American Debates on the Sources of Business Cycle Fluctuations

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Part 1. Introduction

• The world economic crisis started in the United States
• An understanding of its causes, possible prevention, and policy responses is most easily developed in the context of a hypothetically closed American economy.
• The economics literature of the last 50 years is dominated by American economists arguing over the theories explaining the domestic sources of American business cycles.
• Hence, this paper is only about the closed-economy macroeconomic theory of business cycles.
• Any criticisms here of “modern macro” only involve domestic closed-economy business cycle theory, not
  – International monetary economics (exchange rates, current account imbalances, optimal currency areas)
  – Long-run growth theory
Modern Macro: A Paradigm Disconnected from the Crisis

• Since 1978 U. S. macroeconomists have developed “modern macro” which places utility maximization and market clearing at the core of the theory of business fluctuations.

• Modern macroeconomists often take responsibility for the post-1984 “Great Moderation” of business cycle fluctuations in the U. S. as the result of better macro theory and monetary policy.

• Since 2007 the world economy has entered a crisis of sub-prime mortgage defaults, overleveraging followed by deleveraging, output and employment meltdowns, and an enormous destruction of wealth.

• The Great Moderation is dead.

• Members of the modern macro camp have thus far failed to provide any intellectual links between the crisis and their preferred explanations of business cycle downturns based on technology retardation, changes in preferences, or tightness in monetary policy.

• In contrast Keynesian adherents interpret the current downturn as one more example of the variety of aggregate demand shocks that can combine and interact to create a massive downdraft on economic activity in a disequilibrium where markets fail to clear.
The Alternative to Modern Macro: 1978-era Macroeconomics

- This paper is not an endorsement of 1936-era Keynesian thought.
- Rather it establishes an alternative intellectual paradigm called “1978-era macroeconomics.”
- This incorporates all the rich underpinnings of Keynesian demand-side macro added in the postwar era by Baumol, Eisner, Friedman, Jorgenson, Modigliani, and Tobin and many other contributions to the micro foundations of the economy’s demand side.
- Casts off intellectual baggage of the term “Keynesian economics”
  - forever tainted by association by a logical non sequitur, making the first generation Phillips curve tradeoff part of Keynesian economics which was only about the demand side, not the supply side.
- The paradigm of 1978-era macro combines the sophisticated mid-postwar analysis of aggregate demand together with a much better aggregate supply paradigm:
  - the 1975-78 dynamic aggregate supply-demand model that incorporates policy responses to supply shocks and predicts that the correlation between inflation and unemployment can be both negative and positive.
The Economist has discovered today’s topic

• The topic of this paper is currently a hot item
• The cover of the current Economist (July 18, 2009) shows a wax-like book titled Modern Economic Theory melting into oblivion.
• The melting of the book reminded me of the melting down of the Wicked Witch of the West in the classic 1939 movie The Wizard of Oz.
• This paper takes a different approach than the Economist which derides the economics profession for
  – (1) helping to cause the crisis,
  – (2) failing to spot it, and
  – (3) having no idea how to fix it.
Today I am not blaming economists for causing the crisis

- Rather this paper digs back into the pre-crisis (pre-2007) intellectual history of macroeconomic theory
- It argues that “modern macro” neglects the basic sources of both impulses and propagation mechanisms of business cycles.
- It draws analogies between aspects of this crisis and earlier financial bubbles, especially that of 1927-29 in the United States
Criticism of Modern Macro is Nothing New; Recent Vitriol

• The malaise of modern macroeconomics has recently been the subject of strikingly vitriolic accusations.

• Krugman (10 June 2009)
  – “most macroeconomics of the past 30 years was spectacularly useless at best, and positively harmful at worst.”

• Buiter (3 March 2009)
  – “the typical graduate macroeconomics. . . training received at Anglo-American universities during the past 30 years or so may have set back by decades serious investigations of aggregate economic behaviour and economic policy-relevant understanding. It was a privately and socially costly waste of time and other resources.”

