

A Short Course in Macroeconomics or Whatever Happened to Monetarism?

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Abstract: This paper briefly surveys the development of macroeconomics over the past four decades, and interprets that development as a dialectical process involving two contrasting and competing views of the economy: The New Classical vision of a stable economy automatically tending toward full employment and high growth, versus the Institutionalist and Post Keynesian vision of an unstable system tending toward stagnation and often experiencing wide-spread involuntary unemployment, recession, episodes of financial instability, and the threat of severe crisis and breakdown. An emerging post-Monetarist consensus consisting of New Keynesian economics and New Endogenous Growth theory is currently hegemonic within the mainstream. The paper compares, contrasts and evaluates those three approaches to macroeconomics, and argues that Institutionalist-Post Keynesian economics offers a superior framework for economic policy.

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“The world is *not* so governed from above that private and social interests always coincide. It is *not* so managed here that in practice they coincide. It is *not* a correct deduction from the principle of economics that enlightened self-interest always operates in the public interest. Nor is it true generally that self-interest *is* enlightened.” John Maynard Keynes, “The End of Laissez-faire,” *Essays in Persuasion*, (1926).

This paper interprets the history of macroeconomics over the last 30 years as a dialectical struggle between two opposing visions of the economy and the proper macroeconomic roles of the state. One vision is exemplified by New Classical Economics which sees the economy as essentially stable and tending toward an equilibrium characterized by high employment and an economic growth rate largely determined by the rate of technological change (the “natural rate of unemployment” and the “steady state” rate of growth). The other approach taken by Institutional and Post Keynesian economics rests upon a vision of a very unstable economy, whose growth rate is the result of an open-ended transformational process taking place through economic fluctuations, characterized by excessive unemployment and inequality, and which is often threatened by incoherence and the possibility of breakdown. The first approach implies a noninterventionist role for the state in the economy; the second argues for a strong interventionist state. A third approach which acknowledges occasional episodes of instability and a limited role for the state in stabilization and the active promotion of growth appears in New Keynesian economics and New Endogenous Growth theory, and appears currently hegemonic within the mainstream.

New Classical Economics supports arguments against activist macroeconomic stabilization policy, while New Keynesian, Institutional, and Post Keynesian

economics all support intervention; to a great extent, the debates within macroeconomics reflect a broader and deeper philosophical division between proponents of a radical laissez-faire economic philosophy and those who advocate a strong, interventionist state with wide responsibilities for the common good.¹ The Institutionalists and Post Keynesians share a common vision and models which are similar in many respects; the primary purpose of the paper is to delineate the important differences between the New Classical, New Keynesian and Institutional-Post Keynesian (IPK below) approaches.² The paper suggests that although New Classical Economics (NCE) dominated the mainstream in the 1970s and 1980s, its influence has declined recently as New Keynesians (NK) have become more influential, dominating the post-monetarist “new consensus” among macroeconomists.³ The paper also argues that the Institutional-Post Keynesian approach offers a superior framework for economic policy.

Mainstream academic economics became increasingly conservative during the three decades beginning in the mid 1960s, developing and defending an economic philosophy and policy approach which is variously described as “non-interventionist,” “free market fundamentalist,” and “neo-liberal,” and governments increasingly adopted neo-liberal economic policies. Neo-liberalism is a world-view, ideology and political stance which restates classical liberalism and supports unregulated global capitalism; in the U.S. it appeared in the form of the so-called “Washington consensus” of the 1990s. Neo-liberalism is based upon a radical individualistic philosophy of human nature and advocates a very limited role for the state with respect to the economy; its essential elements include a preference for a small, weak and non-interventionist state with very few responsibilities for the common good, deregulation of the economy, and the

privatization of many traditional state activities such as public pension systems and public utilities. Aspects of macroeconomics which support the neo-liberal philosophy include monetarism, rational expectations, real business cycle theory, neoclassical growth theory, public choice theory, and supply side economics; the first four of these are considered to form a “new classical economics” in this paper.

The term “new classical” is used since the new classical economists have much in common with the economics widely accepted in the U.S. and U.K. during the 1920s and 1930s which Keynes described as “classical” economics and the “Treasury view” in his General Theory (1936). Those common elements include the neutrality of money, the quantity theory of money, the tendency toward equilibrium at full employment (Say’s Law in Keynes’s book), and the prejudice against state intervention in the economy. Keynes used the term classical economists to refer to the “followers of Ricardo,” and named J.S. Mill, Marshall, Edgeworth and A.C. Pigou as representative classical economists.⁴

The elements of New Classical macroeconomics which IPK economics rejects or strongly criticizes include monetarism, rational expectations, real business cycle theory, and neoclassical Solovian growth models; since the IPK macroeconomists have paid less attention to other elements of neo-liberal economics such as public choice and supply side economics, this paper does not discuss them extensively, although they have also had influence over politics and policy.

The Rise of New Classical economics: Monetarism, Rational Expectations and Real Business Cycle Theory

The brief hegemony of Keynesian economics within academia and policy economics lasted for about two decades (perhaps from the late 1940s to around 1970) before being challenged by the new version of classical economics. The 1960s consensus approach to macroeconomics was represented with fixed-price, fixed-wage versions of Paul Samuelson (1948) and Alvin Hansen's (1953) Keynesian-cross and John Hicks's IS-LM (1937) macroeconomic models of income and employment, and based upon the assumption of a stable relationship between unemployment and price or wage inflation, represented with a Phillips curve. This approach was often referred to by Paul Samuelson's (1948) term "neoclassical-Keynesian synthesis," since its implicit microeconomic foundation was largely a form of the Marshallian price theory that Keynes had used in his General Theory and which then formed the core of standard neoclassical academic microeconomics, while its macroeconomics was an interpretation of Keynes's theory of effective demand.

The first generation of Keynesian economists saw national governments as responsible for economic stability, economic growth, and full employment, with the highest short term priority to be given to full employment. Business cycles were seen as caused by fluctuations in aggregate demand which could be offset with fiscal policy; monetary policy should be used to support fiscal policy, but monetary policy by itself was generally seen as inadequate to stabilize the economy ("money matters, but not very much").

In some versions of Keynesianism, such as Abba Lerner's "functional finance" (1943), the primary goal of the state's budget process should be full employment and a stable price level, and over the long term this was interpreted as probably requiring a

rising share of the national product being generated and captured by the state sector due to the presumed tendency of potential output to outstrip aggregate effective demand, as in Alvin Hansen's "secular stagnation" argument (1939). Many economists and historians see Keynesian economics as one of the cornerstones of the post World War II consensus regarding the proper relationship between the state and the economy, and as an integral component of the argument for a more interventionist role of the state. The new political-economic system which emerged in the 1940s and 1950s in most of the wealthy capitalist nations has been described with many terms including "welfare capitalism," "managed capitalism," "state capitalism," "monopoly capitalism," and "guided capitalism."⁵ The counter-revolution to the Keynesian revolution of the 1940s and 1950s began in the late 1960s with the rise of monetarism, the first component of what was to become a new classical economics.

