

THE POST KEYNESIAN CASE FOR THE CYCLICAL CO-ORDINATION OF MONETARY AND FISCAL POLICY

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1. INTRODUCTION

Post Keynesian economists stress the paramount importance of Aggregate Demand (AD) in determining the level of output and employment (GDP) in developed economies. They are strongly of the opinion that modern economies are characteristically demand-constrained. (In the US capacity utilization rates typically vary between 70 and 75 %.) Only very infrequently, primarily during wars, do economies appear to bump directly against supply limitations. One may thus indirectly conclude that most Post Keynesians would be of the opinion that central banks (CB's) generally set the level of interest rates at "too high" a level.¹

Due to the pervasive presence of extreme uncertainty about future states of the economy, and to the pro-cyclical behavior of AD, most firms in the retail sector are price-setters and quantity takers. They attempt to maintain some degree of excess capacity over the cycle, to future revenue and profits. As a result over the short run the Aggregate Supply (AS) relation can be taken as horizontal in inflation-output space (Hence the central importance of AD).

The current world crisis is in many ways a repeat of the Great Recession of the nineteen thirties, with its unprecedented fall in AD and output. The most important differences are the strong positive response to the crisis taken by the world's largest Central Banks (CB's) and Treasuries, thanks to their understanding and acceptance of Keynesian expansionary theories and policies. With regard to monetary policy, in the current crisis all CBs at least in developed economies rapidly reduced their level of short run interest rates towards zero. With regard to fiscal policy, in most developed economies the public sector rapidly became expansionary, due to the in-place existence of Keynesian "automatic stabilizers." In sharp contrast to the 1930's, during the current world crisis no government raised tax rates in the futile attempt to maintain a balanced budget. Automatic- stabilizers rapidly generated large government deficits, cushioning the rate of decline of AD and AS (GDP).

¹This may be because, as members of the financial community, CB's are predisposed to believe that their control instrument, the level of interest rates (the price of time), which greatly influences the rate of change in AD, is more directly related to, and so can better control the inflation rate than the unemployment rate. It may alternatively be due to the fact that most economies do not operate under an "incomes policy", so a positive inflation rate appears to be a natural outcome of the institutional wage-price bargaining process. (China, and a number of Asian economies, do operate under various types of incomes policies where current wage increases are based on the rate of labor productivity growth observed in the previous year. Such economies are rapidly growing and appear to be less demand-constrained.)

As one consequence the current downturn has been enormously shorter than the downturn in 29. There already appear to be “green shoots,” suggesting the downturn may soon stop and gradually reverse itself. Nevertheless there remains massive concern about the continuing rise in unemployment rates, the unprecedented level of government deficits, the enormous ratios of debt/GDP and money/GDP, and the inflationary implications of the unprecedented increases in the money supply. As a result there is now increasing resistance to future increases in government deficit spending. Many governments are currently studying the questions: how soon should taxes be increased, interest rates be raised, and budget deficits be reduced?

2. CURRENT MAINSTREAM MACROECONOMIC THEORY

In current New Consensus in Macroeconomics (NCM) models, sometimes termed Dynamic Stochastic General Equilibrium (DSGE) models, in order to make rational expectations models analytically tractable it was necessary to impose several strict simplifying assumptions. One such was the assumed existence of an economy of representative agents, who never default, so all units are assumed to be able to pay off their debts.

This has somewhat underhandedly been termed the **transversality condition**, since it includes several remarkably, even absurdly, strong assumptions. As Charles Goodhart stated, the **transversality** condition in fact, “*does away with all risk premia, all informational constraints, all need for financial intermediation (banks, etc.) and even really with the need for money*”.² Willem Buiter stated his criticism of the **transversality condition** as follows: “*In many (most?) of the most popular and calibrated (I won’t call them empirical) macro-economic dynamic stochastic general equilibrium models, the concept of liquidity makes absolutely no sense. Everything is perfectly liquid. Indeed with complete contingent markets, there is never any default in equilibrium, because every agent satisfies his inter-temporal budget constraint. All contracts are costlessly and instantaneously enforced. Ad-hoc cash-in-advance constraints on household purchases of commodities and securities do not create behavior/outcomes that can be identified with liquidity constraints.*”³

A huge gulf also remains between the assumptions of current mainstream monetary theory, and the actual operation of monetary policy by modern central banks. Most textbooks start with the assumption that central banks set the monetary base, with short term rates being endogenously market-determined, in contrast to the reality that Central Banks (CB’s) set the short term interest rate (Bank Rate), rendering the money supply (M) and the monetary base (B) endogenous, and the money supply function horizontal in interest-money space.⁴ This has led to an even more serious mistake: the level of the money supply (M) is assumed to be set via a **monetary-base multiplier process**. This assumption abstracts from virtually all the variables that in practice determine money supply growth: the private sector’s demand

² Goodhart, 2009.

