Keynesian Economics and the New Keynesian / NCM Schools of Thought

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Presentation

1. A Short History of the Relevant Schools of Thought
2. Main Theoretical Features of NCM
3. Keynesian Critique
4. ECB, BoE and Fed Macro Models
5. Consistency of the ECB, the BoE and the Fed Models with NCM
6. Summary and Conclusions

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A Short History of the Relevant Schools of Thought

- Neoclassical Synthesis
- Monetarism
- Rational Expectations and Classical Macroeconomics
- New Keynesian Economics
- New Consensus Macroeconomics

Main Theoretical Features of NCM

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Main Theoretical Features of NCM

- (1) $Y^g_t = a_0 + a_1 Y^g_{t-1} + a_2 E_t(Y^g_{t+1}) + a_3[R_t - E_t(p_{t+1})] + a_4(rer)_t + s_1$

- (2) $p_t = b_1 Y^g_t + b_2 p_{t-1} + b_3 E_t(p_{t+1}) + b_4[E_t(p_{wt+1}) - E_t\Delta(er)_t] + s_2$

- (3) $R_t = (1- c_3)[RR^* + E_t(p_{t+1}) + c_1 Y^g_{t-1} + c_2(p_{t-1} - p^T)] + c_3 R_{t-1} + s_3$

Main Theoretical Features of NCM

- (4) $(rer_t) = d_0 + d_1[[(R_t - E_t(p_{t+1})] - [(R_{wt}) - E(p_{wt+1})] + d_2(CA)_t + d_3E(rer)_{t+1} + s_4$
- (5) $(CA)_t = e_0 + e_1(rer)_t + e_2Y^g{}_t + e_3\, Y^g{}_{wt} + s_5$
- (6) $er_t = rer_t + P_{wt} - P_t$

Main Theoretical Features of NCM

with $b_2 + b_3 + b_4 = 1$ in equation (2). The symbols have their usual meaning, so that a_0 is a constant that could reflect, inter alia, the fiscal stance, Y^g is the domestic output gap and Y^g_w is world output gap, R is nominal rate of interest (and R_w is the world nominal interest rate), p is rate of inflation (and p^w is the world inflation rate), p^T is inflation rate target, RR* is the 'equilibrium' real rate of interest, that is the rate of interest consistent with zero output gap, which implies from equation (2) a constant rate of inflation; (rer)

Main Theoretical Features of NCM

stands for the real exchange rate, and (er) for the nominal exchange rate, defined as in equation (6) and expressed as foreign currency units per domestic currency unit, P_w and P (in logarithms) are world and domestic price levels respectively, CA is the current account of the balance of payments, and s_i (with i = 1, 2, 3, 4, 5) represents stochastic shocks, and E_t refers to expectations held at time t. The change in the nominal exchange rate appearing in equation 2 can be derived from equation 6 as $\Delta er = \Delta rer + p_{wt} - p_t$.

Main Theoretical Features of NCM

- Six equations and six unknowns.
- Basic assumption: intertemporal optimization of a utility function that reflects optimal consumption smoothing;
- Based on the transversality condition meaning that all debts are ultimately paid in full: economic agents are credit worthy; all IOUs are perfectly acceptable in exchange; nobody is liquidity constrained;
- It is a non-monetary model: no private banks or monetary variables.

Main Theoretical Features of NCM

- New Consensus Monetary Policy (NCMP), and Inflation Targeting (IT) in particular, is embedded in equations 1-3.
- ‘Expected inflation’, see equation (3), and the transparency of inflation forecasts is an important element of the policy, but…
- The centrality of inflation forecasts and the margin of errors represent a major challenge to NCMP.

Main Theoretical Features of NCM

- Price stability is monetary policy's primary long-term objective; and inflation is a monetary phenomenon.
- IT is a monetary policy framework whereby public announcement of official inflation target is undertaken.
- Principle of 'constrained discretion': middle ground between 'rules' and 'discretion'.
- Monetary policy is taken as the main instrument of macroeconomic policy, but it should not be operated by politicians but by experts: 'independent' central bank.