• Gordon (June 2002) macro conference presentation:
  – Since 1978 macro theory has been digging out of dead ends.”
No Need for Vitriol: Much is Wrong with Modern Macro

- This paper takes a more temperate view of what is wrong with modern macro.
- It argues that modern macro neglects the basic sources of both impulses and propagation mechanisms of business cycles.
- The basic problem is that modern macro consists of too much micro and not enough macro.
- Focus on individual preferences and production functions misses the essence of macro fluctuations
  - the coordination failures and macro externalities that convert interactions among individual choices into constraints that prevent workers from optimizing hours of work and firms from optimizing sales, production, and utilization.
- Modern macro has too narrow a view of the range of aggregate demand shocks
- Shocks that have nothing to do with technology, preferences, or monetary policy can interact and impose constraints on individual choices.
Connections between Macro Doctrine and the Current Crisis

• How does the contrast between “modern macro” and “1978-ERA macro” illuminate the current world crisis?

• Modern macroeconomics has nothing to say about the origins of the Great Depression of the 1930s
  – Concludes that it must have resulted from a massive negative technology shock, a monumental bout of forgetfulness.

• 1978-era macro understands the Great Depression as the joint result of wealth, consumption, investment, and monetary policy shocks in the context of regulatory failure.

• 1978-era macroeconomists regard as fundamental drivers of business cycles a wide variety of demand shocks, including the coordination failures evident in financial and housing bubbles.
Part 2. Origins of the World Crisis & Analogies with 1927-32

• By now the key aspects of the 2007-09 worldwide crisis are well understood

• This section distinguishes between impulses and propagation mechanisms

• Why did the apparently minor perturbation in the U. S. subprime mortgage market multiply its impact into a significant downdraft on world real GDP?

• The main novelty here are new comparisons with the 1927-29 stock market bubble and subsequent collapse.

• Which are the main similarities and differences between the two episodes, beyond the well-understood differences in monetary policy response?
Small Impulse and Large Amplification

- Amplification mechanism?
  - Estimated losses on U. S. subprime mortgages $250 billion
  - But cumulative forecast of loss in world output is $4,700 billion, almost 20X bigger
  - And cumulative loss in world stock market value 9/07 to 11/08 is $26,400, 100X initial loss
Impulses that Initiated the Crisis

• Blinder’s (2007) Six Fingers of Blame
  – #1 = gullible consumers who signed up for mortgages that they did not understand and could not afford.
  – Many of these mortgages were based on low variable interest rates that would subsequently reset to higher rates, implying monthly payments that, if not already well above the borrowers’ ability to pay, would soon rise above that level.
  – Borrowers were lured into these low-ball propositions in addition by negligible down payment requirements, not mentioned by Blinder but a glaring regulatory failure to which we return below.
Fingers of Blame: #2 - #6

• #2 is pointed at mortgage brokers who were lured by lucrative fees from the financial institutions that initially funded the mortgages.

• #3 points at the U. S. regulatory system, which regulates only banks and not other nonbanks which funded roughly half of the subprime mortgages.

• #4 The process of securitization, which has some desirable features of spreading risk but:
  
  – Like novicain for a tooth, deadens recognition of risk on both ends.

  – The banks and nonbanks originating the mortgages sell them and thus have little incentive to monitor the suitability of the subprime mortgages for low-income borrowers.

  – And the worldwide institutions buying the securities had little knowledge of the underlying risks

  – Risks were understated because of the unrealistic assumption that housing prices could only go up, never down.

• #5. The investment bankers who dreamed up the new security products

• #6. The securities rating agencies who by now are regarded skeptically due to their system of payment by those whose securities they rate,
Facilitating Aspects of Public Policy: Repeal of Glass-Steagall

- 1999 repeal of Glass-Steagall Act separating commercial banks and investment banking
- Previous 1987 Congressional Report predicting consequences of repeal
  - #1 was the inherent conflict of interest between the granting of credit by commercial banks and the use of credit by the same firm to create securities, already abuses of the 1920s
  - #2 was the need to limit the power of depository institutions
  - #3 was that securities activities can be risky, potentially leading to large losses that could undermine the solvency of commercial banks.
  - #4 In a prophetic argument, banks were “not conditioned to operate prudently in the more speculative securities businesses,” with the late 1980s crash of the Real Estate Investment Trusts given as an example.
Further Regulatory Failures

- Asymmetric regulation of banks and securities firms
- Failure of Fed to impose down payment requirements on residential mortgages (as done for stock market)
- Short-term interest rates too low for too long
- Long-term interest rates pushed down by world saving glut ("It’s all China’s fault)
  - But Fed can offset low long rates by further increases in short rates
Most Glaring Regulatory Failure of All, Baffling to Foreigners

• Absence of Federal regulation requiring stringent down-payment requirements.
  – This is particularly ironic because the Fed’s Regulations T, U, and X have long regulated margin requirements for stock market credit.
  – Low 10 percent margin requirements were a culprit in the 1929 stock market bubble and crash.

