

# Evolutionary Keynesian Macroeconomics

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The primary purpose of this paper is to compare and contrast two approaches to macroeconomics: New Keynesian Economics and Evolutionary Keynesianism. The dominant paradigm in mainstream macroeconomics is a synthesis of New Keynesian and New Endogenous Growth economics, which has replaced New Classical and monetarist-based macroeconomics as the emerging macroeconomic theoretical core of both academic economics and the Washington Consensus regarding macro policy. This “Post Monetarist new consensus” model appears dominant in the UK, the European Central Bank and the EU countries as well.<sup>1</sup> “Evolutionary Keynesianism,” a synthesis of Evolutionary-Institutionalist and Post Keynesian economics, offers a very different approach.<sup>2</sup> The next two parts of the paper present a description of the consensus New Keynesian and New Growth Theory models. The third part provides an informal description of Evolutionary Keynesian Macroeconomics, and then compares and contrasts the two approaches to macroeconomics.

## Introduction

The history of macroeconomics over last 50 years can be interpreted as a dialectical struggle between two opposing visions of the economy (as in Schumpeter's "pre-analytic visions," with which he argued economists begin their work):

1. Stable, tending toward short run equilibrium at the natural rate of unemployment and potential output; tending toward a "steady state" long run rate of growth determined by the rate of technological change and growth in inputs. Business cycles are caused by external disturbances or supply shocks. The role of the state should be limited to providing the necessary institutional infrastructure, especially property rights, money and competitive markets. This approach originated in classical economics and reappeared in New Classical Economics including its monetarist branch (NCE below); it also underlies Solovian growth theory (see Chs. 5 and 11 in Snowden and Vane 2005 for good overviews of NCE and Solow's growth model).
2. Inherently unstable, with unemployment usually greater than optimal, and capacity utilization lower than optimal. The actual growth rate is determined by short run cycles in production as well as the factors cited in classical, NCE and Solovian growth theory; the growth rate is usually lower than optimal. Demand is unstable and usually insufficient; demand conditions influence growth rates: this is known as "demand led growth" in the Evolutionary Keynesian literature. Macroeconomic policy can improve performance greatly. Keynes and both Evolutionary-Institutionalist and Post Keynesian economists share this view of the economy: Evolutionary Keynesianism (EK below). Arguably much of EK economics can be found in Marx as well.

3. New Keynesian economics (NKE below) emerged in the 1980s; it occupies a 3<sup>rd</sup>, intermediate position and has replaced NCE within orthodox mainstream economics.

Dominant (or hegemonic) in the mainstream means:

1. The view of most policy advisors in institutions such as the Federal Reserve, Council of Economic Advisors, IMF, World Bank, Bank of England, and European Central Bank.
2. Appears in the most widely adopted textbooks and taught in the universities.
3. Taught and supported in the elite graduate schools.
4. Accepted by the majority of the profession.

#### The Post Monetarist New Consensus I: New Keynesian Economics

NKE accepts most of the NCE microeconomic core: flexible wages, prices and interest rates lead the economy to the “natural rate” of unemployment (usually termed the NAIRU or “non-accelerating rate of inflation unemployment rate”) in the long run, which can be described as a Walrasian and Hicksian general equilibrium. But the adjustment process may take a long time due to “coordination failures” caused by inflexible wages and prices and asymmetric information. The level of GDP fluctuates around the “potential” GDP which is produced when unemployment is at the natural rate. Business cycles are temporary deviations from the long run trend growth rate, caused by supply or demand shocks. The trend growth rate and the natural rate of unemployment are both “strong attractors” dominated by the rate of technological change and the institutional and historical factors which influence labor markets.

Large demand gaps can and should be offset by demand management policies, using monetary policy. Fiscal policy is too clumsy a tool because the political and

implementation time lags are too long, and the multiplier effects of fiscal policy are small. Therefore, fiscal policy is only useful for extreme crises and monetary policy should be used for normal stabilization situations; although “fine tuning” is impossible, “rough tuning” is possible. This represents a modification of the extreme laissez-faire/nonintervention approach supported by NCE.