Main Theoretical Features of NCM

- Fiscal policy is no longer viewed as a powerful macroeconomic instrument.
- The level of economic activity fluctuates around a supply-side equilibrium, which corresponds to $Y^g=0$ or to NAIRU (non-accelerating inflation rate of unemployment), a supply-side phenomenon.
- Say's Law holds. The level of effective demand does not play an independent role in the long-run level of economic activity.
- The ECB is clear on these aspects. "Real income or the level of employment are, in the long term, essentially determined by real factors, such as technology, population growth or the preferences of economic agents" (ECB Website);

Main Theoretical Features of NCM

- The ECB also argues that “In the long run a central bank can only contribute to raising the growth potential of the economy by maintaining an environment of stable prices. It cannot enhance economic growth by ..... keeping short-term interest rates at a level inconsistent with price stability. It can only influence the general level of prices. Ultimately, inflation is a monetary phenomenon” (ECB Website).
- Openness, Communication, Transparency, Accountability, Credibility, Individual Reputation of MPC Members in the case of the BoE (in view of the published minutes that reveal voting): important ingredients.

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Keynesian Critique

- Main Problems (Theory):
- Liquidity Preference is Absent:
- Central Bank changes the rate of interest and influences the term structure in a stable fashion;
- But the term structure of interest rates is influenced by a host of other factors, most importantly the market power of the banking sector, i.e. liquidity preference;
- No Banks in the NCM!

Keynesian Critique

- Vertical Phillips Curve: most recent evidence is not very supportive; not just the Phillips curve but also the new IS, in terms of single equation and system analysis (see Juselius, M. (2008), “Testing the New Keynesian Model on US and Euro Area Data”, Economics E-Journal, Vol. 2, pp. 1-26).
- NAIRU is a supply-side variable, unaffected by aggregate demand/policy (evidence to the contrary);
- Capital stock might be important (see Arestis et al. (2007), “The Relationship Between Capital Stock, Unemployment and Wages in Nine EMU Countries”, *Bulletin of Economic Research*, Vol. 59, No. 2;
- NAIRU affected by flexible markets, especially labour markets (no evidence: compare flexible US with inflexible EU);

Keynesian Critique

- Price stability has been associated with benefits to the economies pursuing it; but there are problems:
- Estimates for the US show that reducing price level variability by 18% results in an increase in output variability by 21%, and in the rate of unemployment by 19%;
- Price stability might not be sufficient to avoid serious macroeconomic downturns; and history is replete with examples of periods of relative absence of inflationary pressures followed by major economic and financial crises; best example is the recent credit crunch!

Keynesian Critique

- If so, the objective of price stability might have to be applied more flexibly;
- With a longer-run focus than the current monolithic concentration upon it;
- And, also, along with other objectives, such as output stabilisation
- Especially so since achieving price stability does not guarantee output stabilization!

Keynesian Critique

- Main Problems (Policy)
- IT, the main policy implication of NCM, is designed to fight demand shocks, that is demand-pull type of inflation;
- Supply shocks, which produce cost-push type of inflation, cannot be handled, as current experience shows;
- The position taken by IT on supply shocks, is that they should either be accommodated, or that supply shocks come and go – and on average are zero and do not affect the rate of inflation; nor do they impact on the expected rate of inflation;

Keynesian Critique

- The significance of IT on this score is that it strongly suggests that inflation can be tamed through interest rate policy (using demand deflation);
- In addition, there is an equilibrium rate (or ‘natural rate’) of output, which is feasible, and can balance aggregate demand and supply and lead to a zero gap between actual and capacity output;
- But still supply shocks can be important, as we have recently experienced!

Keynesian Critique

- Insufficient attention paid to exchange rate:
- Exchange rate is not included in equation (3); only weighting it into decisions when setting interest rate;
- A change in the rate of interest works via exchange rate variation (evidence from the BoE in the UK suggests that 80% in the first year);

Keynesian Critique

- The pass-through effect of a change in the exchange rate first on import prices and subsequently on the generality of prices, both goods and services, has weakened since the late 1980s.
- Consequently, the stronger real exchange rate has had less offsetting effect on domestic prices than in earlier periods;
- Hence more emphasis on the impact of the exchange rate on domestic inflation and the real economy assumes a different role;

Keynesian Critique

- Impact of interest rate changes may have become more ambiguous; evidence seems to show that capital movements are based more on equities than on other assets: a change in interest rates then may have the opposite effect on capital movements than otherwise;
- A secondary instrument in the form of direct intervention is necessary: central banks should engage in intervention on their own as a monetary mechanism.