• Absence of tight regulations on residential mortgage down payments played a parallel role in the 2003-06 housing bubble and crash.

• The absence of U. S. regulation on downpayments shows a striking failure at “Regulation 101” and baffles observers from other countries that maintain stiff down payment requirements of 20 or 30 percent.
Amplification Mechanisms?  
#1 The Leverage Cycle

• what amplification mechanisms (or multipliers) converted losses on subprime mortgages of perhaps $250 billion into
  – a 2007-09 loss of world GDP of twenty times as much and a loss on the world’s stock markets between 2007 and late 2008 of roughly 100 times as much (Blanchard, 2009, p. 3)?

• Securitization of mortgages, fostered by the 1999 repeal of the Glass-Steagall act.
  – Securitization in turn fostered an increase in leverage, made possible by gaping holes in the regulatory patchwork quilt that allowed large financial institutions to move substantial blocks of assets off their regulated balance sheets.

• Increased leverage by reducing capital as a share of total assets guaranteed that any future loss in the value of assets would push some institutions (not just banks but also investment houses and insurance firms) toward insolvency.

• Geanakoplos (2010, forthcoming) develops an endogenous model of leverage. In his words, “Variations in leverage cause wild fluctuations in asset prices. This leverage cycle can be damaging to the economy and should be regulated.”
Amplification Mechanisms #2 & #3: Bank Runs, Valuation Ambiguity, and International Spillovers

- Bank runs in 1930-32 prior to the introduction of deposit insurance
  - Depositors “ran” to yank deposits out of bank
- In this era of FDIC, the risk of bank runs is created by those providers of uninsured short-term “wholesale funding”
  - They monitor closely the possibility of bank insolvency and can suddenly restrict lending to suspect institutions.
- Difficulty of placing market valuations on securities of unknown riskiness, thus increasing uncertainty, the fear of insolvency, and the likelihood of bank runs.
- Amplification from the U. S. across national borders was fostered by increased foreign claims held by banks in Europe and Japan
Similarities with 1927-29: Low Down Payments and Overleveraging

• The parallel between low stock market margin requirements in the 1920s bubble and low down payment requirements in the housing bubble of this decade.

• Parallel between the securitization and leveraging of the past decade and the financial market fragility of the late 1920s.

• “The major part [of new equity issues], particularly from 1926 on, seems to have gone into erecting a financial superstructure of holding companies, investment trusts, and other forms of intercorporate security holdings that was to come crashing down in the 1930s”

• Also similar in the 1920s and in the current decade were large profits by investment bankers and a stimulus to consumer demand taking the form of capital gains on equities in the late 1920s and the form of mortgage equity withdrawal during the housing price bubble of 2003-07.
Similarity in International Contagion

• International contagion in 1928-29 spread the effects of the American stock market bubble and bust to foreign countries, especially in Europe.

• The role of U. S. foreign lending in recycling European balance of payments deficits was cut off by the attraction to capital of American stock market investments together with U. S. monetary tightening that spread abroad as the gold standard forced countries to tighten their own monetary policies as they responded to a loss of gold to the U. S. and also for different reasons to France.

• Increased cross-border holdings of securities by large banks in Europe and Japan caused a similar contagion effect in 2007-09.
Differences Between 1927-29 and 2003-06

• Prior to 1933 there was no deposit insurance, leaving a trail of disaster as bank failures beginning in 1930 caused lifetime savings of many American households to evaporate, thus exacerbating the Great Contraction of 1929-33.

• In addition to too little Federal regulation, there was too much State regulation
  – In 1924 only eleven states allowed statewide banking.
  – This branch-banking prohibition created thousands of unit banks, highly vulnerable to the vicissitudes of local economic conditions including agricultural distress.
Belief that Success Breeds Success But Success Breeds Failure

• Big similarity 1995-2006 and 1920s:
  – View that permanent prosperity had arrived, and that the good times should be allowed to roll.
  – The underpinning of this benign environment was the parallel upsurge in productivity associated with the invention of new “general purpose technologies”

• 1920s belief that permanent prosperity had arrived was echoed in the early years of this decade with many analyses of the macroeconomic “Great Moderation”

• Indirectly the result of this general contentment with the macroeconomic environment was to blind policymakers and risk-takers of the possibility of bad outcomes.