NKE recognizes the social costs of recessions and the importance of demand factors; it defends countercyclical monetary policy and advocates demand management using “constrained rules” such as (John) Taylor’s rule. In most versions, the procedure is to estimate (or forecast) potential GDP and any demand gap, then adjust (nominal and real) interest rates to move actual GDP to its potential; target interest rates rather than the money stock, since the velocity of money is unstable and the money supply is endogenous (note that NKE has accepted this central proposition of EK monetary economics as part of the post monetarist consensus). Fiscal budgets should be balanced over the business cycle. (See Mankiw 1990, Mankiw 2006, and Mankiw and Romer 1991 for descriptions of the NKE approach.)

The principal contribution of NKE has been to provide microeconomic foundations that explain why wages and prices are sticky in modern economies (imperfect competition, management strategy, menu costs, information costs, contracts, efficiency wages are often cited) and to model the implications of this market behavior for macroeconomics. NKE accepts and rationalizes limited forms of state intervention to improve short period macroeconomic performance. Reducing the natural rate of unemployment requires restructuring labor markets (increasing labor market “flexibility”).

Textbooks used to explain macroeconomics to undergraduates at the principles and intermediate level are dominated by NKE short-run models of income determination, although NCE and monetarism are both discussed as alternative models (see Mankiw 2006, Parkin 2000 and Taylor 2000 for discussions of the presentation of macroeconomics in the leading principles and intermediate texts; Colander 2000 comments on the shortcomings of these popular texts). AD-AS models with sticky wages and prices are emphasized in the principles texts; IS-LM-BP models supplement AD-AS models in the intermediate texts; both are derived from Keynesian-cross models similar to those developed by Hansen and Samuelson. In all cases the story that emerges distinguishes short-run and long-run equilibrium conditions: aggregate demand dominates the level of aggregate output and employment in the short run; wages and prices adjust slowly upward if the short-run equilibrium is above potential GDP (if unemployment is below the NAIRU) so the AS and LM curves drift upward restoring equilibrium to potential GDP and NAIRU in the long run. If the initial equilibrium is below potential, wages and prices may not fall at all, or fall so slowly that the economy may remain below potential indefinitely without policy intervention.

Phillips curves shift with changes in expectations regarding inflation and are asymmetrical above and below potential GDP; the long run Phillips curve is vertical at potential GDP. As Mankiw (2006) observes, the modern textbook version is essentially similar to those found in the texts most widely adopted in the 1970s – with the possible exception that more attention is paid to how expectations are formed - and the story would be comprehensible to a student who had worked her way through macroeconomics

back then (or to a professor from that era). The New Classical story has not replaced the mainstream Keynesian model in the economics that most university students encounter.

### The Post Monetarist Consensus II: New Endogenous Growth Theory

Most NKE economists also accept New Endogenous Growth theory (NEG below), which first appeared in the late 1970s, early 1980s (Romer 1994 provides an account of the rise of NEG; see also Chapter 11, Snowden and Vane 2005). NEG accepts the NCE/NKE vision of the natural rate of unemployment and the Solow growth model equilibrium steady state growth rate (the latter determined primarily by technological change) as the normal states which the economy tends toward. NEG also accepts the NCE/Solow argument that savings finances investment, so that an increase in the savings rate leads to more investment and at least temporarily a higher growth rate. But NEG rejects the NCE/Solow proposition that diminishing marginal returns to capital occurs as the capital/labor (K/L) ratio increases. Increasing returns are possible, so that the growth rate does not necessarily tend toward Solow's rate of technological change, the "steady state" growth rate for per capita real income.

Increasing or constant returns to capital are seen as possible due to phenomena such as:

1. Effects of research and development, spillover effects, externalities, learning by doing, and the interrelationships between investment in fixed and human capital.
2. Economies of scale and scope across industries, technologies and economies.

