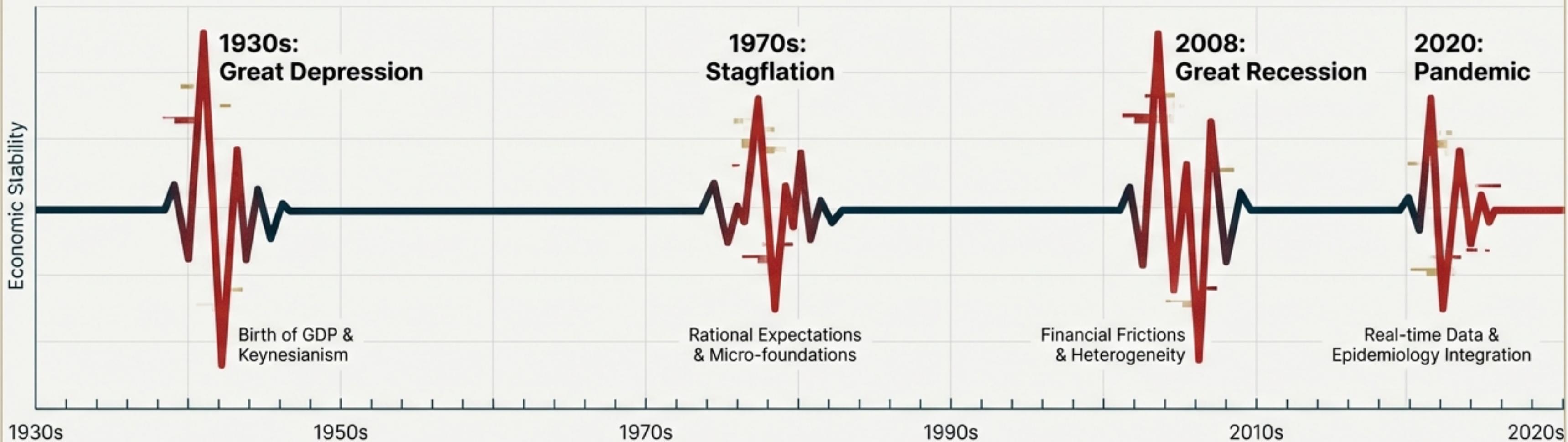


Macroeconomics: A History of Crisis, Data, and Response.

How ‘Oops’ Moments Shaped the Evolution of Economic Thought



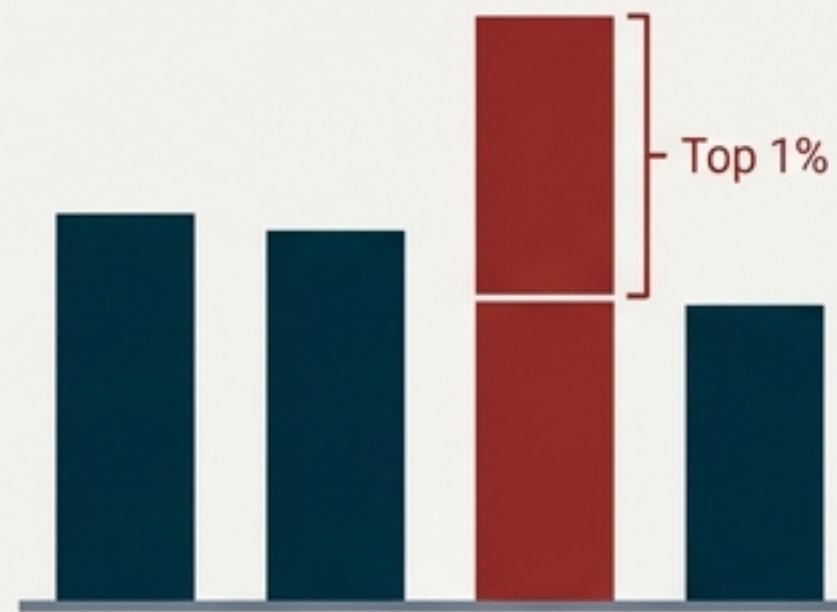
Macroeconomics is not a static doctrine. It is an empirical field where theory and measurement evolve in tandem. From the data vacuum of the 1930s to the big data of today, the field reinvents

itself, economic knowledge in radiance. From the data vacuum of the 1930s to the big data of today, the field reinvents itself when crises expose gaps in understanding.