• Just as the stock market mania of the late 1920s led gullible investors to ignore unsustainable price-earnings ratios, so the housing bubble of 2003-07 led both homeowners and the financial community to disregard the growing and unsustainable ratio of housing prices to income.

• In this sense macroeconomic success led to macroeconomic failure.

- 1978-era macro combines a broad and flexible interpretation of demand shocks with a dynamic AS-AD model of inflation

- It can explain why the US economy was
  - So volatile before 1984
  - Driven by demand shocks in 50s & 60s
  - Dominated by adverse supply shocks in 70s & early 80s
  - Influenced by beneficial supply shocks in late 90s that made Alan Greenspan seem to be a miracle man
  - Has a long history of being vulnerable to asset bubbles like that of 1927-29 and 2004-07
The Keynesian Demand Side 
Divorces and Remarries

• Sargent and Wallace succeeded in a logical *non sequitur*, linking demand-side “Keynesian tradition” with the logically unconnected first-generation Phillips Curve tradeoff.

• Pure Keynesian model is a demand side with no supply side.

• The great contribution of 1978-era macro was to remarry the Keynesian demand side to a fully articulated dynamic model combining aggregate demand shocks with policy responses to aggregate supply shocks.

• The key theories were those of Gordon (1975) and Phelps (1978)
  – Prices are neither flexible or fixed
  – Auction markets co-exist with customer markets with preset prices
  – Sharp changes in auction market oil prices can have macroeconomic externalities when prices are rigid or sticky in the customer markets of the non-oil sector.
Original 1930s Keynesian Model

• The original Keynesian revolution of the 1930s combined
• Wage and price rigidity
• Volatile investment spending and a lack of coordination between the saving and consumption decisions of households and the investment decisions of firms.
• It was designed to explain a macroeconomic disequilibrium, a failure of markets to clear in the Great Depression.
• Non-market-clearing (NMC) macroeconomics is particularly suitable for analyzing major macroeconomic dislocations
  – Great Depression, the major postwar recessions, and the 2007-09 worldwide economic crisis.
• From the perspective of the 1930s, policy conclusions included the primacy of fiscal policy and the weakness of monetary policy.
1937: Keynes’ Confusing Book Codified as IS-LM Model

- Macroeconomics was all about aggregate demand and the role of price stickiness in converting shifts of nominal demand into real output disturbances.

- In Hicks’ IS-LM model of 1937
  - Shifts in both commodity and money demand contribute to instability in aggregate demand
  - There is no presumption that changes in the real money supply or in real government spending were particularly strong or weak sources of stabilization except in extreme well-defined cases.

- Today more than 70 years later, the IS-LM model still appears as the centerpiece of aggregate demand analysis in most American intermediate macro textbooks.
1953-78: Demand Side of Model was Enriched

• Friedman permanent-income and Modigliani life-cycle theories of the consumption function
  – shifted attention from current to permanent income
  – opened a channel for changes in financial and housing market wealth to alter consumption.

• Jorgenson’s neoclassical theory
  – rationalized the role of interest rates and tax incentives
  – along with changes in output (accelerator theory of investment)

• Baumol and Tobin clarified the sources of the interest sensitivity of the demand for money

• Friedman and Tobin viewed money as substitutable with other assets
  – leading to the possibility of unstable demand for narrow money
Changing Views on Monetary vs. Fiscal Policy

• Friedman and Schwartz in their 1963 interpretation of the Great Depression
  – revived the importance of monetary policy
  – dangers of failing to control the quantity of money

• Eisner (1969, 1971) on short-run fiscal policy
  – rendered ineffective by Friedman’s permanent income hypothesis
  – He helped banish discussion of fiscal fine-tuning from the late 1960s until the current 2007-09 crisis.
  – fiscal policy actually was a primary source of instability of aggregate demand as a side-effect of wars such as those in Korea and Vietnam.
Theoretical Implications of Price Stickiness: NMC Macro

• The implications of price stickiness were developed for consumption behavior by Clower (1965) and for the labor market by Patinkin (1956).