Monetarism

Monetarism can be understood as a set of theoretical propositions and policy proposals focused on the macroeconomic role of money. The core theoretical propositions are: (1) The economy is essentially stable and tends toward an equilibrium at a "natural rate" of unemployment which is consistent with stable wages and prices; this natural rate of employment, the stock of capital, and technology then determine the potential level of national income. (2) Disturbances to equilibrium are almost always caused by changes in the money stock or its growth rate. (3) If unanticipated, these monetary shocks can result in temporary fluctuations in output and employment, but the economy tends to return to the natural rate quickly as wages, prices and interest rates adjust; this equilibrating tendency between aggregate demand and supply is often referred

to as “Say’s Law of Markets,” and its existence and strength had been strongly criticized by Keynes (1936). Monetarists argue that anticipated monetary shocks are likely to change only the levels of wages, prices and interest rates even in the short run. Changes in the money supply are “neutral” in the long run with respect to the real dimensions of the economy: the levels of output, employment, the composition of output, and the real wage. This proposition is described as the “classical dichotomy” between the real and nominal or monetary dimensions of the economy and its refutation was one of the core ideas in Keynes’s General Theory.

(4) Inflation and deflation are the result of excessive or insufficient growth rates in the money stock as in the “quantity theory of money” first developed by John Locke and David Hume and rejected by Keynes.”⁶

A set of ancillary propositions agreed to by most monetarists were consistent with and supported the core distinguishing theoretical principles of their school mentioned above. (5) Most versions of monetarism assumed that fiscal policy could not be used to stabilize an economy or otherwise improve macroeconomic performance; this was described as the “ineffectiveness” of fiscal policy in the literature. Changes in government budgets (deficits) intended to stimulate the economy that were financed by borrowing and bond issue resulted in rising interest rates and “crowded out” private investment. Deficits financed by printing money led to inflation; expenditures financed by taxes lowered private spending commensurately. In any of these scenarios, output composition and the allocation of resources would change, but not the aggregate level of output or employment; surpluses reduced interest rates and stimulated private investment. Since the private sector usually used resources more efficiently than the state sector,

expansionary fiscal policy would have detrimental effects; since the economy tended toward the natural rate of employment, counter cyclical fiscal policy was unnecessary as well as ineffective.

Keynes's "general theory" had also opposed this classical proposition which the monetarists revived, arguing that the economy was rarely at full employment, that the supply and demand for money determined interest rates, not the interaction of saving, private investment and government borrowing as in the monetarist "crowding out" story, and that government spending had a powerful stimulating effect when the economy was below full employment (the multiplier). The early Keynesians strongly disagreed with the monetarists on the effectiveness of fiscal policy, supporting Keynes's views on the power of fiscal policy, and demonstrating mathematically that even a balanced budget at a higher level of both expenditure and taxation could stimulate an economy below full employment (the "balanced budget multiplier" theorem, Ackley [1961]; Haavelmo [1948] appears to be the originator of the proposition).

(6) The monetarists argue that the normal state of the economy is the natural rate of employment and positive economic growth as described in Robert Solow's (1956) neoclassical growth theory. A higher saving rate would lead to a higher capital-labor ratio and raise per capita income during a transitional period, but diminishing marginal returns to capital and the free flow of capital and technology across nations implied that growth rates should converge to a "natural rate" of growth determined by technological change. Just as actual unemployment rates were temporary deviations from the strong attractor of the natural rate of unemployment, changes in growth rates were temporary

deviations from the long run trend dominated by technological change in mature economies, over which the state had little influence.

The key policy proposal advanced by monetarists became known as “Friedman’s rule”: central banks should concentrate on keeping the price level constant (or inflation very low) by setting the growth rate of money (in most versions using a narrow definition of money for intermediate targets) at the anticipated growth rate in real output plus the estimated change in velocity. In more sophisticated versions, Friedman (1968) acknowledged that some circumstances such as financial crises might warrant a temporary abandonment of monetary growth targets by the central bank, but he argued that such episodes would not occur very often if the central bank were committed to a stable monetary growth regime, which would be consistent with a stable economy. If the chief source of fluctuations in nominal GDP were fluctuations in the money supply, economic fluctuations would largely disappear under such a regime.

Monetarists also advocated flexible exchange rate systems, arguing that they would strengthen the effectiveness of monetary policy and increase its independence by doing away with the necessity to use monetary policy to peg the exchange rate. Keynes and the Keynesians favored interest rate targets, discretionary monetary policy as a supplement to fiscal policy, and fixed exchange rates to reduce uncertainty.

As increasingly formal versions of monetarism were presented, debates centered on how expectations regarding future levels of wages and prices were formed, and how changes in expectations affected the relationship between unemployment, wages, and prices, which the first generation of Keynesians had thought to be fairly stable and described with “Phillips curves.” Early versions of Phillips curves (Phillips 1958,

Samuelson and Solow 1960) described a stable inverse relationship between wage or price inflation and unemployment which would allow policy makers to choose a level of unemployment and inflation. Edmund Phelps (1968) and Friedman (1968) argued that Phillips curves shift over time, implying unanticipated changes in the natural rate, as the economic environment changes; especially important in their view were expectations of future inflation, which were largely determined by the recent past behavior of prices.

If monetary policy caused inflation by pushing unemployment below the natural rate (by “surprising” workers who didn’t anticipate reductions in their real wage caused by the inflation), the increase in inflation would lead to more inflation as economic actors attempted to regain their real income by raising wages, prices and interest rates (known as the “Gibson paradox” and “Fisher effect” in the literature). Economic actors’ inflationary expectations adapted to the actual rate of inflation as they looked backward into time trying to forecast economic conditions. These related propositions came to be known as the backward looking or “adaptive expectations” model, and were represented with “inflation-augmented Phillips curves” which were vertical at the natural rate in the long run, as in the “neutrality of money” story.

By the late 1970s, monetarism, the natural rate hypothesis, shifting Phillips curves, and vertical long run Phillips curves at the natural rate of unemployment appeared in all macroeconomics textbooks and were widely accepted as valid analytic concepts within mainstream economics. Support for the neoclassical-Keynesian synthesis and discretionary counter-cyclical fiscal policy declined. The Federal Reserve began targeting monetary aggregates in 1970, and increasingly emphasized control over monetary aggregates as its primary intermediate target for policy, and low inflation as its

primary ultimate objective throughout the 1970s and early 1980s; between 1979 and early 1982 it conducted an inflation-fighting monetarist “experiment,” targeting the growth rate of the monetary base and the monetary aggregates M1 and M2, while allowing interest rates to increase and fluctuate widely. This episode was consistent with the wide support for monetarism within economics and is often cited to indicate the high water mark of monetarist influence among policy makers in the U.S.⁷

Rational Expectations

A parallel development beginning in the early 1970s was the increasing insistence by some economists that Keynesian economics was not based upon the proper “micro foundations” with respect to assumptions about human behavior. If economic actors are rational and utility maximizing, and markets are complete and efficient, markets should continuously clear – including the market for labor. “Rational” is defined as attempting to gather and use all possible useful information in making a decision - up to the point at which the marginal cost of gathering and processing information exceeds its expected marginal benefit – and learning from mistakes; it is often also described as “forward-looking.” This approach is consistent with a Walrasian general equilibrium vision of the economy: given access to information and utility maximizing, markets should clear at utility maximizing equilibria.

Persistent involuntary unemployment seems logically inconsistent with those assumptions, since the labor market should allow utility maximizing workers and profit maximizing firms to find each other. Many economists began to reject Keynesian models as unscientific because they ignored these issues and seemed inconsistent with the rational expectations hypothesis. The reasons for the widespread acceptance of the

rational expectations hypothesis are complex, perhaps including its consistence with neo-liberal ideology, opportunities for productive research programs, genuine scientific interest and (possibly) the ability of the theory to plausibly explain reality.⁸

Combining aspects of monetarism (the quantity theory) and the Walrasian micro foundations critique, Robert Lucas (1972, 1973, 1975, 1976), Thomas Sargent and Neil Wallace (1975) and others argued that if changes in the money stock caused inflation, and if economic actors understood the connection between money and prices, and if they were rational, they would come to anticipate inflation whenever the money stock grew (they would learn from their mistakes and change their behavior).⁹ If rational economic actors noticed that the central bank increased the money supply whenever unemployment increased, their “rational” reaction to increasing unemployment and anticipated money supply growth would be to raise wages, prices and interest rates. Rational economic actors would be forward looking in forming their expectations regarding inflation. If so, monetary policy couldn’t be effective in changing the real dimensions of the economy in even the short run unless the policy changes were “unsystematic” – irrational policy moves that rational actors wouldn’t anticipate such as raising interest rates in a recession or lowering them in an inflationary boom.