Studying the Aggregates, the Dynamics, and the Equilibrium

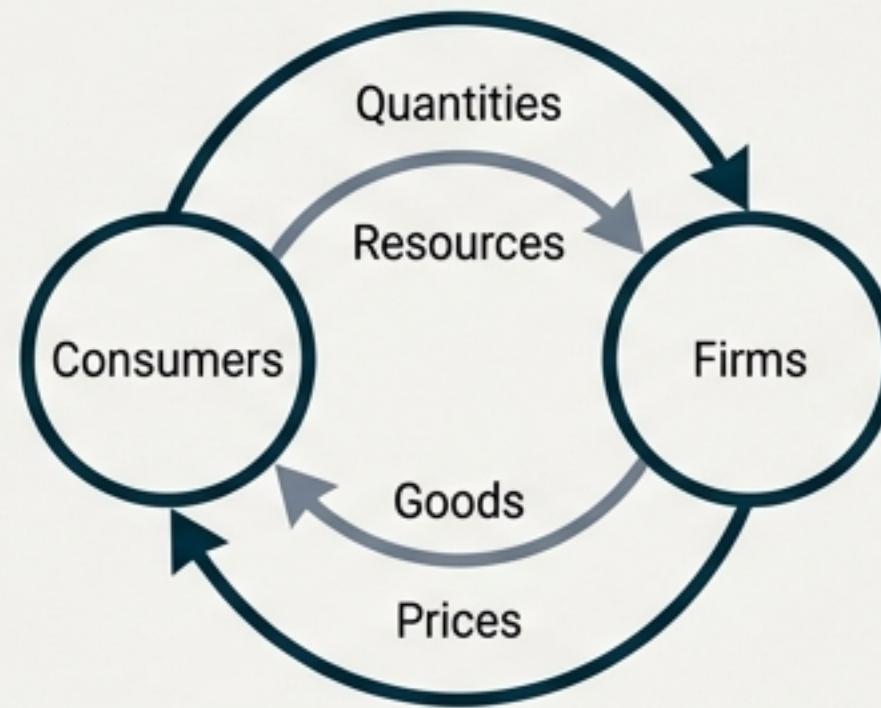
Three perspectives that define the modern scope of the field.

1. Aggregates & Distribution



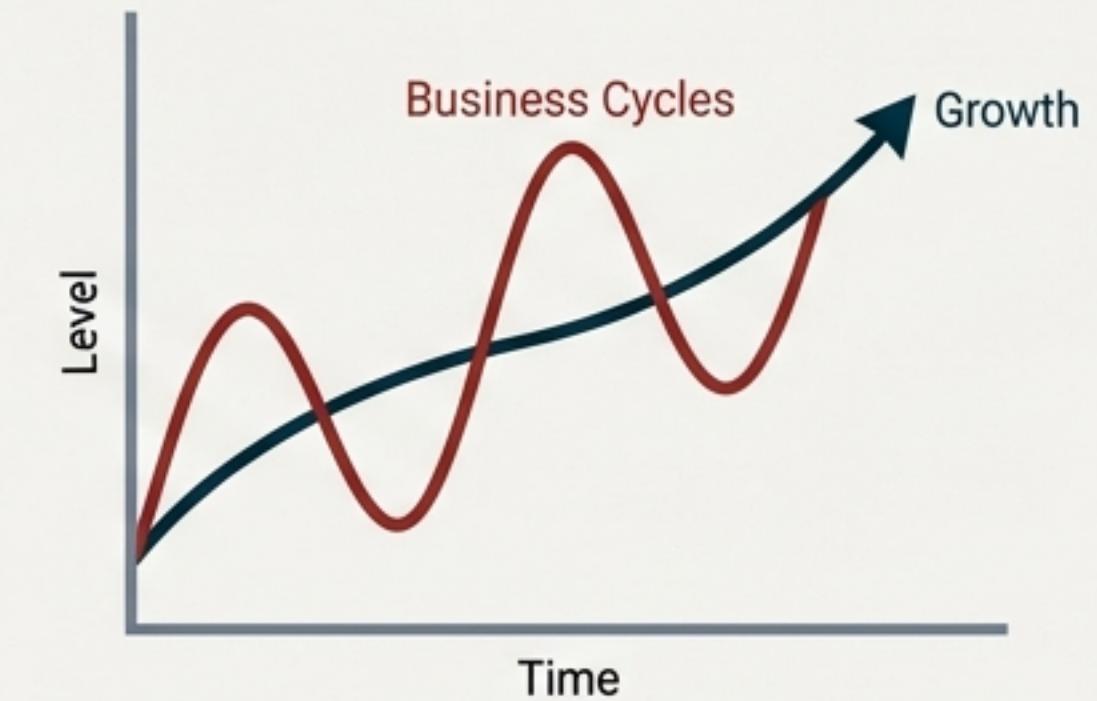
Traditionally the study of total output (GDP), but increasingly focused on the distribution of income and wealth. We move beyond averages to averages to understand how the pie is split.

2. General Equilibrium



The quantitative study of how markets interact. The focus is on characterizing the behavior of consumers and firms given prices, with market-clearing playing a subordinate role.

3. Dynamics



The study of evolution over time. This includes long-run growth (investment/capital) and short-run fluctuations (expectations/shocks).

Key Insight: The field tracks current events. Whether it is a "jobless recovery" or a sovereign debt crisis, macroeconomics adapts its tools to explain the pressing issues of the day.

The Great Depression: Trying to Answer ‘What is Going On?’

The economic collapse of the 1930s exposed the lack of systematic measurement and theoretical understanding.