NEG implies that:

1. Higher saving and investment rates can lead to permanently higher growth rates, since high investment is likely to lead to higher rates of innovation and technological change (new capital is usually superior to old capital).
2. Conditional convergence of growth rates for countries with similar savings rates may not occur.
3. Poor countries will not automatically catch up to rich countries, even if they save a lot.
4. There exists a wide range of intelligent policy choices to promote growth, including public investment in fixed capital, human capital, research and other forms of public infrastructure. Policy promoting high private investment (and saving) rates are growth promoting. Both NKE and NEG support state intervention to promote the wealth of nations (full employment and higher growth rates); again, this is quite different from the “free market fundamentalism” and radical laissez-faire of New Classical Economics. A clear majority of economic advisors and policy makers for U.S. governments over the past several decades have been members of the NKE-NEG school; in Mankiw’s evocative language (2006), the NKE economists are “engineers” interested in practical policy issues, rather than the “scientists” attempting to construct internally consistent theoretical systems).

#### Institutionalist and Post Keynesian Economics: Evolutionary Keynesian Macroeconomics

Institutionalist and Post Keynesian economists tell similar macro stories. The macroeconomics of first and second generation evolutionary or Institutionalist economists such as Commons, Veblen, and Mitchell were similar to Keynes’s in many respects. Many of the recent contributors to Institutionalist macroeconomics who have

been published in the JEL, such as John Cornwall, Paul Davidson, Peter Howells, Hyman Minsky, Basil Moore, Mark Setterfield and Randy Wray also contributed to Post Keynesian economics. <sup>3</sup>

Evolutionary-Institutionalist and Post Keynesian economists argue that economic development is conditioned by and transforms economic institutions such as money, markets and property rights: transformational growth leads to structural and institutional change (Nell 1992). Economies should be understood as complex systems with emerging properties that successively develop different laws of motion and pose different problems (Moore 1999). State intervention to create or change institutions is often necessary to promote the goals of full employment, economic growth, equity, social justice and harmony. Given the emphases on evolutionary institutional change, full employment and demand management, “evolutionary Keynesianism” or “evolutionary macroeconomics” are appropriate terms for the EK approach and models.

There are some similarities between EK and NKE: the importance of aggregate demand and the social costs of recessions are the most important common elements; NKE accepts the endogenous money supply theory developed by EK (Taylor 2000). EK is also consistent with much of NEG. There are however important distinctions between EK and the orthodox consensus with respect to ultimate goals, assumptions, method, analysis and policy.

#### Differences between Evolutionary Keynesianism and New Keynesian Economics

1. EK – especially the Post Keynesian writers – emphasizes the importance of “fundamental” or “absolute uncertainty,” Paul Davidson’s “non-ergodicity,” as a characteristic of the real world which has important implications for both theory and

policy (Davidson 2005). NCE assumes perfect information and rational expectations; NKE economics assumes various forms of asymmetric and incomplete information and adaptive or rational expectations. NKE's approach is a bit more realistic; but both assume "probabilistic risk" when modeling the behavior of investors in real or financial assets. Probabilistic risk is more tractable than absolute uncertainty, but it appears unrealistic from the perspective of EK's entry point into economic theory.

2. In EK economics, the economy is inherently unstable because of this profound uncertainty-which implies great and incalculable risk for many crucial decisions- and the resultant instability of expectations regarding profits from investment and the future price of assets. Financial instability and economic instability are dialectically interactive and must be constrained with appropriate institutions.<sup>4</sup> Instability is not as important a concern in NKE macroeconomics, and financial markets are discussed largely as an afterthought. Financial markets and money are central to EK macro (following Keynes's attempt to develop a "monetary theory of production." (See Davidson 2005, Niggle 2004, 2006a and 2006b, Rotheim 1998, and Setterfield 2002 for introductions to PK economics and contrasts between EK and NKE/NEG on these points.)