Building on the rational expectations framework, Robert Barro (1974, 1981) argued that rational behavior by forward looking economic actors would also prevent fiscal policy from stimulating the economy. For example, if the government proposes a tax cut to stimulate consumption and employment, rational consumer-tax payers will anticipate higher taxes (on themselves or their descendants) in future to repay or debt-service the increased government debt and so reduce their current consumption:

aggregate current demand can't be stimulated with tax cuts. This proposition is known as "Ricardian equivalence" since Barro claims David Ricardo as an early proponent (although Ricardo himself seems not to be believed in the empirical validity of the proposition [G. O'Driscoll 1977]),

The "rational expectations" hypothesis thus supports arguments for the irrelevance of both fiscal and monetary stabilization policy. Note that the critical assumptions supporting the ineffectiveness of intervention is that changes in the money supply will lead always to changes in the price level and not cause changes in the real dimensions of the economy (the monetarist quantity theory and neutrality of money hypotheses), and on a more fundamental level, that the economy is stable and tends toward the natural rate of unemployment, which is derived from the market clearing hypothesis. Rational expectations economists often describe their models as "equilibrium economics."¹⁰

The rational expectations theory began to dominate economics as taught in elite graduate programs in the late 1970s, appearing in textbooks at about the same time. By the early 1980s its radical argument against the possibility of altering the real dimensions of the economy through monetary or fiscal policy was widely accepted within the profession and became dominant by the end of the decade (although these views appear to have been largely ignored by most applied economists in business, journalism and government – see Mankiw 1990, pp. 1645-46).¹¹

In the late 1970s version of the NCE theories, business cycles and inflationary episodes were mainly the result of external shocks to the economy, temporary misperceptions by workers or firms regarding the wages or prices which would clear

markets (“false trading”), or the unintended consequences of well intentioned but doomed attempts to stabilize the economy, and the latter were most often caused by unanticipated attempts to push the unemployment rate below the natural rate and to raise growth above the long run trend determined by growth in resources and technological change. The resulting inflation required central banks to tighten monetary policy, forcing the economy into a recession until inflationary expectations were reduced and the economy returned to its equilibrium natural rates of unemployment and growth. The state should leave the economy alone, as in most versions of original classical economics; economic policy should be restricted to providing the proper institutional framework for a capitalist market economy and instructing the central bank to follow Friedman’s rule. This view is a profound rejection of the political economy of Keynes and the early Keynesians, who held that the state can and must improve the performance of the economy through discretionary monetary and fiscal policies.

Real Business Cycle Theory

But to many of those working within the rational expectations – Walrasian model the “bad monetary policy” story seemed an inadequate explanation for business cycles; “real business cycle theory” (RBC) emerged in the early 1980s to offer an explanation consistent with both the Walrasian continuous market clearing approach and the rational expectations theory’s definition of rational behavior. Early contributions include John Long and Charles Plosser (1983), Robert King and Charles Plosser (1984), Robert Barro (1977), Barro and King (1984); Plosser (1989) offers a good introduction to the literature; Gregory Mankiw (1989) presents an interesting assessment. In this theory, economic fluctuations are largely the result of “real” or non-monetary factors: changes in

technology and in preferences by workers for leisure vs. goods, or “intertemporal substitution.” Expansions and high growth rate periods are the result of the introduction of new technology sets as in Schumpeter’s theory of economic development (and Marx’s as well); recessions occur when the economy readjusts to the diminishing influence of a set of technological changes on investment. Increases in unemployment not caused by technological change are the result of workers’ preferences shifting away from products toward leisure, or rational responses to changes in real wages and interest rates which alter the relative prices of goods and leisure.

Very importantly for present purposes, the RBC models denied any real effects of changes in the money stock on the economy; in fact, in an interesting twist, the money supply was seen as endogenous to the economy: the money stock increased in expansions and declined in contractions, passively reacting to cyclical changes in the demand for loans (as in the NMS theory advanced by the IPK school). The RBC theory is based upon a radical version of the classical dichotomy between the real and monetary dimensions of the economy.

The emerging new version of classical theory that attacked the previous Keynesian consensus began with an argument that only changes in the money stock could influence the economy (early monetarism); moved to the position that money mattered but only in the short run (the inflation-enhanced Phillips curve version of monetarism); then adopted the rational expectations position that only unanticipated, unsystematic, irrational monetary policy (“bad policy”) could have even short run effects; and then finally proposed that money didn’t matter at all with respect to causation in the short run or long run behavior of the economy in the real business cycle models.

The new classical theory presented a view of the economy consistent with the original classical story at least in its popularized form within modern economics literature: capitalism is self-adjusting and stable; competitive markets lead to the most desirable state of affairs; the normal state is high employment with economic growth at the highest rate possible given time and leisure-goods preferences and the exogenously determined rate of technological change. The only policy role for the state consistent with this vision is providing the necessary institutional structure, otherwise “laissez-faire” and free market fundamentalism are advised. By the late 1980s, NCE dominated academic economics in the U.S. in the elite graduate programs and in textbooks, and was widely taught to undergraduates as well.

Part Two: Opposition to the New Classical Theory

Two strong currents questioning the validity and challenging the hegemony of NCE macroeconomics developed even as NCE emerged: the New Keynesians (NK) and the Institutionalist-post Keynesians (IPK). The New Keynesians operate within the mainstream, teaching at elite universities and publishing in the profession’s highly ranked journals; many of them (Ben Bernanke, Alan Blinder, Stanley Fischer, Gregory Mankiw, Joseph Stiglitz, Lawrence Summers, John Taylor and Janet Yellen, for example) have held important policy-making positions in institutions such as the Federal Reserve, World Bank, Council of Economic Advisors, U.S. Treasury and the IMF.¹² Their research accepted some of the core of NCE economics, most importantly its individualist micro-foundations and Walrasian general equilibrium approach and method, while criticizing aspects of the theoretical structure erected upon those assumptions and techniques.

Meanwhile, outside of the inner circle of mainstream economics and largely relegated to what Keynes termed the “netherworld of economics,” a radical critique of both NCE and NK economics based upon a different vision of the economy, a different set of assumptions about human behavior and economic reality, and perhaps a different set of social values and priorities, was developed by the IPK school.