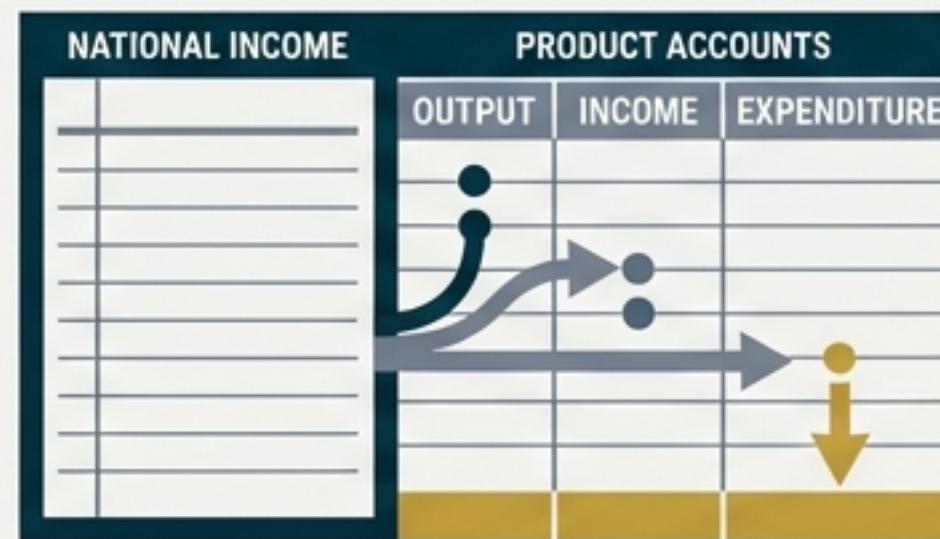
The Crisis



The economy collapsed, but economists had intuition without systematic data. There were only scattered accounts of production and prices. We could not quantify the disaster.

The Response: Measurement & Theory

Measurement: The Birth of NIPA



Driven by the urgent need for answers, pioneers like Colin Clark, Simon Kuznets, and Richard Stone developed frameworks to measure output systematically.

Theory: Keynesianism

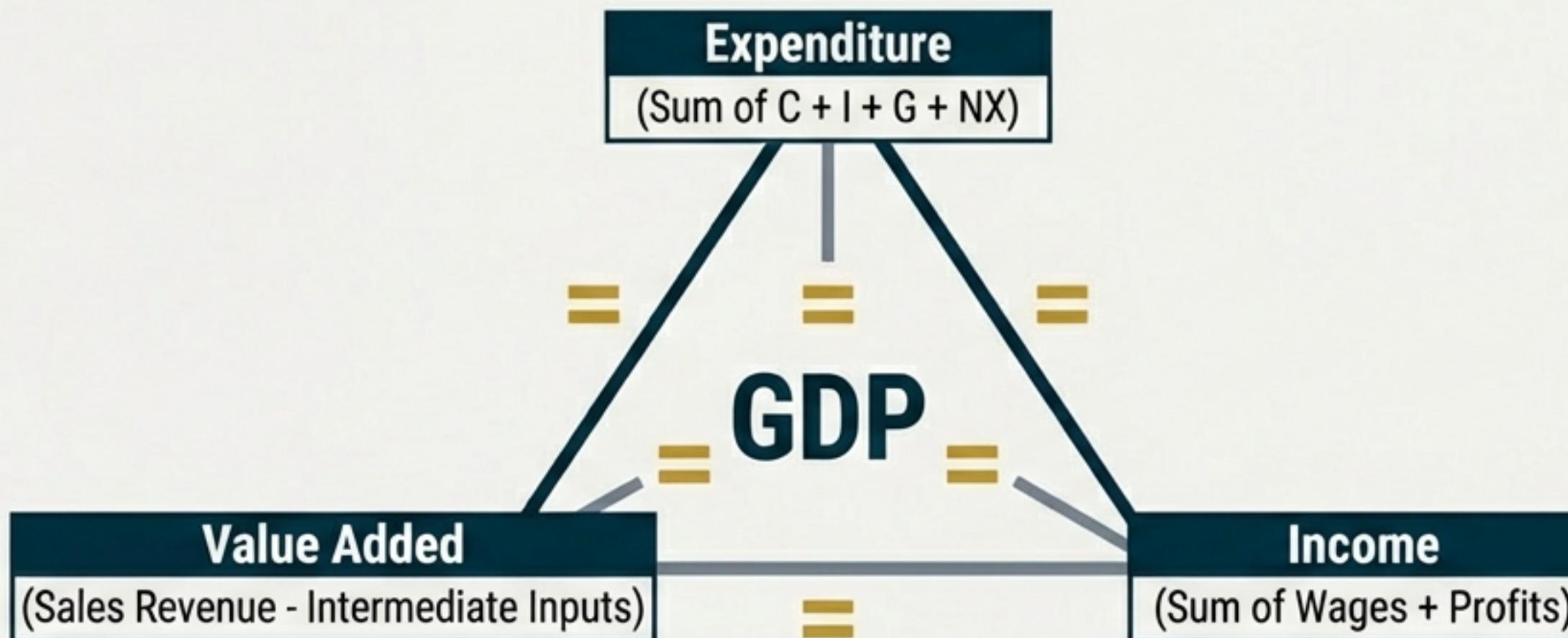


John Maynard Keynes emphasized market imperfections—specifically sluggish wage and price adjustments. This birthed the first theories connecting the newly observable aggregates: Output, Consumption, and Investment.

1930s

Inside the National Accounts: Measuring Market Production

Understanding GDP: The Measure of Market Activity.



Technical Nuances

- **Value Added:** Calculated to avoid double counting. (e.g., The steel in a car is not counted twice).
- **Nominal vs. Real:** Accounts are measured in current dollars. A price index is required to separate quantity changes from price changes.