³ Buiter, 2008; quoted in Goodhart, 2009.

⁴ Moore, 2009.

for bank credit, the supply price of primary government and private securities, and commercial bank profitability, capital adequacy, and risk aversion, etc.⁵

Most economic undergraduates get their initial textbook exposure to macroeconomic theory in the form of Hick's IS/LM model. This model assumes the existence of a downward-sloping IS curve, (the combination of interest rates and income that assures equilibrium $AD = AS$ in all goods markets), and an upward-sloping LM curve (the combination of interest rates and income that assures portfolio equilibrium $AD=AS$ in all financial markets). The intersection of the IS and LM curves purports to determine a position of general equilibrium, where both the goods markets, and the financial markets, are in equilibrium. But since real world economies are complex adaptive systems where change is the only constant, a position of general equilibrium in all markets can never occur.

But no real world economy or real world CB can ever be realistically described in this way, since no general equilibrium position has ever occurred, or even been approached. Instead CB's directly set the short term official interest rate (Bank Rate), when they provide the price of borrowing (liquidity) in a flexible exchange rate regime, or directly maintain a fixed exchange rate peg against the currency of another country which in turn has a central bank that sets an official short term interest rate, when they operate in a fixed exchange rate regime. This means that in terms of the IS-LM diagram, the LM curve effectively becomes horizontal at the current Bank Rate. The IS curve in fact does not exist, since planned investment is never equal to planned saving. But actual saving is always the accounting record of investment, so the two are identical. The IS curve must simply be replaced by the downward-sloping AD relationship.⁶

There is consequently a huge discrepancy between CB discussions about current monetary policy which are couched in terms of how the policy rate should be varied, and with academic analysis which is couched in terms of how much the CB should vary the high-powered Monetary Base. (If the existence of a unique general equilibrium is nevertheless assumed, there is admittedly a dual relationship, so a given interest rate does imply a particular level of the monetary base. But this is of no help, since under real world levels of uncertainty CB's would never know what level of interest rates would be associated with what particular levels of the monetary base, or *vice versa*.)

Do Central Banks control interest rates (R) or the high powered Base (B)? This critical question led to the famous (1970) Poole article, which concluded that the case for choosing to control either R or B depended on the instability (unpredictability) of the demand for money in financial markets, relative to the instability (unpredictability) of the demand for credit in the goods markets. The instability in financial markets is much greater in the short

⁵ Moore, 1988,2009 .

⁶ Moore, 2006.

run than instability in goods markets. (Interest rates and stock prices can vary enormously within a day.) This was the case for choosing to control R rather than B.

Nevertheless the unpredictability of the demand for money function in goods markets brought about demise of official monetary targeting in the 80's. CB's simply did not know the quantity of base they should set to achieve their stabilization goals.

But none of the various monetary targeting mechanisms, including Volker's famous strict non-borrowed reserve target, ever denied commercial banks' access to additional cash at a predictable interest rate (although borrowing at the discount window does involve an additional non-pecuniary cost). The reason why CB's set interest rates rather than monetary aggregates was based on their overriding obligation to preserve financial market stability, not to any rate-of-inflation versus rate-of-employment-gap policy control goals.

Commercial banks are price-setters and quantity-takers in both their retail loan and deposit markets. In overdraft systems banks provide loans as demanded to all borrowers whom they have judged to be credit-worthy, up to some pre-designated credit line or ceiling. Bank loans operate like credit cards. Banks must maintain the convertibility of their demand deposits into cash on demand at all times. As a result commercial banks cannot operate in a fractional reserve system with relatively low ratios of cash and liquid assets, without the assured continuous recourse at a predictable interest rate to cash-on-demand or liquidity, if they are to be able to maintain the general acceptability and liquidity of their deposits as a means of payment.⁷

The base -money multiplier ($M = m B$) expression is a definitional identity, derived from two other definitional identities:

(1) $M \equiv D + C$ (the money supply is defined as the sum of total deposits plus currency in the hands of the public)

(2) $B = R + C$ (the high-powered Base is defined as bank reserves plus currency outstanding).

To derive the money multiplier, $m = M/B$, divide (1) through by D , and then divide (1) by (2), so $m = \{1 + C/D\}/\{R/D + C/D\}$

Since the multiplier is simply a definitional identity it can say nothing whatsoever about the direction of causality between changes in the base and changes in the money supply. Once it is understood that the CB sets the level of short term interest rates, it becomes clear that the so-called "money multiplier" determines the quantity of high powered base money and bank reserves that CB's must create, in order to maintain the targeted rate of interest. The base-money-multiplier thus works in reverse. It determines the size of the base (B) required for a specific interest rate, not the size of the money supply (M) required to create a particular level of interest rates.

⁷ Moore, 1968, 1988.