New Keynesian Macroeconomics

New Keynesians emerged in the late 1970s and early 1980s in reaction to the criticism of consensus IS-LM Keynesianism mounted by the NCE school; their emphasis was on explaining the causes of business cycles. Examples of their approach often cited include Olivier Blanchard and Nobuhiro Kiyotaki (1987), Alan Blinder (1991), Stanley Fischer (1977), Robert Hall (1987), Lawrence Katz (1986), Gregory Mankiw (1985), Michael Parkin (1986), Joseph Stiglitz (1986), Lawrence Summers (1989), John Taylor (1980) and Janet Yellen (1984).¹³

The New Keynesians retained Keynes’s insistence that economic fluctuations can be caused by aggregate demand changes and that aggregate demand fluctuations could be caused by factors other than monetary shocks, and they retained the early consensus Keynesian approach which held that wages and prices were downwardly inflexible in the short run, and that recessions could be seen as the result of “coordination failures” and “quantity adjustments” to demand or supply shocks. Their textbooks continued to use the IS-LM model (for example Andrew Abel and Ben Bernanke [2001], Bradford DeLong [2002], Mankiw [2003], Stiglitz and Walsh [2003]), and they were skeptical of the RBC explanation for business cycles (Mankiw 1989). They retained the Keynesian view that recessions were inherent in capitalism, undesirable, socially expensive, and preventable

with correct policy. But many of them accepted the NCE micro-foundations argument that assuming rational utility maximizing behavior by economic actors and some version of rational expectations was necessary and useful for economic analysis.

Although some NK economists have advocated the use of countercyclical fiscal policy in severe recessions or when the threat of deflation appears (Stiglitz 2002; comments by Auerbach, Blinder and Feldstein in FRB of Kansas City 2002), most of them have argued that monetary policy is more efficient and generally sufficient to stabilize the economy. And although they advocate interventionist monetary policy to stabilize the economy (money isn't neutral in the short run), they generally express a preference for monetary policy rules as opposed to discretion (Taylor 1999 and 2000). "Rules" means setting targets for policy (the rate of inflation, or more often minimizing the gap between actual and potential GDP, defined as the level of GDP consistent with the lowest sustainable level of unemployment without accelerating price inflation – the NAIRU), and designing a policy reaction function in which the central bank would increase or decrease interest rates (interest rates should be the operating instrument and intermediate target) by a given amount if GDP exceeds or falls below potential. Most of the New Keynesians see the money supply as endogenous in the sense of its growth rate being the interaction of demand for credit and the central bank determined level of short term interest rates; and see money as neutral in the long run with respect to its influence over the growth path of the economy (De Long [2000], Parkin [2000] and Taylor [2000]).

Their primary focus and contribution with respect to understanding business cycles has been to demonstrate that (1) inflexible wages and prices could lead to quantity adjustments that were destabilizing (recessions could be understood as systemic

coordination failures of the economy's markets since markets don't always quickly find prices that "clear"), and (2) that rigid, sticky or slowly-adjusting prices and wages could be seen as the result of rational responses by economic actors within the actual institutions of capitalist economies. Much of their research focused on the latter point; they found plausible explanations for sticky wages and prices, which challenged both the NCE argument that markets clear quickly (or would in a more nearly perfect world) and the NCE claim that the Walrasian equilibrium approach was useful as a description of reality. New Keynesian economics has been described as "dis-equilibrium" economics, in that it explains why economies are usually not in equilibrium at the natural rate of unemployment and the potential level of output. Alternatively, recessions are seen as "co-ordination failures" that prevent the Walrasian market system from finding optimal equilibria (Clower [1969] and Leijonhufvud [1968] are often cited as the inspiration for the New Keynesian emphasis on coordination failure as a cause of instability).

Inflexible wages and prices are explained by institutional factors such as monopolistic competition, menu costs, lengthy contracts, efficiency wage theory, wage and price staggering, markup pricing, bureaucratic inertia and marketing strategy (Blinder 1994 discusses 12 such factors mentioned in the NK literature and presents survey data supporting the importance of most of them for managers of business firms). Other NKE lines of attack on NCE involved skepticism regarding aspects of rational expectations, importantly including the assumption of inexpensive and complete information, the NCE assumption that workers, managers and owners actually think and behave like the NCE economists' models would have them, and propositions built upon rational expectations, such as the Ricardian equivalence story.

In summation, the New Keynesians argue that capitalism is often unstable due to the persistence of both demand and supply shocks, and to the ways in which the market system adjusts to such shocks. They also believe that it is both desirable and necessary to use interventionist policy to stabilize the economy; these positions put them in the Keynesian camp and in clear opposition to the views of the NCE school. Their preference for monetary policy over fiscal policy because (1) they think monetary policy is usually effective, (2) they think that automatic stabilizers are more effective than discretionary policy due to the relatively small estimates for multipliers and the long time lags for fiscal policy, and (3) because of the political problems which make timely changes in fiscal policy difficult, and for policy rules vs. discretion differentiate them from the original Keynesians as well as the post Keynesians.

The views of the New Keynesians appear to be currently hegemonic within mainstream academic macroeconomics in the US and UK from the perspectives of who has been selected for policy advice by the Federal Reserve, the Bank of England, and recent governments in both countries; whose macroeconomics texts are most widely adopted and whose theoretical views are dominant in classrooms; and whose policy views are adhered to by the Federal Reserve. Taylor (1997, 2000) and Michael Parkin (2000) explore the way graduate and undergraduate macroeconomics is now taught; the core ideas emphasized are the New Keynesian views on stabilization policy, although NCE is also presented in intermediate and graduate level courses.¹⁴

The articles by G. Fontana, G. Fontana and A. Palacio-Vera, P. Dalziel and P. Arestis and M. Sawyer in the symposium on monetary economics in the Journal of Post Keynesian Economics, Summer 2002, discuss the “new consensus” among central

bankers (at least in Canada, the U.S., the U.K. and the European Union) and mainstream academic economists – most of whom are New Keynesians - regarding monetary policy: central banks should estimate the demand gap and adjust interest rates accordingly; the behavior of monetary aggregates are a residual with no causal importance. This appears to be the actual way central banks now behave (see Taylor [1999], Bank of Canada [2001], European Central Bank [2002], Arestis and Sawyer [2002a, 2002b], Volcker [2002], Greenspan [2003], and Meulendyke [1998]). Targeting interest rates, passively monitoring the behavior of monetary aggregates, and counter-cyclical monetary policy are antithetical to monetarism and much of the rest of New Classical Economics, although the central banks' adoption of this approach to monetary policy seems to have largely escaped notice within academic economics.

What remains of monetarism appears to be the high priority that most central banks give to low rates of inflation, which leads them to prefer tight monetary policy in spite of its effects on economic growth and unemployment (for example, the European Central Bank's strong preference for tight money). The other elements of NCE policy which still seems widely accepted within the mainstream are the arguments that fiscal policy can't and shouldn't be used for short run stabilization, that governments should be small, and that government budget deficits and excessive government debt are bad because they reduce net saving and investment by the private sector. The lingering theoretical influence of other aspects of NCE within mainstream economics largely appears to be the understanding that expectations must be taken seriously in constructing economic models, and that modeling expectations is difficult. De Long (2000) argues that the influence of these aspects of monetarism and NCE represents a "triumph of

monetarism”; Post Keynesians such as Paul Dalziel (2002) disagree, arguing that the discredited quantity theory of money should be seen as the core concept defining monetarism.

New Economic Growth Theory

Another interesting aspect of mainstream economics is the development of new neoclassical approaches to economic growth which go beyond the Solow-Swann growth models and lend support to arguments for government intervention in the economy. Solovian growth models are based upon neoclassical and New Classical assumptions such as perfect competition (and continuous market clearing), diminishing marginal returns to capital, the free flow of information and technological change, and equilibrium between aggregate demand and aggregate supply (so that the economy is assumed to be always at full employment). In these models, diminishing returns to capital leads to the counter-intuitive deduction that high rates of investment will have no effect on economic growth over the long run; “conditional convergence” should obtain, in which countries with similar savings and population growth rates should converge to the same level of per capita national income and to the same rate of growth (the “stationary state”), while countries with different characteristics would end up with different per capita income levels but the same growth rate. The common growth rate would be determined by the exogenous rate of technological change under the assumption that technology and knowledge is mobile across countries (Solow 1956); this leaves almost no role for the state in promoting economic growth (although countries with low capital/labor ratios might adopt policies to raise the saving rate to move toward a higher stationary state;

during the transition toward the higher equilibrium the country would temporarily have a higher growth rate).