Critical Caveats: What GDP Misses

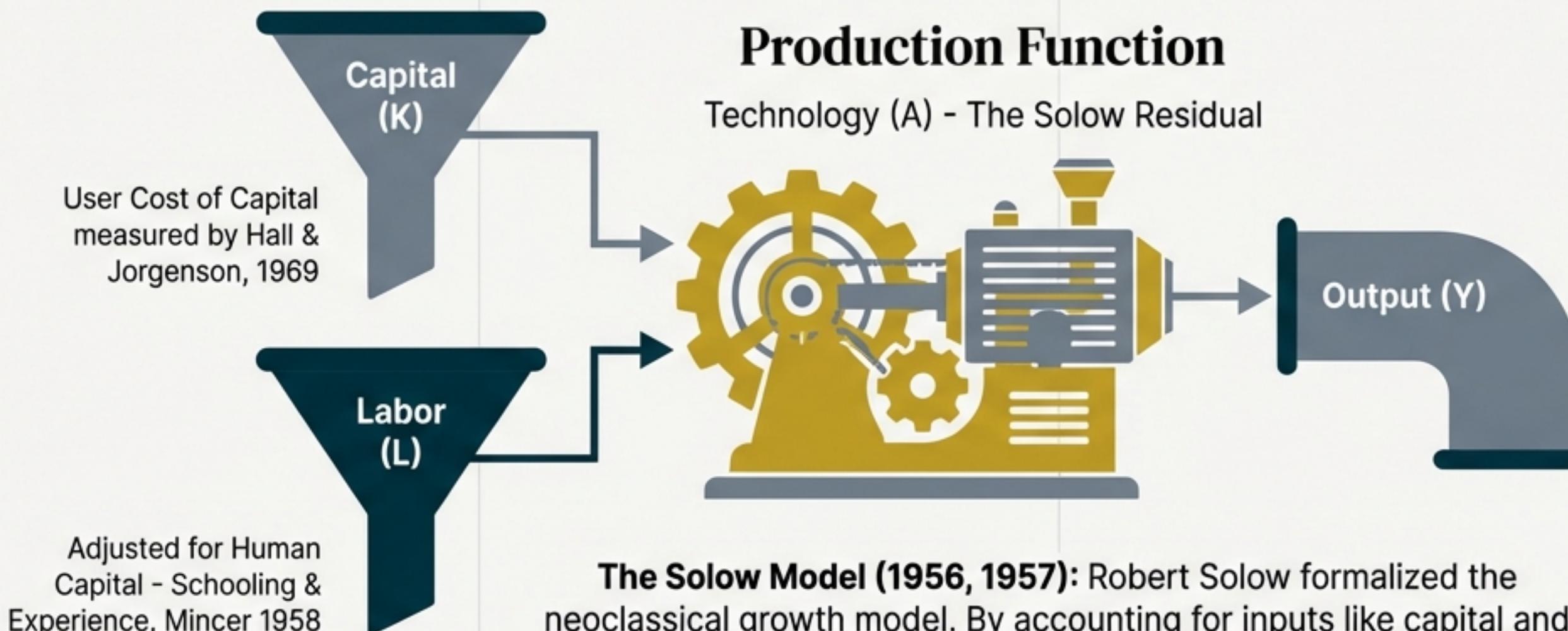
GDP measures market production, not welfare. It excludes:

- Leisure Time
- Environmental Amenities
- Illegal Transactions

Why? Because these are difficult to value in dollar terms.

The Growth Era: Capital, Technology, and Human Skill

The Context: Post-war stability allowed a focus on long-run growth.



The Solow Model (1956, 1957): Robert Solow formalized the neoclassical growth model. By accounting for inputs like capital and labor, he identified a "residual"—interpreted as technological progress—as the fundamental driver of rising living standards.

1950s - 1960s

The Mincer Equation:
One year of schooling adds roughly 10% to wages. This insight allowed labor inputs to be quality-adjusted for "Human Capital".

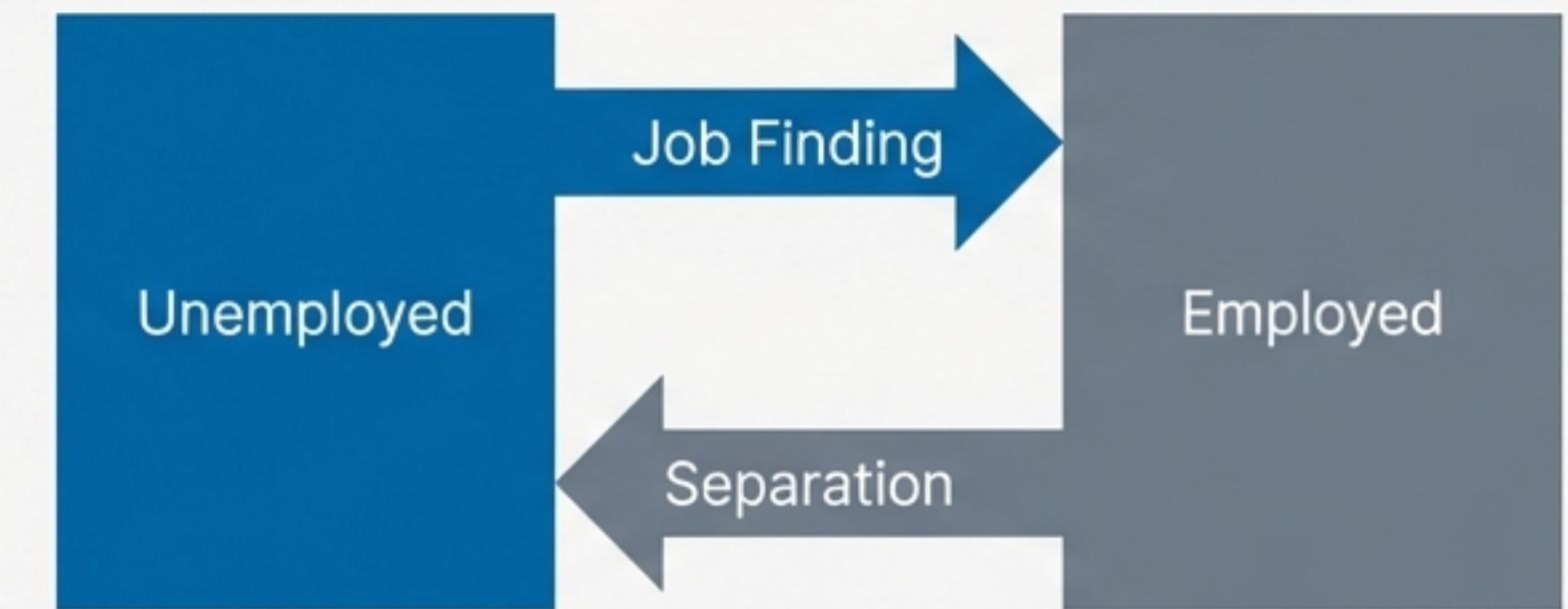
The 1970s Stagflation Shock and the Breakdown of Consensus