Keynesian Critique

- Countries that do not pursue IT type of policies have done as well as those who do.
- Monetary policy used for short-term stabilization purposes but not fiscal policy (due to crowding-out); fiscal policy should only be used for long-term purposes:
- Does IT work in practice as the theoretical framework suggest? Is monetary policy so effective and fiscal policy so ineffective?

Keynesian Critique

- Asset price targeting instead of IT:
- The housing market is in the midst of a bubble, which has created massive consumer and household debt;
- The next period might not be as NICE (Non Inflationary Consistently Expansionary) decade! Actually the legacy of the NICE decade may be the overvalued housing market;

Keynesian Critique

- When inflation shocks forced a significant rise in the rate of interest, pressures on the housing and consumer spending emerged, with a considerable potential for a fall in housing prices and consumption. This is happening now;
- Central Banks might not be in a position to prevent a recession by manipulating the rate of interest. Asset price targeting may be important!

Keynesian Critique

- The transmission mechanism of Monetary Policy has changed:
- The build up of household debt and asset holdings has made household expenditure more sensitive to short-term interest rate changes;
- Also the transmission mechanism has changed from the external effects to more internal effects: housing market, construction, private sector wealth and personal consumption;

Keynesian Critique

- Consequently, the dangers with the current conduct of monetary policy are clear: frequent changes in interest rates can have serious effects;
- Low interest rates cause bubbles; high interest rates work through applying economic pressures on vulnerable social groups;
- Regulatory and prudential controls become, then, necessary. Not forgetting, of course, asset price targeting.

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ECB, BoE and Fed Macro Models

- (1) $Y = C + I + G + X - Q$
- (2) $C = C(Y, NW)$
- (3) $X = X(rer, Y_w)$
- (4) $Q = Q(rer, Y)$
- (5) $rer = [(er)(P_w)]/P$
- (6) $NW = K + PD + NFA$

ECB, BoE and Fed Macro Models

- (7) $Y^g = Y - Y^p$
- (8) $Y^p = (1-a)K + aL^s + T$
- (9) $K = (1-\delta)K_{t-1} + I$
- (10) $I = I[(R- p), Y]$
- (11) $p = p(w, Y^g)$
- (12) $w = w(U, p^e)$

ECB, BoE and Fed Macro Models

- (13) $U = [(L^s - L)/ L^s]$
- (14) $L = L(Y^g, K)$
- (15) $M^D = M(R, PY)$ **BUT NOT FOR THE BoE**
- (16) $R = R[(R-p)^*, (p – p^d), Y^g]$

ECB, BoE and Fed Macro Models

where the symbols have their usual meaning, so that Y is income and Y_w is world income, C is consumption, I is investment, G is government expenditure, X is exports and Q imports, NW is net Wealth (K is capital, PD is public debt, and NFA is Net Foreign Assets). Y^g is output gap, Y^p is potential output, w is the wage rate, U is unemployment, p is rate of inflation, p^e is expected inflation, L is labour, L^s is labour supply, T is productivity trend, R is nominal rate of interest [so that (R-p) is real rate of interest], $(R-p)^*$ is the long-run real rate of interest, p^d is inflation rate target,

ECB, BoE and Fed Macro Models

rer stands for the real exchange rate, and er for the nominal exchange rate, defined as in equation (5) and expressed as foreign currency units per domestic currency unit, P and P_w are domestic and world price levels respectively, M is money (M3 definition), and R^* is the equilibrium real rate of interest. It should also be noted that G, $Y_{w,}$ P_w, p^d, L^s, T, PD and NFA are treated as exogenous for convenience.

ECB, BoE and Fed Macro Models

- Equations 1-6 capture the demand side of the economy. In view of the assumption of sluggish price and wage adjustments, actual output is determined by aggregate demand in the short run, with the standard equations for its main components: consumption, exports and imports, with government expenditure treated as exogenous and investment determined in the supply-side block.
- Equation (5) defines the real exchange rate, and equation (6) net wealth.

ECB, BoE and Fed Macro Models

- Equations (7) to (14) refer to the supply side, with equation (6) defining the output gap.
- The supply side of the model depends on an aggregate Cobb Douglas production function, equation (8), whereby output depends on capital stock, effective labour supply and technical progress.
- Equation (8) is utilized by the ECB and the Fed. The BoE assumes a CES production function and explicitly rules out the Cobb-Douglas production function on the grounds that it does not ‘fit the facts’.