• These contributions were then merged and codified into a general equilibrium model combining the commodity and labor markets by Barro and Grossman (1976), with additional contributions by Benassy (1976) and Leijonhufvud (1968).

• In the Barro-Grossman version, as in the IS-LM model, the price level is not just sticky but absolutely fixed.
  – Any change in nominal demand together with fixed prices automatically translates into a change in output
  – In turn this change in output alters constraints
    • faced by households attempting to work the number of hours they wish
    • faced by firms attempting to sell the profit-maximizing amount of production.
More About Patinkin’s Labor Market Analysis

• Patinkin introduced the distinction
  – Marshallian “notional” demand curves
  – Constrained “effective” demand curves for labor.

• In a recession workers cannot find jobs or achieve the desired division between work and leisure that they desire at the going levels of wages and prices.

• The essential truth of this paradigm is evident in almost every country in the world in 2008-09 when we ask:
  – “Does each member of the labor force have the free choice of working the desired number of hours at the going wage and price?”
  – “Does each firm find it possible to sell the optimal level of production at the current wage and price?”
  – The answer is a resounding “no”

• Thus NMC models are central to understanding of the current worldwide crisis and previous economic downturns dating back to the Great Depression.
By mid 1970s Inflation Had Undermined the Keynesian Paradigm

- Modern macroeconomists have dismissed Keynesian economics
- It was buried by the empirical failure of the original stable trade-off Phillips Curve.
- The negative PC tradeoff appeared to be utterly defunct
- Arthur Okun in 1980 described the Phillips Curve as a UFO, or “unidentified flying object.”
- Leaping triumphantly on this failure, and eager to demolish not just the short-run tradeoff but also Keynesian economics as a whole, Lucas and Sargent (1978, pp. 49-50) described
  “the task which faces contemporary students of the business cycle [is] that of sorting through the wreckage . . . of that remarkable intellectual event called the Keynesian Revolution.”
- They clearly succeeded in hanging Keynesian demand-side economics in the noose of the logically unconnected negative Phillips Curve tradeoff.
Scatter Plot of Inflation vs. Unemployment, 1960 to 1980
Even before the “wreckage” verdict, NMC macro was revived as symmetric AS-AD model

- New Gordon-Phelps theory of policy responses to supply shocks
  - Recognizes that prices are both flexible and fixed

- The “Gordon-Phelps” model:
  - price elasticity of demand of the commodity experiencing the adverse supply shock, e.g. oil, is less than unity
  - following an increase in the relative price of oil, the expenditure share of that commodity must increase
  - expenditure share of all other components of spending must decrease.

- Indeed energy’s share of nominal US GDP tripled between 1972 and 1981.
Effects of Adverse Supply Shocks with Rigid Wages

- The required condition for continued full employment
- To accommodate the increased nominal spending on oil, a gap must open between the growth rate of nominal GDP and the growth rate of the nominal wage
- If nominal wages are flexible, one option is for the growth rate of wages to become negative, allowing the growth rate of nominal GDP to remain fixed.
- But with rigid wages, to avoid a decline in non-oil output
  - an accommodating monetary policy must boost nominal GDP growth by the amount needed to “pay for” the extra spending on oil
  - Danger of an inflationary spiral if expectations respond to the observed increase in the inflation rate.
  - A third alternative, and the one that actually occurred in the 1970s, was a combination of wage rigidity with a partial response of nominal GDP growth, pushing down both real non-energy spending and employment.
Conversion of Supply Shock Insights into an Empirical Model

• The 1978 specification of the inflation process, which continues to be valid today for the U. S. economy, contains three sets of explanatory variables: inertia, demand, and supply (hence “triangle” model)

• Inertia.
  – A set of long lags on past inflation reflects generalized backward-looking inertia, not just the formation of expectations.
  – Important sources of inertia include the set of explicit and implicit contracts that dampen short-term changes in prices and wages.
  – Input-output supply chain that creates thousands of links of unknown magnitude and duration between changes in crude and intermediate goods prices and the prices of final goods.