The Phillips Curve Breakdown



Stagflation: Following the 1973 oil shock, the economy faced high inflation (10-20%) and high unemployment simultaneously. The reigning Keynesian "fine-tuning" failed.

New Focus: Labor Market Flows



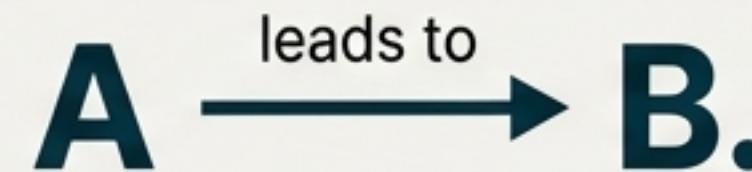
Search Theory: Unemployment was re-conceptualized not just as a lack of jobs, but as a "search" activity (McCall 1970, Mortensen 1972). This drove the creation of new data sets like the CPS (Current Population Survey) to track active searching and flows.

1970s

The Lucas Critique: Why Reduced-Form Models Fail

The theoretical pivot that killed "Old Keynesianism".

Reduced Form (The Old Way)



Assumes historical correlations are structural laws.

- Scenario:**
Government changes policy to exploit the correlation.

- Result:** The correlation breaks.

Micro-Foundations (The New Way)



Rational Expectations: Individuals optimize based on expectations of future policy.

- Scenario:**
Government changes policy.

- Result:** Individuals adjust behavior immediately.
The model holds.

Robert Lucas (1972) argued that correlations like the Phillips curve depend on policy regimes. If the rules of the game change, people change their play. To fix this, macroeconomics had to be rebuilt from the ground up, based on the optimization behavior of individuals and firms.

Quantitative Theory: Kydland and Prescott's Method (1982)