3. Economies are best understood as "complex systems" which are "self organizing" and exhibit "emerging properties" as they develop - using the insights and language of complexity analysis (Moore 1999). This proposition is a modern version of a core concept in original evolutionary economics: since institutions and economies evolve through historical time, theory must be institutionally specific if it is to be useful. Since the behavior of a complex system is not simply the outcome of the behavior of its components, the complexity proposition also means that we can't adequately understand

an economy (a complex system) by observing the behavior of a component and extrapolating that behavior to the system as a whole (as Keynes observed in his “paradox of thrift” argument). Rather than the “microeconomic foundations of macroeconomics” (as in NCE and NKE) we need to understand the “macroeconomic foundations of microeconomics.”

Following John R. Commons, Thorstein Veblen and Keynes, many writers in the EK tradition identify discrete stages in the evolution of capitalism, which could be understood as the appearance of different sets of interacting and reinforcing institutions (see Cornwall and Cornwall 2001, Jameson 2005, Niggle 1993, and Whalen 2007 for discussions of the importance of stage analysis; Whalen also discusses the connections between Keynes and the original Institutionalists, and presents a valuable review of literature discussing the Institutionalist-Post Keynesian connections).

4. External shocks coupled with the institutional sets which lead to the existence of asymmetric information and inflexible wages and prices explain recessions and deviations from trend for NKE; EK argues that even if wages and prices were flexible, full employment is not guaranteed. There is no unique natural rate or NAIRU which the economy gravitates toward and which acts as a strong attractor. EK argues that flexible wages and prices would enhance instability since falling wages and prices in a recession would probably reduce profits, expected profits from investment, investment and employment. Sticky wages, prices and interest rates are a good thing; institutions which stabilize these are useful and should be developed (national collective bargaining; incomes policy). This point would make an EK textbook version of short-run and long-run equilibrium look very different from the NKE story: the AS and LM curves don't

automatically adjust until GDP returns to an equilibrium at “potential” and unemployment to the NAIRU, since these unique equilibria may not exist; there is no unique and estimable relationship between unemployment and wage or price inflation.

5. EK emphasizes insufficient aggregate demand as the cause of recessions, but also observes that demand-induced recessions reduce long run economic growth as well (this is known as “demand-led growth theory.” Recessions are characterized by low rates of investment, innovation and technological change which translate in both lower future levels of productivity and rates of growth. NKE ignores the effects of recessions on the growth rate of potential GDP. EK advocates demand enhancing policy, including inequality reducing tax, transfer and expenditure systems, low interest rates, and employer of last resort programs. Most EK economists favor Lerner’s “functional finance” theory of fiscal policy: the levels of taxation and government expenditure should be consistent with full employment and price stability (Nell and Forstater 2003, Wray 1998).

6. Money is not neutral in EK: changes in the price and availability of liquidity have powerful effects on the real economy; macroeconomics should begin with an analysis of the roles of liquidity in the economy, as in Keynes’s “monetary theory of production.” But EK economists are skeptical regarding the power of monetary policy by itself and see fiscal policy as a more powerful tool for demand management (see the essays in Arestis and Sawyer 2004 and Arestis, Baddeley and McCombie 2006). They are skeptical re “rules,” in favor of “discretion” in policy. EK economists see money as endogenously determined and interest rates as exogenously determined; interest rate targets are seen as

the appropriate instrument for monetary policy. NKE economists implicitly accept the endogenous money theory (see note 1).

7. EK follows Keynes and Kalecki in arguing that personal savings do not finance or determine business investment. Profit expectations, interest rates, the availability and the cost of (internal and external) finance are the important influences on investment - not the flow of savings - since the former variables are largely independent of saving. Savings are primarily determined by the level of income, itself determined by aggregate demand. The NKE/NEG argument that policy should encourage higher saving is generally incorrect: high saving can mean low aggregate demand, capacity utilization and investment. This is one of the most important differences between the two schools since they lead to directly opposite policy proposals.

8. EK puts a higher priority on full employment than on low inflation; full employment is understood as the rate of unemployment that obtains when everyone who desires employment and is willing to work at the going wage rate for workers with comparable skills is employed. Inflation is seen as the result of distributional struggles between capital and labor which can lead to “cost push” inflation. Again, institutions which socially control wages, prices and the distribution of income are necessary for full employment and price stability – some form of incomes policy. Many (but not all) EK economists argue for government employer of last resort programs as necessary for full employment (Wray 1998).