• Demand (current and lagged values of output or unemployment gap)

• Supply shocks are expressed as changes in relative prices (oil, imports), role of trend productivity changes. These variables are zero by definition when supply shocks are absent.
Inertia is Not the Same as Expected Inflation

- In the triangle model the speed of price adjustment and the speed of expectation formation are two totally different issues.
- Price adjustment can be delayed by staggered wage and price contracts, and by the time needed for cost increases to percolate through the input-output table.
- Yet everyone can form expectations promptly and rationally based on full information about the historical response of prices to its own lagged values, to demand shocks, and to supply shocks.
- Inflation equation is thus backward-looking even if expectations are forward-looking.
Inflation vs. Unemployment, 1960-2007

Comments on Unemployment vs. Inflation Diagram

- Negative tradeoff visible in 1960s and late 1980s
- Positive tradeoff dominated 1970s, early 1980s, late 1990s
- “Twin Peaks,” “Late 1990s Valley”
- 1974-81 a time *lead* of roughly one year of inflation relative to unemployment.
- This real-world result, that an adverse supply shock can depress real output and employment in a world of sticky non-oil prices, had been christened by Okun in 1974 conversations as a “macroeconomic externality.”
- Joined together in 1978-era macro as the key lynchpin of NMC models along with coordination failures
Process of Fixing Up NMC Macro Was Completed by 1978

- The process of integrating supply shocks into macroeconomics took place simultaneously during 1975-78 on three fronts
  - Theoretical
  - empirical
  - a new generation of intermediate macroeconomic textbooks.

- Now the same model could reconcile
  - the dominant role of demand shocks as the explanation of the Great Contraction
  - The positive correlation of inflation and unemployment in 1974-75.

- Merger of micro and macro
  - output and price of corn or wheat can be positively or negatively correlated depending on the importance of micro demand or supply shocks
  - So aggregate output and the rate of inflation can be positively or negatively correlated, depending on the relative importance of aggregate demand or supply shocks.
Review: Broad Range of Source of Demand-Side Fluctuations

• Reactions of consumer spending to changes in fiscal policy and wealth
  – Role of Asset Bubbles in Spreading Instability to Consumer Spending

• Cycles of nonresidential investment overbuilding

• Residential building cycles and their interplay with financial regulations

• Slow learning that results in inventory cycles and a mismatch between sales and production

• Government spending shocks particularly in military spending; and foreign demand shocks.
Long-Neglected Source of Demand Instability: NonRes I

• Nonresidential Building subject to overbuilding
  – Classic Example of coordination failure
  – Tallest buildings in Chicago and New York,
    • 1930 to 1957 in Chicago, 1931 to 1973 in NYC

• Now very timely (WSJ 20 July 2009)
  – In Las Vegas numerous multi-billion dollar casino-hotel projects have halted construction midway
  – Hotel rooms are wildly overbuilt
  – “There won’t be another casino property built in Las Vegas for a decade”
Putting 1978-era Macro into Action: Inflation vs. Output Volatility
Decomposition of Sources of Output Volatility

- Three-quarters of real GDP volatility in 1950-73 can be attributed to just three of the eleven components of spending
  - Military spending
  - Residential construction
  - Inventory investment

- For comparison with modern macro below, note these have nothing to do with technology shocks or preference shocks.
Sources of Great Moderation

• Three equation model
  – Inflation depends on inertia, U gap, and supply shocks
  – Output responds to interest rates (IS curve) and error incorporating everything else e.g. military spending (“demand shocks”)
  – Taylor rule for response of interest rates

• Was Great Moderation due to good luck or better monetary policy?
The Effect of Supply Shocks in Dynamic Simulation (actual U)
Full Model Simulations of Output Gap with Alternate Shocks
Part 4. What is “Modern Macro” and Why Has it Failed?

• Modern macro began with Kydland-Prescott Real Business-Cycle (RBC) Model
  – Only supply shocks mattered
  – No prices, money, no test of supply interpretation with negative or positive correlation of prices and output

• Oil shocks, crop failures were already incorporated into 1978-era macro, what was new and unique was role of short-term technology shocks

• With no demand or prices, RBC forced to interpret Great Depression as a “massive bout of forgetfulness”
Modern Macro Has Incorporated the Demand Side and Moved Beyond RBC

• Initial set of semantic issues.
• Increasing fuzziness of the term “New Keynesian”.
• Here the adjective “New Keynesian” is used as intended twenty years ago, to describe a set of theoretical papers by Ball, Fischer, Mankiw, Romer, and many others who explained the sources of nominal and/or real wage and price rigidity.
• Recently the reach of the adjective “NK” has been extended to particular models of the Phillips Curve (NKPC) and to the DSGE model with built-in nominal rigidity.
Misuse of the term “NK”

• Recently the term “New Keynesian” has been broadened to describe a set of models in which market clearing at the level of individual decision-making is incompatibly wedded to price stickiness of some form, which directly implies non-market clearing.