The new economic growth theories (NEG) broaden the definition of capital to include knowledge (human capital) and also incorporate the spillover effects of investment in both human and fixed capital and the effects of increasing returns to scale (Lucas 1988 and P. Romer 1986 are early contributions; Romer 1994 presents a description of the models and a review of the literature). Under these conditions, countries with higher rates of savings and investment could have permanently higher rates of technological progress and economic growth. Since the growth rate of technological progress and output are influenced by the rate of investment, which is determined within these models, this approach is often termed “endogenous growth theory.”

For present purposes, their importance is that the NEG models present another reason for state intervention in the economy: the state can encourage economic growth through its investment in human capital (education, research and development), in infrastructure (Aschauer 1988), by developing appropriate institutions (competitive markets, well regulated financial systems, stable money), and through policies which encourage saving and investment by the private sector.

Post Keynesian Economics

A radical critique of original IS-LM Keynesianism, New Classical Economics – especially its monetarist core, and New Keynesianism as well has been developed by Institutional and Post Keynesian economists, whose separate views on macroeconomics have been merging since the late 1970s. Following the much admired

Joan Robinson, the first generation of economists who referred to themselves as Post Keynesians such as Paul Davidson (1972) used derogatory terms such as “bastard Keynesianism,” “IS-LM Keynesianism,” and “textbook Keynesianism” to refer to what they saw as a much attenuated and misleading version of the master’s views that had been developed in the 1940s and 1950s by the first generation of Keynesians. They argued that IS-LM Keynesianism ignores Keynes’s stress on uncertainty and disequilibrium; it is another form of general equilibrium theory, describing a tendency towards equilibrium which doesn’t exist in the real world (or in Keynes’s theory). Besides Davidson’s important book Money and the Real World (1972, revised edition 1978), other influential early contributions which focused on monetary-financial macroeconomics include books by Nicholas Kaldor (1970, 1981, 1986), Abba Lerner (1943, 1944), Hyman Minsky (1975, 1982 and 1986), Basil Moore (1984, 1988), Stephen Rousseas (1986), and Sidney Weintraub (1958, 1978); also important is John Hick’s later work in which he expressed reservations about the usefulness of his own IS-LM model (1967, 1977).¹⁵

These economists attempted go beyond Keynes’s work (“post” Keynesian) by building on what they saw as Keynes’s correct ideas and insights while rejecting what they found inadequate in his work. Included in the latter category are his General Theory assumption of a central bank determined exogeneous money supply (although Keynes apparently held to an endogeneous theory of money in his other works), his Marshallian price theory, and the lack of a theory of economic growth. The Post Keynesian project is to construct a realistic model of modern capitalism that would be useful in designing policy to encourage full employment, stability, growth and less inequality. A strong

emphasis on finding practical solutions to economic policy problems is found throughout the work of this group, which has also been a hall mark of American Institutionalism. Many of the early Post Keynesians were (and some still are) sympathetic to some versions of democratic socialism; most advocate some form of incomes policy; and all advocate a powerful, interventionist state whose economic policies should give highest priority to encouraging full employment, economic growth and less inequality – the goals proposed by Keynes in the final chapter of his General Theory of Employment, Interest and Money (1936).¹⁶

The core propositions of Post Keynesian economics (the first two form their “pre-analytic vision” in Schumpeter’s term) include (1) the recognition of “fundamental or absolute uncertainty” as radically different from “statistical” or “probabilistic risk”; fundamental uncertainty does not allow us to make precise calculations of risk.¹⁷ Keynes observed that many of the most important economic decisions such as whether to invest in fixed capital, purchase a bond or hold money are made in situations in which the information necessary to evaluate risk probabilistically will always be absent. Davidson (1979) argues that the economy is “non-ergodic” as it moves through time; from this perspective, rational expectations as a description of behavior (or prescription for) is nonsensical – we can’t learn how to “rationally” evaluate certain kinds of risk (or estimate future inflation) because the circumstances keep changing. Rules of thumb and conventions serve as useful guides for decisions, and since they are in fact widely used economic models should incorporate them. The post Keynesians’ understanding of uncertainty is related to their stress on the importance of historical time and the

irreversibility of many important decisions, and is antithetical to the NCE approach to knowledge and uncertainty.

(2) The economy is inherently unstable because of uncertainty and the instability of expectations, especially expectations regarding profit from investment and the future prices of assets. The classical and NCE's equilibrating mechanism of flexible prices is weak (prices aren't very flexible downward) and it would actually increase instability if prices could somehow be made more flexible with institutional change, since falling prices in a recession would depress profit expectations and investment. Full employment is less likely than widespread unemployment. Financial speculation and financial instability are inherent in the structure of modern financial institutions and financial markets, and can be the cause of instability in the "real" economy (see Minsky 1975, 1982 and 1986 for discussions of the inherence and implications of financial instability). Society needs to impose stabilizing constraints on the economy, including institutions which stabilize prices, wages and interest rates. Most importantly, a large government sector whose expenditure can quickly increase in slumps is necessary to prevent downward instability (Minsky 1982); small state sectors reduce stability.

(3) Economic growth, economic fluctuations and income distribution are dialectically related and mutually reinforcing: inequality enhances instability; instability (especially recessions) reduces investment and growth, while recessions and low growth increase inequality. This centrality of demand in post Keynesian theory leads to the proposition of "demand led growth": the long run growth path of the economy is determined by its short run behavior.

(4) Economies are best understood as “complex systems,” which are “self organizing” and exhibit “emerging properties.” See Moore (1999) for a clear statement of this proposition and its implications; it is related to the Institutionalist economists’ insistence that society’s institutions evolve through time, so that theory must be institutionally specific to be useful. This means that we can’t adequately understand an economy by observing just the behavior of a component and extrapolating that behavior to the system (this idea appears in Keynes’s insight regarding the “paradox of thrift” as an example of the fallacy of composition in classical macroeconomic analysis), and it is in sharp contrast to the NCE approach of building macroeconomics on the micro-foundations of individual rational choice under constraints. Post Keynesians emphasize the macro-foundations for individual behavior, such as risk, uncertainty and the possibility of instability.

If economies are complex systems with emerging properties which result from their history, this also implies that at best we may be able to understand aspects of their behavior for relatively brief periods of time before they fundamentally change, developing new laws of motion, which require new institutions to improve their performance. Again, this is in sharp contrast to the mechanistic, timeless individual behavior and the equilibrium method and assumptions of NCE.

Moving to another core proposition on a lower level of abstraction, (5) the entry point into macroeconomics for the IPK school is a “monetary theory of production” (Keynes 1936). Money is created (by banks) to finance an increase in production which requires more fixed and circulating capital. Money is necessary for production to take place because production takes time and money is the social institution which transfers

and stores purchasing power over time. Because of the existence of money, interruptions in the circular flow of income and expenditure can take place (by holding wealth in the form of money) which are unlikely in a barter economy.