9. EK sees a strong reinforcing link between demand, cycles and growth: high demand leads to high employment and capacity utilization which leads to high investment which leads to higher productivity in the next period (higher growth).

10. The distribution of income influences aggregate demand. More equality is demand, investment, profit and growth enhancing.
11. EK proposes “demand-led” growth economics; propositions 7, 8, 9 and 10 are not in NKE/NEG; EK is richer, has more explanatory power and more usefulness in informing the design of macro policy. (See the essays in Cornwall and Cornwall 2001, Setterfield 2002 and Nell 1992.)
12. Most EK economists favor some form of exchange rate regime which would reduce exchange rate instability; most NKE economists accept flexible ER systems (Davidson 2002).
13. EK economists favor financial market regulation and see unregulated markets as instability enhancing (Isenberg 2000); most NK economists see financial instability and crises as occasional episodes which can be handled on an ad hoc basis.

What do economists actually believe about macroeconomics?

Most macroeconomic textbooks and surveys of modern macroeconomics such as B. Snowden and J. Vane in their Modern Macroeconomics (2005, Chapter 12) argue that there is an emerging consensus among macroeconomists based upon a New Keynesian-New Economic Growth Theory model. On the other hand, EK economists argue against the validity of this “post Monetarist new consensus” (for critical discussions of the new consensus see Arestis and Sawyer 2004, Nell and Forstater 2003, Lavoie and Seccareccia 2005, and the contributors to the JPKE Symposium cited in note1).

D. Fuller and D. Geide-Stevenson (2003) surveyed a random sample of 1000 AEA members; they report “fluidity” and not much consensus regarding macroeconomics among the (298) respondents to their survey. The reported views on 18

macro propositions indicate as much support for propositions consistent with EK as for NKE or NCE propositions, suggesting that EK views are fairly widely accepted by many economists who don't positively identify themselves with the school and that the EK perspective might become more widely accepted in future.

### Summary and Conclusions

Evolutionary Keynesianism differs from New Keynesian economics with respect to core theoretical propositions, economic policy, and to a certain extent, with respect to pre-analytic beliefs, ideology and values. Contested theoretical propositions include their respective assumptions about uncertainty and knowledge, the role of demand in growth, the linkages and direction of causality between saving and investment, and the importance of the evolution of institutions and economic systems. Contested policy views include the extent to which the state should intervene to promote stability and growth, the effectiveness of fiscal policy and monetary policy, and the relationship between income distribution policy, employment and growth. EK economists give highest priority to full employment policies including low interest rates, expansionary fiscal policy, and inequality-reducing tax, spending and transfer systems. EK economists appear to place a high value on egalitarian, stabilizing social institutions with the understanding that these appear consistent with economic growth as well as constructing “capitalism with a human face.”

### Appendix: Summary Tables of Agreement and Disagreement

Table 1: Agreement between the New Keynesian-New Growth Theory Consensus and Evolutionary Keynesian Macroeconomics.

1. Instability is an inherent characteristic of capitalist economies.
2. One of the causes of instability is aggregate demand fluctuations; one of the causes of involuntary unemployment is insufficient AD.
3. Involuntary unemployment, recessions and slow growth have high social costs.
4. Countercyclical stabilization policy is useful and can be effective.
5. Monetary policy can be effective in short run stabilization.
6. The money supply is endogenous; central banks should target interest rates.
7. Public investment in infrastructure, human capital, education and research can encourage economic growth and are socially desirable.

Table 2: Areas of disagreement between Evolutionary Keynesians (EVK) and the New Keynesian-New Economic Growth Theory consensus (NK-NEG). \* Most important.