• In the recent literature reviewed here, consumption does not depend on current or permanent income, which could not be more non-Keynesian and less New Keynesian.

• In order to focus on central issues and avoid inessential complexities, we begin with Blanchard’s (2008) “toy model” which he misleadingly describes as “New Keynesian.”

• The study of the toy model repays attention, because its flaws are deeply embedded in the superficially more sophisticated DSGE models that dominate graduate macro
Blanchard’s “Workhorse” Modern Macro Model (2008 “State of Macro”)

- Three components (aggregate demand, Phillips curve, monetary reaction)

- Aggregate demand
  - First-order conditions of consumers
  - Consumption function of real interest rate and future expected consumption
  - No other source of demand, C = AD. No fixed investment, no inventory investment, no military spending, no foreign sector
  - Consumption does not depend on income, no role for liquidity or NMC rationing constraints
Second element: NKPC

- New-Keynesian Phillips Curve (NKPC)
  - Inflation a function of expected future inflation
  - And unemployment or output gap
- No role for backward-looking inertia
- No role for supply shocks
- No explanation for twin peaks of inflation and unemployment in 1970s or low inflation in 1990s
Blanchard’s Evaluation

• “Workhorse” model has replaced IS-LM in graduate education
  – While IS-LM still remains dominant for undergraduates

• Benefit: formalism, ability to make welfare statements

• Costs: first two equations are “patently false”

• This contradicts Blanchard’s overall verdict that “the state of macro is good”
But Blanchard Cannot Stomach His Own Toy Model

- Blanchard contradicts his own initial enthusiasm for modern macro (“the state of macroeconomics is good”)
- He declares both the aggregate demand and supply equations to be “patently false.”
- His critique of the demand equation joins ours by pointing to the absence of an investment equation and the fact that interest rate effects in the consumption equation are “hard to detect”
- But he misses the more basic failure of the Hall-based consumption function to introduce a channel of influence from current income for the Campbell-Mankiw half of consumers.
- Likewise he dismisses the purely forward looking formulation of the supply equation as “strongly at odds with the data” but misses the absence of supply shocks and the distinction between auction-market and preset prices.
A Broader Perspective on What Is Missing

- Modern macro: absence of channels from a financial meltdown to the real economy
- This vitiates any connection between modern macroeconomics and the crises of either 1927-33 or 2003-09.
- There is no channel:
  - from current income to consumption
  - no wealth effects on consumption
  - no liquidity effects of credit tightening
  - no multiplier-accelerator mechanism for consumer durables or investment
  - no role either for destabilizing military spending or stabilizing fiscal policy.
- No influence of current income on current consumption?
  - It requires an investment of about ten seconds in reading print or electronic news reports to find every variety of example of households forced by external income and liquidity constraints to accept drastic reductions in their standards of living.
  - Can firms sell all they want at the going real wage? Ask this question to the National Association of Auto Dealers and it will react with incredulity at the naivete of the question.
Internal Contradictions of Modern Macro

- Modern macro is littered with contradictions
- These result from its attempts to combine market clearing and utility maximization at the level of the individual household with a form of price rigidity or friction.
- Once the baby of full price flexibility has been thrown out, the bathwater must be changed because price rigidity is logically incompatible with market clearing.
- Effective supply and demand curves replace notional curves
- Any cause of declining aggregate demand will force households to reduce consumption due to income constraints and to work less than desired.
- The modern contradictions come when modern macroeconomists attempt to explain NMC outcomes with market-clearing language, or in Blanchard’s (2008) words “movements take place along a labor supply curve . . . this may give a misleading description of fluctuations.”
Recent DSGE Models, Extending Blanchard’s “Workhorse”

- Canonical DSGE Model: CEE 2005
- Maintains Aggregate Demand Structure, Consumer Optimization and Absence of Liquidity Effects
- Adds staggered wage and price contracts
- Provides realistic responses of output and inflation to monetary policy shocks
- All coordination failures are assumed away, all agents hyper-rational
- No role for wealth or liquidity effects on consumption, effect of coordination failure on investment cycles, effects of government military spending
Further Omissions from DSGE Models

• Role of constraints on household and firm decisions

• Lack of attention to fiscal policy and deficits, assumption of Ricardian equivalence
  – Distribution of taxes across time is irrelevant
  – Aggregate financial wealth does not matter for the behavior of agents or the dynamics of the economy

• Absence of financial markets, inability to incorporate financial crises
  – No role for asset price bubbles
The Nature of Markets: Complete or Incomplete, Flexible or Fixed Prices?