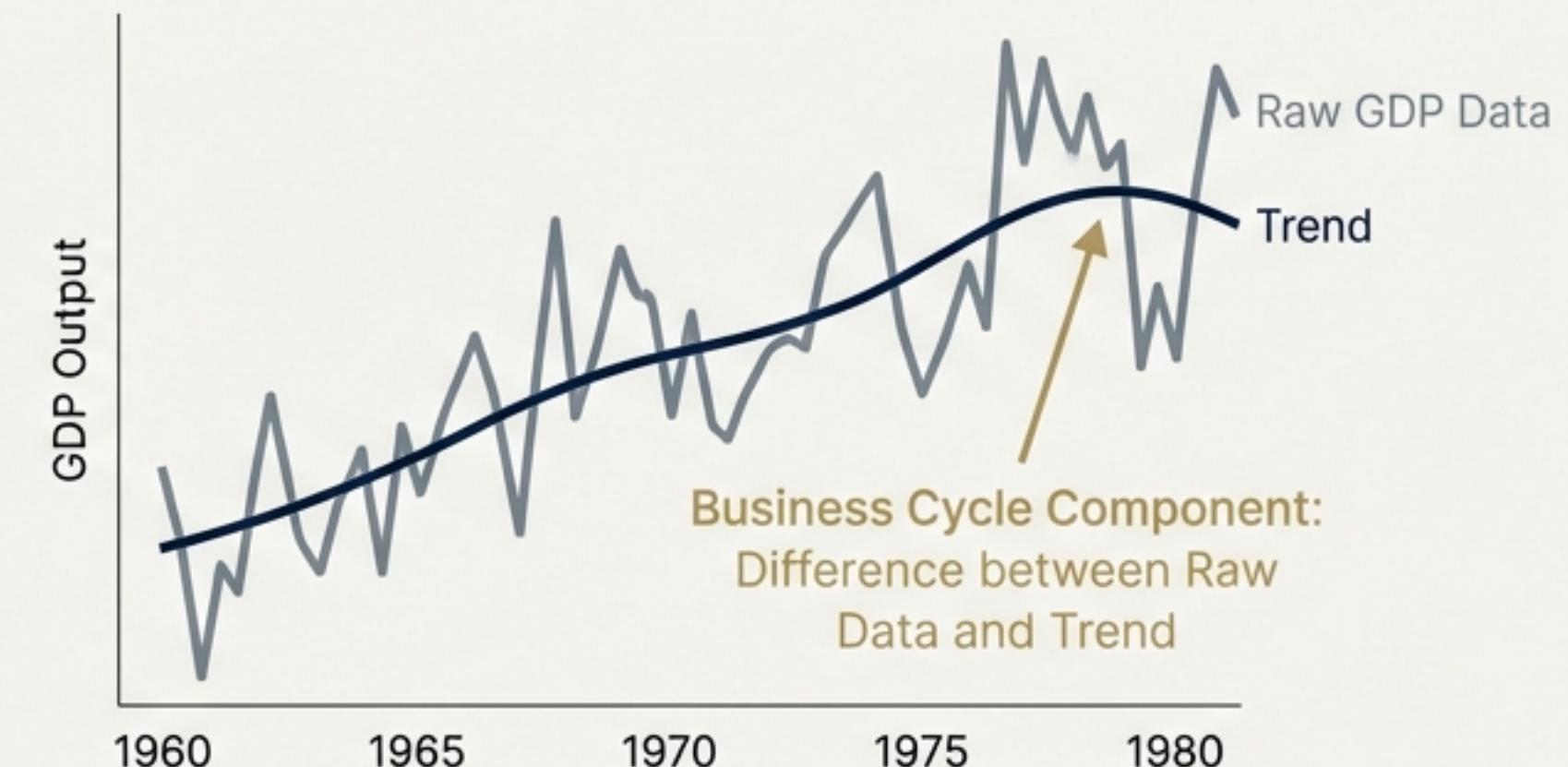
The Methodology

Moving from 'intuitive' models to 'quantitative' ones using **Real Business Cycle (RBC)** theory.

1. **Micro-to-Macro:** Import parameter values
 - (e.g., risk aversion) from micro-studies to discipline the model.
 - ...
2. **Calibration:** Match model moments to long-run data facts.

The Tool: Filtering

Separating Trend from Cycle (Hodrick-Prescott Filter).



Significance: Even with stylized models (perfect markets, no money), they proved that technology shocks alone could generate business cycles that quantitatively resembled the actual data.



The Modern Toolkit: Bridging Models and Data

“All models are wrong, but some can be useful.”

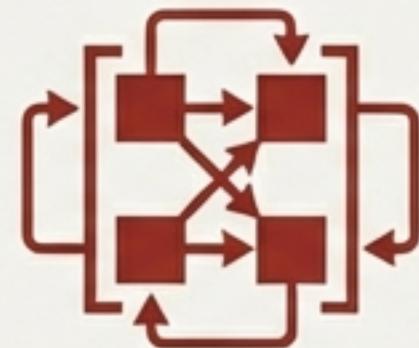
Calibration



Calibration

Selecting parameters based on micro-data and long-run facts, then simulating the model to see if it matches aggregate patterns. Favored by Kydland & Prescott.

Vector Autoregressions (VARs)



Vector Autoregressions (VARs)

Proposed by Sims (1980). A less structural, statistical approach used to identify the causal effects of shocks (e.g., an interest rate hike) on the economy.

Natural Experiments



Natural Experiments

Using random real-world events to measure behavior. Example: Johnson, Parker, and Souleles used the random timing of 2001 tax rebates to measure the Marginal Propensity to Consume.

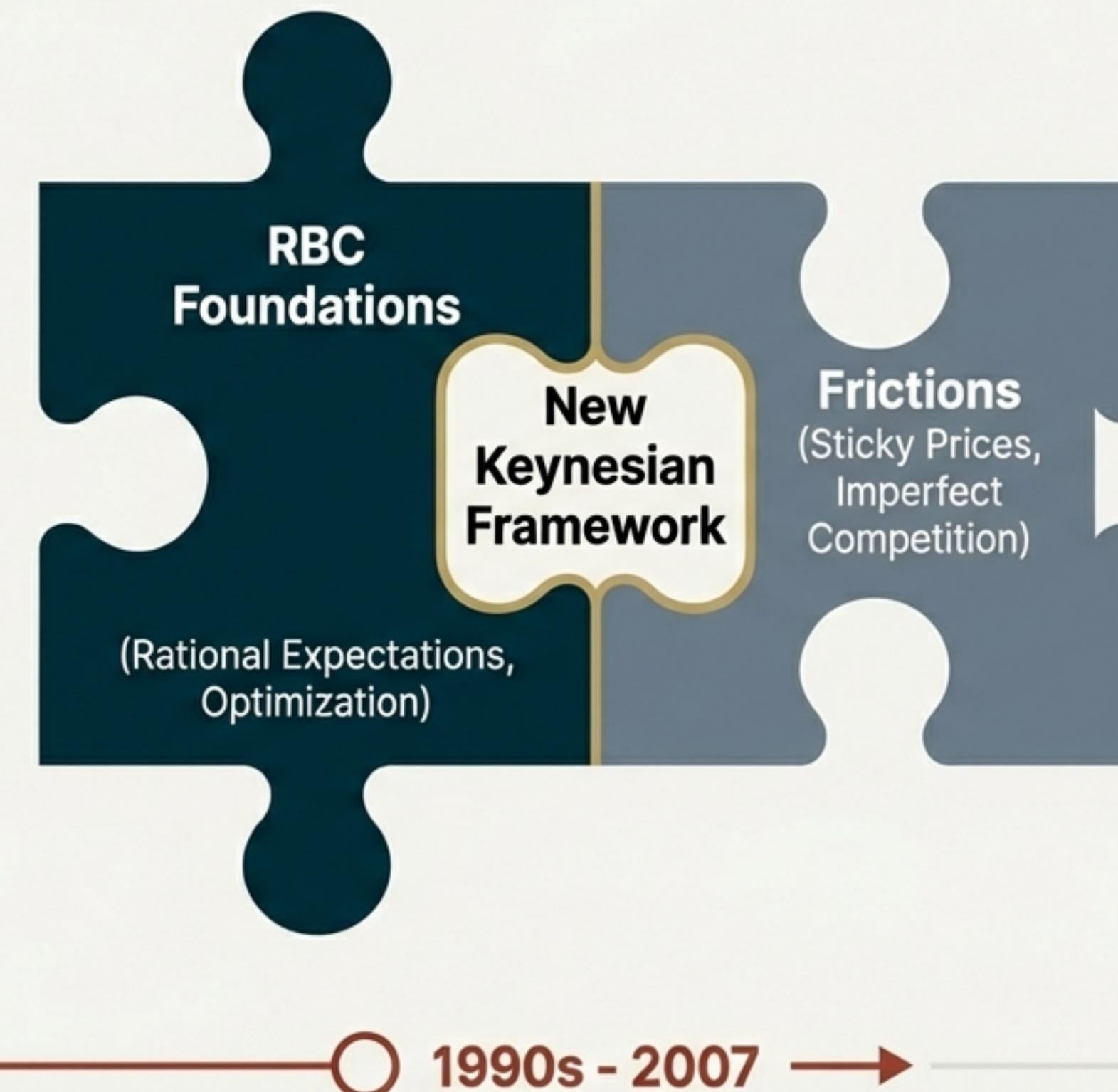
Modern Macro (1980s-Present)

