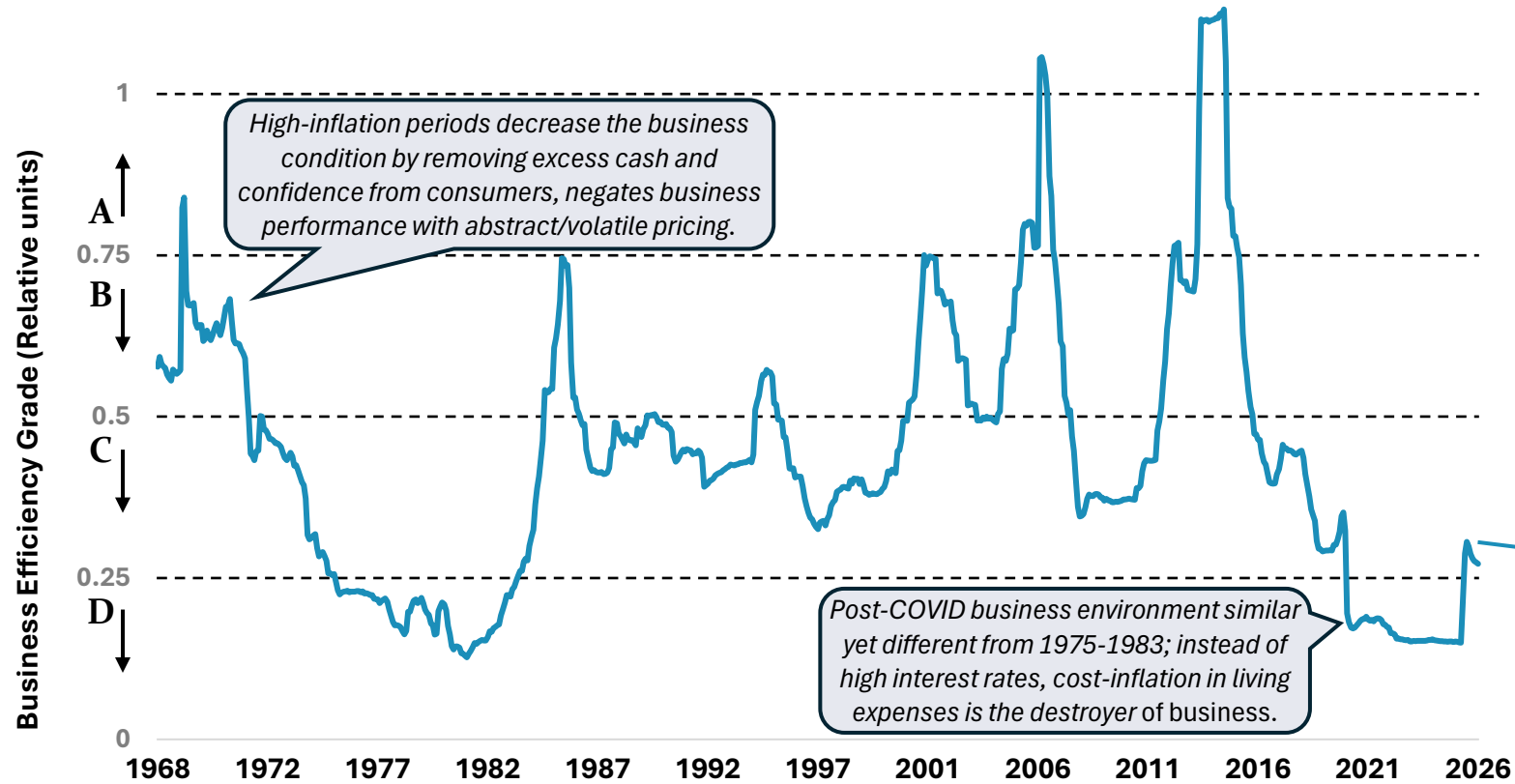
CLIR follows the Federal Reserve mandate for Price Stability, translating price increases to spending AND is more responsive to inflation as it happens.

CPI smooths changes above “average” to limit sporadic pricing shocks, in a method that pushes the inflation caused by tariffs in 2025, to 2026 and beyond; CLIR does not.

# MACROROI | BEG : Business Efficiency Grade

**BEG, or Business Efficiency Grade:** Generalized economic environment score for return on capital in consumer-driven businesses. Defined, and calculated, as the portion of consumer's non-necessities spending and affinity to spend, minus the cost of business credit lines.

Business condition indexes (aside from the namesake qualitative surveys) typically take the Return-on-Investment lens using top-line consumer spending with interest rates. Consumption is on a scale of Needs to Wants; there are absolute necessities, such as basic food and water. After that, shelter, clothing, transportation, communication, and entertainment rank in order of relative importance. High costs of basic necessities force consumers to seek cheaper products, buy less luxury or unneeded goods and services, and change underlying consumption psychology.