• Buiter (2009) questions the relevance of DSGE models to the current crisis.
  – “Complete markets paradigm” in which “intertemporal budget constraints are always satisfied by assumption [making] default, bankruptcy and insolvency impossible. . . as a result illiquidity is also impossibility.”

• In contrast 1978-era macro with its Clower-like income constraints on consumers is the appropriate setting to discuss the consequences for illiquidity for the real economy, supported by Cambell and Mankiw’s (1990) conclusion that half of consumption spending is current-income constrained, implicitly liquidity-constrained.

• 1978-era macro moves beyond the sterile distinction between flexible and fixed prices. Okun (1981) and Gordon (1981) explained the co-existence of market-clearing auction markets for commodities like oil and gold, and price-setting customer markets in the rest of the economy.

• Complete markets would require a Walrasian auctioneer to achieve Say’s Law for every product in every aisle of the supermarket at all hours of the day and night.
Blanchard Turned on His Head “The State of Macro” is NOT Good

• Blanchard laments the herd mentality in modern macroeconomics in which an article “today often follows strict, haiku-like rules.”

• The problem with these repetitive articles in the DSGE tradition is the “introduction of an additional ingredient in a benchmark model already loaded with questionable assumptions. And little or no independent validation for the added ingredient.”

• He longs for the lifting of the haiku-like doctrinaire approach to macroeconomics and hopes for “the re-legalization of shortcuts and of simple models.”

• Unfortunately, his conclusion says nothing about the basic contradiction between utility-maximizing market-clearing models and the arbitrary introduction into such models of price rigidity, which invalidates market-clearing assumptions and instead requires a NMC model.
Conclusion: The World Crisis and Modern Macro

- This paper traces similarities between the financial bubble and collapse of 2003-09 and the preceding bubble and collapse of 1927-32.

- It finds modern macroeconomics to be lacking in relevance as an analytical tool suitable for tracing the links between the recent financial meltdown and the epochal downturn of the world’s real economy.

- This paper resurrects the right model for the current crisis, no less than the Keynesian aggregate demand model as developed in 1936 as a response to the puzzle of the 1929-32 Great Contraction.

- Equally suitable for understanding the current downturn with its many similarities in impulse and propagation mechanisms to the late 1920s.
The Core of the Conflict: MC vs. NMC Macro

• The conflict between 1978-era macro and modern macro comes down to the market-clearing and continuous utility maximization of the DSGE consumer, in contrast to the solid NMC origins of 1978-era macro.

• In DSGE models there are no Clower-Patinkin-Barro-Grossman constraints that in a recession push effective demand curves to the left of notional demand curves and force households and firms to act against their will by cutting consumption when current income declines, or by cutting jobs when current sales fall below production and force inventory decumulation.

• Because of its internal contradiction in attempting to combine continuous utility maximization with price stickiness, modern DSGE models are littered with contradictions.
Modern Macro: Too Much Micro, Too Little Macro

• Individual representative agents assume complete and efficient markets and market clearing

• Models ignore the basic macro interactions implied by price stickiness, including macro externalities and coordination failures.

• In an economywide recession, most agents are not maximizing unconditional utility functions as in DSGE models but are maximizing, i.e., trying to make the best out of a bad situation, under biting income and liquidity constraints.

• There is no relevance of modern macro to the current cycle of overleveraging and subsequent deleveraging, because complete and efficient markets are assumed, and there is no room for default, bankruptcy, insolvency, and illiquidity.
Final Word: The Crisis, 1978-era Macro, and Modern Macro

- Modern macro omits
  - The very sources of business cycle fluctuations that are relevant today
  - Is incapable of explaining why inflation and unemployment can be positively or negatively correlated

- 1978-era macro combines a broad range of aggregate demand disturbances with the dynamic effects of supply shocks

- 1978-era macro does not explain why bubbles occur but it is much more capable of examining their impact on the economy
The Log Percent GDP Gap in the U. S., 1950-2010