The New Keynesian Synthesis and the Great Moderation

The Synthesis:

Macroeconomists merged the rigor of RBC models with reality-based frictions.

Sticky Prices: Firms face costs to adjust prices. This provides a channel for monetary policy to affect the real economy (measured by Bils & Klenow using CPI micro-data).



The Policy Goal:

Inflation Targeting. Used by central banks to systematically counteract shocks.

The Context: The 'Great Moderation'—a period of low volatility and steady growth from the mid-80s to 2007.

The Great Recession: When a Small Shock Caused a Global Crisis

The “Oops” Moment

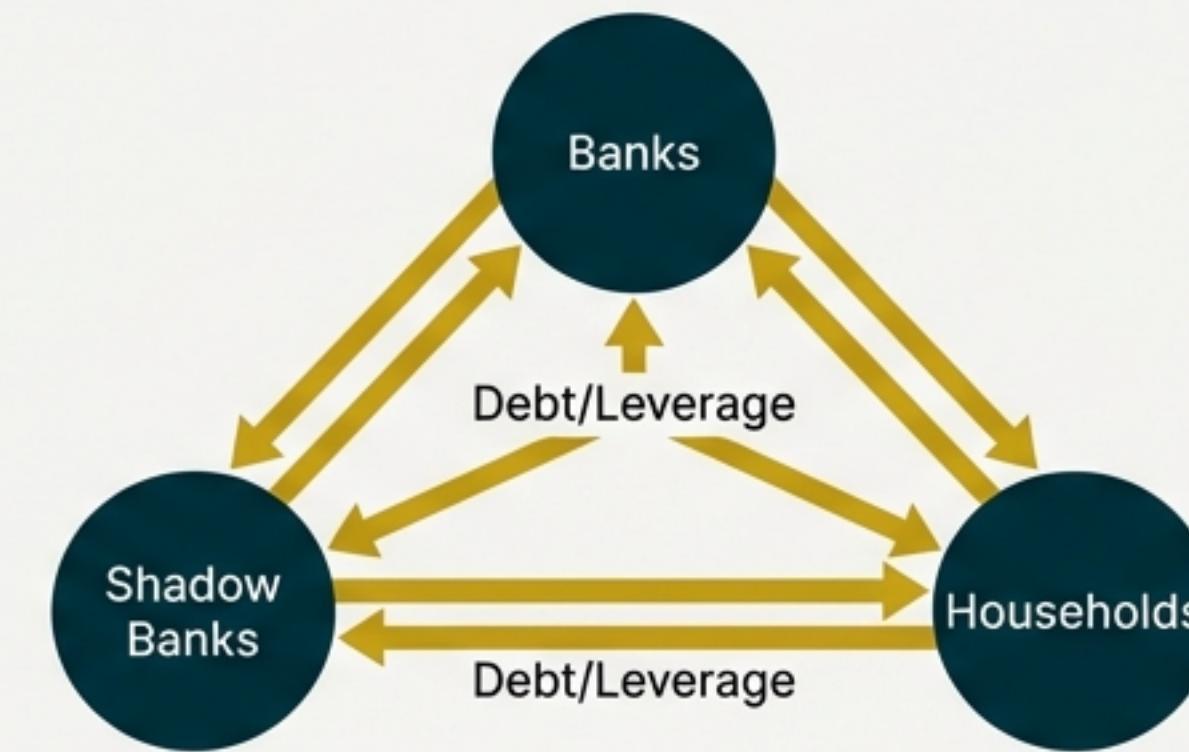


2007-2008: A relatively small decline in U.S. house prices triggered a massive global financial crisis.

Existing models failed because they assumed frictionless financial markets and ignored leverage.