According to the IPK school, the NCE's "axiom of reals" (also held to a lesser extent by the NK school as well) – the dichotomy between the monetary and real dimensions of the economy is misleading; capitalism must be understood as a monetary economy, in which the circuit of money is as important as the physical flow of production and circulation of goods and services. Macroeconomics must begin with an analysis of money: its nature, origin, and functions; money is never neutral with respect to the real economy. The level of interest rates (the price of liquidity and the cost of credit) is a key price within the economy, since it influences both the willingness and ability of entrepreneurs to invest in real capital and of financial capitalists to hold non-monetary financial assets such as stocks and bonds. Keynes's and the post Keynesians' concept of a monetary theory of production is similar to Marx's circuit of capital (which Keynes admired; see Dillard, 1948 for an early Institutionalist explanation of the Keynes-Marx correspondance), and his observation that the point of production and the motivation for the firm is the accumulation of capital in the form of money.

Another core proposition (6) is that the levels of prices, wages and interest rates should be understood as the result of distributional struggles which are determined by social institutions and complex processes, as opposed to their determination by the quantity theory of money as advanced by NCE. Rather than determining the level of wages and prices, the quantity of money in circulation is seen as the result of changes in the level of wages and prices, reversing the quantity theory's direction of causality. In

IPK economics, changes in the level of wages lead to a change in the prices of goods, since firms practice markup pricing: prices are marked up over – primarily - labor costs of production, and estimates of average rather than marginal cost at normal output levels are used to set prices (Moore 1988). Changes in the price level (inflation) leads *ceteris paribus* to an increase in the demand for working capital (credit) which banks accommodate. As more loans are made, the money supply increases (Moore 1988).

The endogenous money supply theory (proposition 7) argues that anything that increases the demand for bank credit will increase the money supply; commercial banks must accommodate most of any increase in business or consumer loan demand, since most loans are made under predetermined lines of credit (Moore 1988). Since central banks' first priority is an orderly payments system, central banks attempt to stabilize inter-bank loan rates: they explicitly or implicitly target the equivalent of the U.S. federal funds rate and then adjust the level of bank reserves to meet that target (this is known as the “accommodationist” explanation for endogenous money). This means that central banks determine the level of short term interest rates (short rates are exogenous) and the demand for bank credit determines the money supply (money is endogenous). Long rates and the maturity yield curve are complexly determined by expectations and perceptions of risk, as in Keynes's liquidity preference theory (Mott 1985-86, Chick and Dow 2002).

If central banks attempt to control the money supply or its growth by targeting monetary aggregates when the demand for credit is increasing, financial innovations allow bank lending and the monetary aggregates to increase even if interest rates rise (the “structuralist” explanation for endogenous money). Conversely, central banks can't

expand the money supply if the demand for credit is contracting. Central banks can't control the money supply. For extended discussions of the various institutional factors and processes which determine the degree of money supply endogeneity and related issues, see Chick (1986), Evans (1984), Lavoie (1992), Moore (1988), Niggel (1991), Palley (1991, 1994), Pollin (1992), and Wray (1990, 1991 and 1992).

Finally, although IPK economists see the level of interest rates as important in influencing aggregate demand – especially business investment – their empirical work argues that spending and real output may not be very sensitive to interest rates in recessions, so that other demand stimulating policies are necessary (Arestis and Sawyer, 2002a and 2002b; European Central Bank 2002). Those same studies provide evidence that interest rate changes are not very effective in reducing price inflation either.

Post Keynesians and New Keynesians

Although the IPK and New Keynesian economists agree on aspects of macroeconomics (the endogeneity of the money supply and the need for interventionist demand management for example), they disagree on many important points.¹⁸

(1) IPK economists see the economy as very unstable, requiring constraints stronger than discretionary monetary policy; New Keynesians assume strong equilibrating processes in the long run, pushing the economy toward equilibrium at a socially optimal natural rate of employment and the potential level of output.

(2) Following Keynes (1936) IPK argues that even if wages and prices were very flexible downward, capitalist economies wouldn't tend toward full employment; in fact most IPK economists see stable wage and price levels as a positive stabilizing factor – downwardly flexible prices would make things worse in a recession, since they would

lower profits, asset prices and profit expectations, thus depressing investment. What is necessary to stabilize the economy is a large government sector whose automatic stabilizers and discretionary fiscal policy, coupled with stabilizing monetary policy, can keep the economy at full employment by balancing aggregate demand with potential supply (Minsky 1982, 1986).

(3) IPK economists emphasize the problems associated with insufficient aggregate demand and excess industrial capacity – not just in the recession phase of business cycles but in the long run as well (Nell 1988, 1992, Wray 1990, 1998). From the IPK perspective, capitalist economies rarely fully utilize labor and capital; the economy is not supply or resource constrained but rather constrained by insufficient aggregate demand. They advocate inequality reducing tax and transfer policies and a growing government share in aggregate output to keep the economy at full employment. Many (Wray 1998) advocate government employer of last resort programs. Most also strongly favor public investment as demand creating and productivity enhancing factors as well.

(4) IPK economics follows Keynes (and Kalecki) in arguing that savings does not finance investment as in the old classical, neoclassical, New Classical and New Keynesian models. Rather, investment is determined by profit expectations and the rate of interest, and it is financed by bank credit (and the growth in the money supply). The level of investment coupled with the variables that determine the Keynesian multiplier then determines the level of national income. National income moves toward the level that generates enough savings to equal the exogenously determined level of investment: investment determines savings, rather than savings determining investment.

This insight has powerful implications for many aspects of policy: most NCE and NK economists argue for policies (such as low marginal rates of taxation, high real interest rates, shrinking government, reducing the generosity of public pension systems) which should encourage higher net national savings (savings net of government budget deficits and depreciation), because in their models this would lead to higher private investment. From the IPK perspective this is wrong headed: government spending – especially public investment – can increase productivity, private profits and profit expectations, thus encouraging private investment (“crowding in” rather than “crowding out”). And the level of savings has little influence over either interest rates or investment, since interest rates are primarily determined by monetary policy and liquidity preference. In fact, *ceteris paribus*, a higher saving rate might depress investment and economic growth since it would lead to a lower level of consumption and aggregate demand growth.

(5) IPK economists put a higher priority on full employment than on price stability, and argue that the level of unemployment necessary to keep effective downward pressure on wages and prices entails unacceptable social costs. NK economists put a higher priority on low inflation than on full employment. IPK economists are skeptical of our ability to reliably estimate the level of unemployment consistent with price and wage stability – the natural rate of unemployment or the NAIRU, which determines the potential level of national income in the NK model – and use that as a target for stabilization policy. In IPK theory, the level of wages and prices is very complexly determined by a host of institutional factors reflecting the social and economic power of capital and labor which are more important in determining the rate of inflation than the

level of unemployment. There is no natural rate of unemployment in the sense of a “strong attractor” that the economy tends toward.

IPK economists argue that the important goals of full employment and both wage and price stability can only be reached by developing institutions which socially control the wages, prices and the distribution of income across the social classes (the wage/profit ratio), and which link aggregate wage and profit increases to productivity gains: some form of incomes policy (Cornwall [1983], Moore [1988], Weintraub [1978]). Another approach to full employment and price stability advocated by IPK economists is a government employer of last resort strategy, coupled with expansionary fiscal policy (Wendell Gordon 1997, Minsky 1986 and Wray 1998).

In contrast, New Keynesians argue that the NAIRU can be reliably estimated (although the range of estimates is seen by some as quite wide) and the estimates used as a target for stabilization policy; NK economists are willing to tolerate whatever levels of unemployment are necessary for price stability, disagreeing with the IPK view that “non-traditional” forms of intervention such as incomes policy can be effective.¹⁹

(6) IPK economists propose a link between demand, cycles and growth: an economy that is well managed so as to avoid severe recessions and maintains a high level of employment will have higher levels of investment, technological change, productivity growth and output growth over the long run (John Cornwall [1972, 1977, 1983, 1994] and Ed Nell [1988, 1992]). New Keynesians don’t discuss this linkage.