ECB, BoE and Fed Macro Models

- Investment (equation 10) and employment (equation 14) are determined by profit maximisation and inverting the production function, respectively.
- Equations (11) and (12) represent the Phillips curve: equation (12) is the Phillips curve itself (vertical in the long run), and equation (11) should be read as a mark up on unit labour cost.

ECB, BoE and Fed Macro Models

- Equations (15) and (16) represent the monetary side of the model.
- Equation (15) is the demand for the M3 definition of the money stock. Money is treated as a recursive variable in that it has no feedback on the rest of the model. Note that such a relationship does not exist in the BoE and the Fed models.
- Equation (16) is the monetary rule relationship. The variable $(p - p^d)$ is by far the more important variable in policy decisions than Y^g. $(R-p)^*$ is very important but highly problematic.

ECB, BoE and Fed Macro Models

- The BoE and Fed models are more explicit in its modelling and their approach is in that way more clearly NCM than the ECB model.
- This is particularly so in the treatment of monetary aggregates.

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Consistency of the ECB, the BoE and the Fed Models with NCM

- All three central banks are independent from political influence.
- Price stability is primary objective: to maintain inflation ‘close to 2 per cent from below’ in the ECB case; 2 percent with a 1 percent tolerance range for the BoE; no explicit inflation number is evident in the case of the Fed – it is suggested that there is an implicit target of around 2 percent.
- A two-pillar system of evaluating the prospects of achieving this stability in the ECB case: economic analysis and monetary analysis. Not the BoE, where the MPC meets to decide changes in the rate of interest; no monetary analysis. Similarly in the case of the Fed.

Consistency of the ECB, the BoE and the Fed Models with NCM

- FED Monetary Policy
- The current Fed mandate, set by law in 1977 and reaffirmed in 2000, in the Federal Reserve Act, is that it should pursue three objectives in its conduct of monetary policy: maximum employment, stable prices and moderate long-term interest rates;
- It is conceded, though, that “stable prices in the long run are a precondition for maximum sustainable output growth and employment as well as moderate long-term interest rates”.

Consistency of the ECB, the BoE and the Fed Models with NCM

- "The Challenge for policy makers is that tensions among goals can arise in the short run and that information about the economy becomes available only with a lag and may be imperfect" (p. 15, in The Federal Reserve System: Purposes and Functions, downloadable on: http://www.federalreserve.gov/pf/pdf/pf_2.pdf)
- Clearly the Fed framework is not that of IT.

Consistency of the ECB, the BoE and the Fed Models with NCM

- It is clear from this analysis that the ECB monetary policy framework is embedded within the NCM framework but with one important difference. The policy implications are not those of the NCM. In other words, ECB monetary policy is not strictly speaking of the IT type. Especially so in view of the ‘two-pillar’ approach, which is clearly very different from that of the NCM. The Fed is also a non-IT case. The BoE approach is clearly of the IT type.

Consistency of the ECB, the BoE and the Fed Models with NCM

- A number of further differences:
- The desired ‘below but close’ to 2% inflation rate is asymmetric and too low – it has not been achieved for most of the time.
- This is contrary to the BoE case, where the opposite is true: there is symmetry and the IT targets have been met throughout.
- But then non-IT countries have produced low inflation rates. Fed in particular.

Consistency of the ECB, the BoE and the Fed Models with NCM

- Problems do exist in both cases.
- There is a real danger of ECB collapse in the absence of economic integration and without political union – the history of currency unions is very relevant.
- No such danger in the case of the BoE or the Fed!
- ECB's M3 growth has been consistently above the 4.5% reference value and yet not much inflation; economic and monetary analysis not always consistent.

Consistency of the ECB, the BoE and the Fed Models with NCM

- All three central banks, however, emphasise price stability; is this monolithic emphasis (not so much in the case of the Fed it must be said) justified?
- The answer is clearly NO as suggested above. History is very telling with examples, which clearly demonstrate that price stability was followed by unsatisfactory economic performance.
- Witness the credit crunch of August 2007, to mention just the latest example in a series of numerous cases.

Presentation

1. New Consensus Macroeconomics (NCM)
2. Main theoretical features of NCM
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Summary and Conclusions

- The essential features of NCM have been put forward.
- A serious critique is evident.
- The ECB, the BoE and the Fed macro models are embedded in NCM framework.
- But differences do exist both in terms of theory and policy implications.
- Highlighted the differences between the two macro models.
- And also some of the problems.