The Response - Financial Frictions

The Missing Link Found



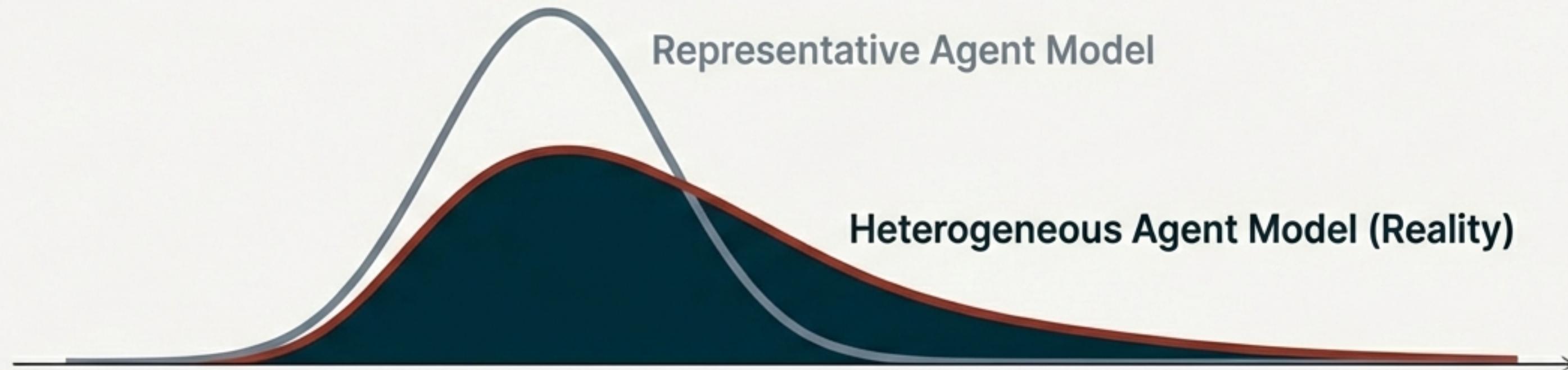
New Theory: Integrating the financial sector directly into macro models. Focus on leverage, opacity, and systemic risk.

New Data: Increased reliance on 'Flow of Funds' accounts to track asset/liability interdependencies.

2008

Beyond the Average: Inequality and Heterogeneity

The shift from Representative Agents to Heterogeneous Agents.



The Shift

We must understand how shocks affect the poor vs. the rich differently.

For example, cash-constrained households spend tax rebates; rich households save them.

The Data Revolution

Moved from surveys to **Administrative Tax Data** (e.g., Piketty, World Inequality Lab).

This revealed the sharp rise in wealth inequality since the 1970s and the declining labor share of income.

Present

Government, Politics, and the Commitment Problem

Why good economic policy is hard to execute.

Time Inconsistency

Phase 1:
Government promises
"Low Capital Taxes"

encourage
Investment.

Phase 2: Investment
happens (Factory built).



Phase 2: Investment
happens (Factory built).

Phase 3:
Government has
incentive to "Reneging"

 **Reneging**
(Tax the installed
capital)



Outcome: Loss of
Credibility.

2008

The Challenge: Time Inconsistency

Governments cannot always commit to future policies. The temptation to renege on promises leads to suboptimal outcomes.

The Solution: Institutions

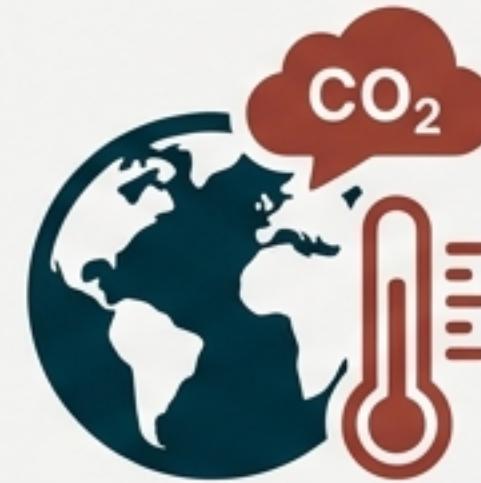
Central Bank Independence and inflation targeting were designed to solve this commitment problem.

Current Context

Rising public debt and the Eurozone crisis have renewed focus on sovereign default risk and fiscal limits.

Future Frontiers: Climate, Pandemics, and Technology

Macroeconomics is a living field that continues to adapt.

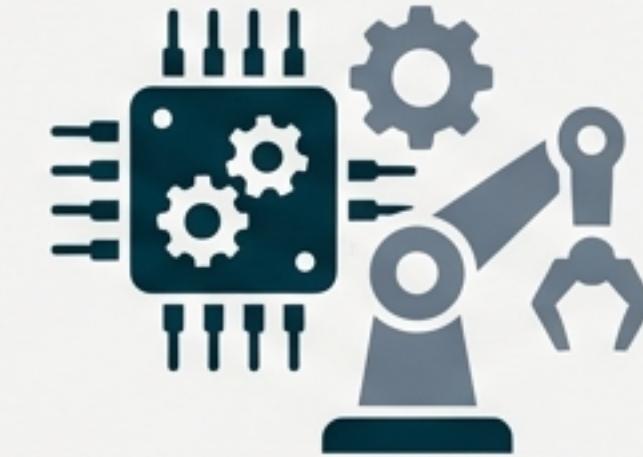


Integrated Assessment

Models: Linking economic activity with climate outcomes to evaluate policy interventions like carbon taxes.



Epi-Macro: Merging dynamic macro models with epidemiological models to simulate virus spread and lockdown impacts (e.g., COVID-19 response).



Structural Change: Studying the impact of Artificial Intelligence and automation on labor markets and productivity.

Conclusion: The field is not a fixed set of rules, but a continuous loop of Crisis → New Measurement → New Theory. We strive for fewer 'oopses' in the future.