(7) IPK economists agree with both Keynes and Kalecki that the distribution of income is important for business cycles and growth; they are interested in both the “functional” or “class” distribution between labor and capital and the “personal” or “size”

distribution across individuals, households and families. One argument that Keynes and post Keynesians make is that changes in the distribution of income can influence the composition and levels of aggregate demand (more profits means more investment; higher wages means more consumption). From this perspective, less inequality is preferred since it will stimulate production and employment in the short run, and thus stimulate investment and economic growth in the long run; lower interest rates both reduce inequality and stimulate investment (Keynes 1936; Niggle 1998 surveys and assesses some recent literature discussing the relationship between inequality and growth).

Followers of Kalecki observe that a declining wage share should be expected to reduce aggregate demand, capacity utilization and investment, and thus reduce both employment and economic growth. Proper macroeconomic policy implies paying attention to income distribution. Again, New Keynesians don't pay much attention to these issues.

(8) Propositions 4, 6 and 7 form parts of the IPK "demand-led" approach to growth theory, in contrast to the NCE "supply-side" approach which New Keynesians and New (endogenous) Economic Growth theories also stress. In the latter theories economic growth is seen as the result of increases in the quantity and quality of productive resources – natural resources, labor, capital and technology – which are analyzed as independent of the demand for output. IPK economists see the NEG as seriously flawed in assuming continuous market clearing, equilibrium at the natural rate and in assuming that savings finance investment, with causality flowing from savings to investment.²⁰

(9) Many IPK economists advocate fixed exchange rate systems constructed around an international financial institution which could issue liquid financial assets as needed by deficit countries (Davidson 1994); most New Keynesians accept flexible exchange rates with some important and influential exceptions such as Joseph Stiglitz (2002).

(10) IPK economists favor financial market regulations, and see unregulated financial markets as dangerous (Minsky 1982, 1986; Isenberg 2000); most New Keynesians are not concerned with financial market deregulation.

Summary and Conclusions

In the 1970s and 1980s, New Classical economists developed and mainstream economics assimilated a set of propositions, models and theories which argued against both the need for and efficiency of Keynesian forms of state intervention in the economy to promote full employment, stability, equality and economic growth. Aspects of this economic philosophy – New Classical Economics, Monetarism, Real Business Cycle Theory, Supply Side Economics and Public Choice theory - offered theoretical support for neo-liberalism, and have been very influential both within economics and in the domains of policy and politics.

Keynesian economists rejected many aspects of the neo-liberal program based upon their competing “New Keynesian” theoretical stance. Institutional and Post Keynesian economists present a more radical critique of NCE and offer a very different perspective on the economy. In the past decade, New Keynesian and New Growth Theory economics has become more influential within the mainstream. This phenomenon, coupled with the persistence of economic problems which seem intrinsic to

unregulated global capitalism such as stagnation, increasing unemployment and inequality, and recurrent financial crises, opens up the possibility for IPK economics to be seriously considered by mainstream economists, since IPK offers coherent explanations for those problems and plausible solutions to them.

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¹ William Waller (2003) convincingly argues that the modern version of neoclassical economics developed largely by the University of Chicago school and represented by Milton Friedman's Capitalism and Freedom (1962) rests upon a much more radical version of "laissez faire" economic philosophy than that found in the work of the classical economists Adam Smith, David Ricardo and Thomas Malthus, none of whom used the phrase in their published work and all of whom supported rather extensive state intervention. In fact, Friedman and his colleagues argue for less state intervention than had their intellectual mentor Friedrich von Hayek. Waller contrasts this economic philosophy with Keynes's views in his (1926) essay "The End of Laissez Fair," in which Keynes wrote "The world is not so governed from above that

private and social interests always coincide”; his subsequent work can be interpreted as demonstrating that certain circumstances warrant state intervention, such as severe depressions.

² Robert Keller (1983), Geoffrey Hodgson (1991 and 1999), Eric Tymoigne (2003), and G. Atkinson and T. Oleson (1998) demonstrate aspects of the commonality among the two schools with respect to method and key theoretical concepts including conceptions of time, uncertainty, money, and contracts. Both have developed an understanding of economic institutions and systems as evolving through time, and their theoretical models and policy positions have come to resemble each other closely especially within the domain of macroeconomics.

³ By “mainstream” economics I mean the theoretical core and related policy proposals that are widely accepted as valid within academic economics, particularly as taught in elite graduate programs, which appear in the most widely adopted textbooks, and which support the worldview of those who become economic policy advisors. As a simplification, this might also be referred to as the “orthodox” ideas of the academic, intellectual and political elites, as opposed to the “heterodox” views critical of aspects of that orthodoxy. There are both scientific and cultural dimensions to the concept of “orthodoxy,” since the ideas of the dominant groups within a discipline are often privileged as scientifically correct. The “macroeconomics” considered here is largely confined to discussions of business cycles, economic growth, and policies to stabilize the economy and promote growth. Note that this narrowing of focus to macroeconomics means that we do not consider many other critiques of New Classical Economics and neo-liberal policies, such as those advanced by feminist economists, Marxists, and radical environmental economists. These economists also often or occasionally discuss macroeconomics, especially Marxists. But since the central focus of much of the work of these other groups is not “macroeconomics” as defined here, or if so, is not very different from the positions advanced by the IPK group, these interesting and valuable traditions are not considered explicitly in this paper.

⁴ Albeit with some skepticism, the paper is premised upon Keynes’ proposition (1936, Pp. 383-84) that the views of “academic scribblers” importantly influence economic policy. C. Romer and D. Romer (2002) presents an overview of the “evolution of economic understanding and postwar stabilization policy,” which argues that the evolution in the consensus mainstream view regarding the proper priorities for policy and the most efficient way of conducting policy has been influential in the actual stabilization policies adopted. They write that low inflation became a higher priority policy goal than high employment because it was thought a more important and more easily attainable goal by economists, and that monetary policy became more widely adopted than fiscal policy because it was seen as more effective by economists. Other reasons may have influenced these shifts in policy goal priorities, such as the resurgence of neo-liberal ideology, the increasing power of capital over labor, and of financial capital over industrial capital (Niggle 1988, 1989 discusses these issues).

⁵ Peter Clarke (1988, 2000), and David Colander and Harry Landreth (1995) present interesting accounts of the rise of Keynesian economics and its influence in the U.K. and U.S.

⁶ A series of articles and books by the most influential monetarist Milton Friedman presented his evolving version of the monetarist story (most often cited are 1956, 1960, 1968, 1970, and with Anna Schwartz 1963); Friedman saw the chief difference between his and the original version of the quantity theory as revolving around the velocity of money. In the classical theory, the velocity of money is assumed to be stable; in Friedman’s version the demand for money, and hence its velocity, is a stable function of several variables such as interest rates. If so, the demand for money and its velocity can be reliably estimated and used to determine the proper quantity of money the central bank should provide. See also Robert J. Gordon, Milton Friedman’s Monetary Framework: A Debate with His Critics (1974). Another leading monetarist, Karl Brunner, explains the relationship between monetarism and the preference for a small, non-interventionist state in his interview in Klamer (1984). J. Bradford De Long (2000) presents an interesting version of the evolution of monetarism, in which he identifies four versions of monetarism. Powerful critical discussions of monetarism can be found in Kaldor (1970, 1982).