## Q4 Business Efficiency Grade

2025	C   0.28
2024	D   0.15

Higher Score

Consumers

Low cost of living  
High(er) employment  
High "free" spending

Business

Low cost to borrow  
Cheap production

Lower Score

Consumers

High cost of living  
Low(er) employment  
Low spending

Business

High cost to borrow  
Producer inflation

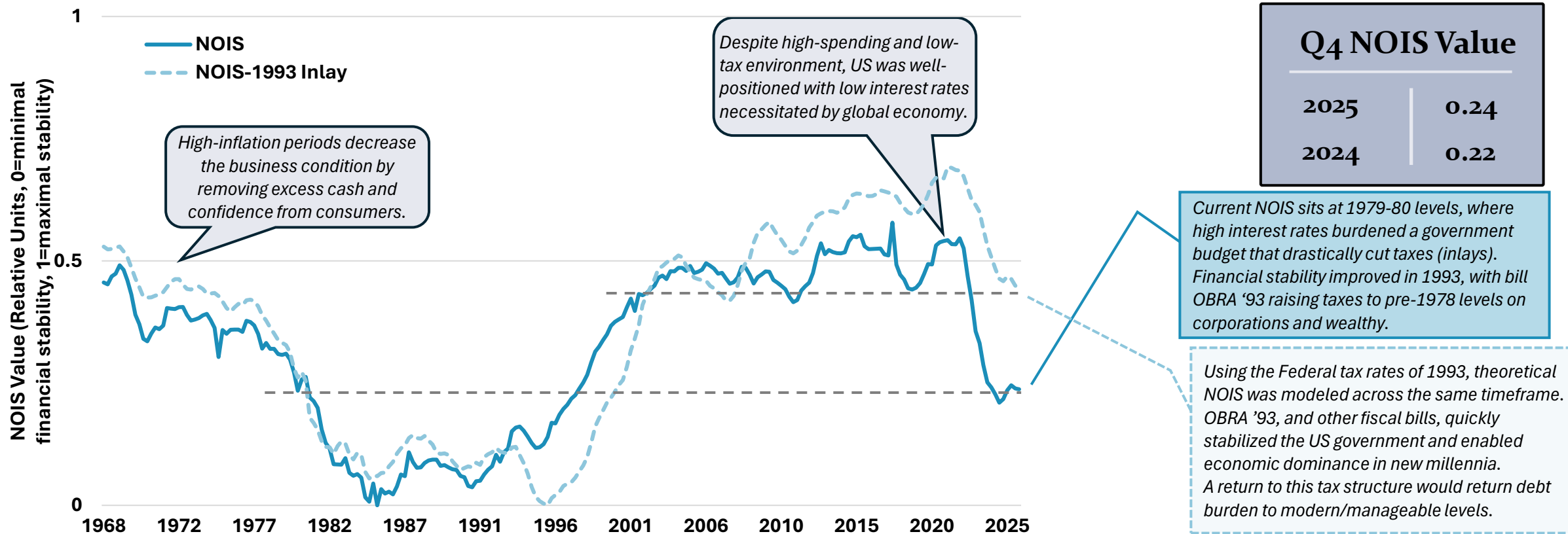
\*Any Normal distribution in BEG is underlying sign of universe/economy, BEG model only centers scores.

# GOV FINANCE | NOIS: National Outlay-Inlay Score

**NOIS, or National Outlay-Inlay Score: the combined revenue, expenses, and debt of the national economy. Financial stability is commonly defined as ability to continue to fund activities, through income or accessible debt. NOIS cuts through narratives to historically relate debt burden.**

Inlays (revenue, such as tax or interest payments for foreign debt held) and Outlays (spending, including debt repayments) are the primary values for assessing national financial stability, where balance is required to maintain growth and attract foreign investment/purchasing of government-issued debt. Most global economies are at, or near record sizes, with debt growing commensurate. NOIS is presented as a novel model to illustrate relative debt burden on the national economy through time.

While US debt is at all-time high, it is far from insolvent. Current US debt burden is consistent with 1979, and with the Inlay/Tax structure of 1993, could recover similar to post-2008.



# Executive Summary

## ∞ Choose Your Own Adventure: 1979 vs 1991

### ∞ High inflation

- ∞ Q4 CLIR inflation rate 4.4% vs government-preferred CPI's 2.8%.
- ∞ Consumers still recovering from hyperinflationary cycle of 2022, where real inflation >2x reported, 50+% increase in cost of living for many.
- ∞ Stagnant cost inflation (stagflation) vs. Taxflation (increased taxes causing price inflation) vs. Deflation (margin compression).

### ∞ High government debt burden

- ∞ Financial stability on par with 1979, economic downturn will bring 1980's levels of debt strain/crisis.
- ∞ Return to 1993 tax rates to return debt burden to healthy levels (while balancing economy).

### ∞ Low consumer sentiment

- ∞ Consumer sentiment typical of recession, levels of 1979/1991.

### ∞ Poor business environment

- ∞ High cost of living creates business environment akin to 1979-1983.
- ∞ Q1-Q3 soft price inflation and decreasing federal interest rates improved to near '84-'91 range.

## ∞ 1979: High-cost inflation + high interest rates led to hyperinflation, consumer despair

- ∞ Reagen-era taxes enflamed government debt burden, decreased public business stimulus

## ∞ 1991: Recession, high debt-burden, consumer despair led to altered government response

- ∞ 1993 taxes enabled direct government stimulus to businesses, while low(er) interest rates freed economic growth

## ∞ Way forward needs mixed/modern solution, otherwise currently on track for 1979.

- ∞ Balance taxes with business health, spending/Outlay rebalance, State fiscal accountability, M1/M2 monetary buffering, localized banking/investment...



# Grey THEOREM

## Economics & Life Sciences Advisory

*Built on Possibilities and Probabilities*; Grey Theorem was founded in 2025 by RNA biochemist and mathematician Josef Grey with the core principles of Science, Integrity, and Discipline. Grey Theorem utilizes internal-proprietary models to analyze and forecast economic systems and markets, while Josef Grey is the inventor of several external-proprietary technologies across multiple RNA modalities for therapeutics.

All consultations are free and confidential, clients enjoy lifetime guarantees of project privacy and ownership, with default 12-month non-compete post-delivery. Furthermore, all work and interactions with Grey Theorem are 100% human.

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# Micro-Bite FACET Series

## USA 1968-2025

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