1. \*Evolutionary Keynesians assume fundamental uncertainty – Davidson’s “nonergodicity” – especially with respect to risky investment decisions in real and financial assets. New Keynesian assume some form of imperfect and asymmetric information which can be modeled with probability distributions.
2. \*EVK stresses the importance of inherent AD instability, and unstable investment as the primary source of instability. Unstable investment is seen as the result of uncertainty, risk and the importance of investment decisions. NK stress aggregate supply shocks and external AD shocks. EVK sees a higher degree of instability and a stronger connection between financial instability and the real economy (Minsky).
3. \*EVK stresses the role of demand in determining economic growth as well as short run levels of output and employment: “demand led growth” models.
4. \*EVK sees fiscal policy as necessary for stabilization, and high and growing levels of government investment as necessary for high employment and long run growth. EVK is skeptical regarding the power and effectiveness of monetary policy by itself to stabilize the economy and control inflation. Most inflation is seen as the result of distributional struggles between labor, capital and the state which sets wages, prices and taxes. EVK argues for institutions which stabilize wage and price levels, and which link real wages to productivity gains (“income policy”). Ignored or opposed by NK-NEG.
5. \*EVK argues that investment is financed by credit (especially bank lending) and that the link between saving and investment is weak; investment (I) determines the level of Y, and Y determines the level of S; thus I determines S. This reverses the direction of causality between S and I found in NK-NEG, and means that policies intended to encourage I by encouraging S are incorrect.
6. EVK models consider the relationship between income distribution, demand, investment and growth as central; low inequality stimulates demand, profits, investment and growth; NK-NEG ignores or denies the importance of this connection. EVK argues for policies which reduce inequality and increase AD.
7. EVK argues for financial market regulation as necessary to reduce speculation, financial instability, and financial fragility. Generally ignored or opposed by NK-NEG.
8. EVK argues for an international exchange rate system which reduces speculation and exchange rate instability.
9. EVK is skeptical regarding the extent to which unemployment is caused by labor market rigidities and structural change as opposed to caused by insufficient AD; EVK is skeptical regarding policies intended to reduce unemployment by increasing labor market flexibility. Some EVK writers argue for employer of last resort programs to reduce the social costs of unemployment. EVK economists attach a higher priority to lower unemployment than to low inflation.
10. EVK theory supports a greater degree of government intervention, regulation and responsibility for macroeconomic performance than does NK-NEG. EVK economists seem more concerned with constructing “capitalism with a human face.”

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<sup>1</sup> For discussions of the emerging New Keynesian-New Economic Growth Theory consensus from a Post Keynesian perspective, see the Symposium on monetary policy in the Journal of Post Keynesian Economics, Summer 2002 (articles by Arestis and Sawyer, Chick and Dow, Dalziel, Fontana, Fontana and Palacio-Vera, Mariscal and Howells). Federal Reserve Bank of Kansas City, Symposium: Rethinking Stabilization Policy 2002 (especially C. Romer and D. Romer, "The evolution of economic understanding and postwar stabilization policy). P. Arestis and M. Sawyer 2004; Arestis, Baddeley and McCombie 2006; Lavoie and Seccareccia 2005; A. Mulendyke 1998; Snowden and Vane 2005 (especially Ch. 12, "Conclusions and reflections"). John B. Taylor 2000 presents a succinct version of the new consensus model. "Post Monetarist" refers to the acceptance of a version of the endogenous money supply theory.

<sup>2</sup> John and Wendy Cornwall 2001 propose the term "evolutionary Keynesianism" for their synthesis of institutionalism and post Keynesian macroeconomics. Charles Whalen 2007, 2008 discusses the use of the term for the emerging synthesis between Institutional and Post Keynesian economics; it seems an appropriate term as discussed below. For extended versions of this paper see Niggle 2004 and 2006a, which present a brief narrative of the history of macroeconomics since WWII as well as comparison and contrasts between the various schools of thought during this period.

<sup>3</sup>See Atkinson and Oleson 1998, Hodgson 1999, Jameson 2005, and Tymoigne 2003 for discussions of the Institutional-PK connection. Whalen 2007, 2008 presents a very helpful history of the emerging "evolutionary Keynesian" synthesis.

<sup>4</sup> Hyman Minsky's work focused on financial instability and changing perceptions of risk (Minsky 1975, 1982, 1986). It is a good example of EK's approach to the modeling of risk and its implications for macroeconomics.