⁷ William Greider’s The Secrets of the Temple (1988) presents an interesting journalistic account of the Fed’s monetarist experiment. For more technical discussions see the essays by Federal Reserve economists in Intermediate Targets and Indicators for Monetary Policy: A Critical Survey (1990, Federal Reserve Bank of New York) and Ann-Marie Meulendyke, U.S. Monetary Policy and Financial Markets, (1998, Federal Reserve Bank of New York). The Federal Reserve was apparently surprised by the degree of instability in interest rates, asset prices and financial markets that resulted from their policy, and abandoned the

monetarist approach in the early 1980s. Romer and Romer (2002) discusses the shift away from activist fiscal policy.

⁸ Gregory Mankiw's "A Quick Refresher Course in Macroeconomics" (1990) provides a very interesting history of the disintegration of the neoclassical-Keynesian consensus from a New Keynesian perspective. Arjo Klamer's Conversations with Economists (1984) presents interviews with several of the leading founders of the rational expectations school, including Robert Lucas, Thomas Sargent and Robert Townsend, in which their motivations for developing the theory are discussed.

⁹ Most of the first generation of rational expectations theorists cite John Muth (1961) as the first article to employ rational expectations; other early contribution often cited are Lucas and Rapping (1969) and Lucas and Prescott (1971).

¹⁰ A good introduction to this story is found in Klamer (1984), Ch.1 "A background to the conversations"; see also Richard Froyen's Macroeconomics (1999), Chs.11-13 for a very clear formal exposition.) Several of the leading rational expectations theorists insist that New Classical Economics should not be equated with the argument that all policy is ineffective; rather they argue that it only shows that some policy moves in some situations would be ineffective (an anticipated money supply increase, for example) under some assumptions (if information is inexpensive and actors are rational). Some of them also insist that rational expectations should not be identified as necessarily supporting policy that could be characterized as rightist or conservative. Townsend (in Klamer, 1984) prefers to characterize NCE as a set of technical approaches connected with equilibrium modeling.

¹¹ Robert Lucas rather famously wrote that "Keynes is dead," and, perhaps less famously, "At research seminars, people don't take Keynesian theorizing seriously anymore; the audience starts to whisper and giggle to one another." (1979, reprinted in Hailstones, 1982.)

¹² An informal survey of Federal Reserve Governors and CEA members in the 1970s, 1980s and 1990s didn't reveal any economists closely identified with NCE, except for a few monetarists on the Open Market Committee of the Fed. The Supply Side economist Lawrence Lindsey served on the CEA during the George W. Bush administration. When asked what he would do if appointed to the CEA, Robert Lucas replied that he would resign or abolish the Committee (Klamer 1984).

¹³ Mankiw's 1990 article provides an overview of the rise of New Keynesianism and its opposition to elements of the new classical economics, especially real business cycle theory. See also Gordon (1990), Mankiw (1989), and the articles in Mankiw and Romer (eds., 1991). The interviews with Alan Blinder and John Taylor in Klamer (1984) discuss the views of two other prominent New Keynesians on new classical economics. Many of the "old" Keynesians have also opposed aspects of NCE; see the interviews with Franco Modigliani, Robert Solow, and James Tobin in Klamer, and Tobin (1980a, 1980b).

¹⁴ C. Romer and D. Romer's (2002) overview of the changes in stabilization policy over the post World War II period presents evidence that the Federal Reserve and Council of Economic Advisors have consistently practiced activist, interventionist policies to stabilize the economy. What changed over time was a shift toward attaching a higher priority to low inflation in the late 1970s, which resulted in higher real rates of interest, a movement away from discretionary fiscal policy as a stabilization tool, and their estimates of the natural rate or threshold rate for low unemployment which was consistent with low inflation. According to the Romers, the Fed and CEA's implied (and occasionally explicit) estimates for the natural rate were low in the 1960s, increased in the 1970s and 1980s, then decreased in the 1990s. In the Romers' story, neither the Fed nor the CEA ever undertook policy consistent with the NCE noninterventionist philosophy with respect to stabilization. The comments on their paper in Rethinking Stabilization Policy, a symposium sponsored by the FRB Kansas City (2002), are generally consistent with the Romers' position regarding activism.

¹⁵ Although post Keynesian economists have also developed a coherent microeconomics, including theories of the firm and consumer choice, this paper will only refer to those aspects of IPK microeconomics which seem necessary to elucidate the macroeconomics, essentially the use of mark-up pricing to explain price setting in imperfectly competitive markets. The definition of Post Keynesian economics is problematic; this paper accepts the "big tent/broad church" definition advanced by Hamouda and Harcourt (1988) which includes followers of Kalecki and Sraffa as well as fundamentalist Keynesians in the group. This is in contrast to Paul Davidson's (2003) argument that the term should be reserved for those economists who stress the importance of fundamental uncertainty and reject the new classical axioms of ergodicity, gross substitutability and the neutrality of money. Davidson argues that Keynes's rejections of those "special case" axioms allows the development of a "general theory" based upon the fewest number of necessary

axioms and interprets this as the most important distinguishing characteristics of Keynes's economics; Davidson's approach is often described as "Keynesian Post Keynesianism." See Lavoie (1992) for an attempt at a synthesis of post Keynesian micro and macroeconomics which a "representative post Keynesian" would find acceptable. Fred Lee (1998) presents an interesting example of the Post Keynesian approach to microeconomics. Eichner's A Guide to Post Keynesian Economics (1978) is regarded a "manifesto" of the group; Holt and Pressman (2001) presents a recent collection of articles.

¹⁶ Quite a few of the founders of the school were as strongly influenced by the Polish Marxist Michael Kalecki (for example, Joan Robinson and Nicholas Kaldor) and the Austrian Joseph Schumpeter (Hyman Minsky) as by Keynes; and many of them were sympathetic to or influenced by Marx as well (Minsky and Edward Nell for example). Perhaps "post Keynesian, post Kaleckian, post Marxist," or "post classical" would be more appropriate terms (Lavoie 1992). Post Keynesian became a widely accepted term after the Journal of Post Keynesian Economics appeared in 1978. J. King (2002) presents an interesting history and appraisal of Post Keynesian economics. P. Davidson's critical review article of King's book (2003) presents a contrasting history by one of the founders of the school..

¹⁷ For an introduction to post Keynesian economics, see the entries on post Keynesian economics by King, Lavoie and Wray in O'Hara (ed. 1999); also the introduction to Lavoie (1992).

¹⁸ Rotheim's (1998) book presents an interesting collection of articles by Post Keynesians which attempt to differentiate New and Post Keynesian economics.

¹⁹ The articles by Stiglitz, Robert Gordon, Douglas Staiger, James Stock and Mark Watson, Olivier Blanchard and Lawrence Katz, Richard Rogerson, and James Galbraith in the Symposium on the Natural Rate of Unemployment, Journal of Economic Perspectives (1997) provide a good introduction to New Keynesian and Post Keynesian positions in the debates over the NAIRU. Robert Eisner (1997) also presents a Post Keynesian critique of NAIRU. C.Romer and P. Romer (2002) argue that mainstream economists rejected incomes policy, wage and price controls, and other "non-traditional forms" of stabilization policy because they are ineffective and lead to inefficiency.

²⁰ Setterfield (2002) presents articles which challenge the New Economic Growth theory's supply side vision of economic growth from an IPK perspective; Setterfield's introductory chapter serves as a useful introduction and summary of the distinctions between the two approaches to economic growth. Moore (2003 ms) also discusses the two approaches to growth theory.