This change has not as yet been generally understood, and does not yet appear in the undergraduate textbooks. Many texts now incorporate a Taylor reaction function *and* a standard high-powered-base “money multiplier”. The CB is therefore supposed to control the base (B), in order to determine the money supply (M), in order to set the interest rate!⁸

This high-powered-base “money multiplier” misunderstanding has been the cause of serious policy errors by central bankers. It was generally believed that raising the required reserve ratio, e.g. by calls for Special Deposits, has the restrictive effect of directly reducing the money supply. But in practice, in order to maintain the given interest rate CB’s must provide the extra reserves required, by buying liquid assets from the banks. Since such reserves are *required* to be held, and generally offer a lower or zero interest rate, the net effect of calls to raise required reserve ratios is to make banks both less liquid and less profitable. This induces them to raise their markups between lending rates and deposits, and to shift their portfolios toward higher-yielding and riskier loans.

Reserve requirements should be viewed as a special tax on the banking system, rendering banks both less liquid and less risk-averse. Insofar as such taxes can be avoided by shifting asset locations, they will do so.

It is similarly widely believed that Central Banks (CB’s) have a choice whether to sterilize or not to sterilize their interventions in foreign exchange markets. But so long as they are obligated to maintain a policy-determined domestic interest rate, in practice they have no such choice. Foreign exchange intervention must automatically be sterilized if they are to maintain their policy-mandated level of interest rates.

During the 2007-08 financial crises, when banks wanted more cash they were automatically given it by their central banks, in all countries. Later during the crisis, when due to counterparty risk banks became unwilling to lend to each other in the three-month interbank market, the three-month Libor rate rose sharply relative to overnight rates. To reduce this rate, CB’s had either to lower the short-term policy rate, or undertake an *operation twist*. This involves trying to keep overnight rates close to the stipulated policy rate by buying three month paper, and then offsetting the effect on bank reserves by borrowing overnight, in the attempt to keep overnight rates close to the policy rate. In the past such twist operations have frequently been unsuccessful.⁹

In another famous article Sargent and Wallace purported to demonstrate that if the policy interest rate was exogenously set, both the economy and the price level would become unstable and explode, whereas if CB’ set the money stock, the monetary system would be stable.¹⁰ This specious argument ignored the historical fact that CB’s have been setting interest rates on a regular basis for years, with no accompanying price level instability. CB’s

⁸ Moore, 1988, 2006, Goodhart, 2009b.

⁹ Goodhart, 2009, 360.

¹⁰ Sargent and Wallace, 1975.

do not fix interest rates at some constant exogenous level and keep them there. They vary interest rates pro-cyclically and exogenously as their chief policy instrument, in response to current and anticipated future inflation and output developments, in an attempt to realize the stabilization goals of price stability and full employment.

The resolution of this conflict between reality and theory has at last been resolved by the realization that in reality, CB's do not set interest rates at some exogenous level and keep them there. They frequently vary the policy interest rate exogenously, in response to current and expected future macro-economic developments, with special emphasis on inflation forecasts.

The division between the reality that CB's set interest rates not monetary quantities, and mainstream theory that CB's set the high-powered Base and so the money supply, has finally been resolved, at least at the graduate level, in favor of reality. But this resolution has not yet occurred in the undergraduate macroeconomic text book market.¹¹

This is encapsulated in the Taylor reaction function:

$$R = a + b(\text{pdot} - \text{pdot}^*) + c(y),$$

where R = the policy rate, pdot = the forecast inflation rate, pdot^* = the target inflation rate, and y = the output gap. The Taylor principle maintains that price stability will be achieved providing $b > 1$.

The Taylor reaction function asserts that CB's decide on the present change in interest rates primarily on the basis of their forecasts of the future deviations of inflation from its target range. But since in practice CB's base the current change in interest rates on their forecasts of future deviations of inflation from its target, and of future output from potential, the forecasts that triggered these decisions are not easily available. This can make a huge difference to the econometric results in trying to estimate Taylor reaction functions.¹²

There are several features of the current credit crunch that are quite distinct from changes in measured interest rate spreads, for example: the denial of access to credit to all sub-prime borrowers: the severe tightening of credit lines for all borrowers maintaining access to credit, etc. But these features are highly correlated with spreads, so for forecasting purposes the existing models may be able to accommodate these events.

There remains a debate as to whether the current financial crisis was primarily driven by liquidity, or by credit default worries. These two concepts are closely inter-twined. Concern about credit-worthiness can lead lenders to refuse to roll-over loans. Concern about illiquidity can drive banks and financial systems into insolvency problems. The anticipation of potential defaults leads to a contraction of credit. This does most of its damage without the

¹¹ Moore and Boermans, 2010. (forthcoming).

¹² Goodhart, 2009.

necessity of formal default events. But the inherent lack of realism in the current consensus model, with no central role for borrower default, can hardly be over-emphasized.

3. THE IMPORTANCE OF COORDINATION BETWEEN FISCAL AND MONETARY POLICY

In all modern economies Central Banks (CB's) set the interest rate that they believe will enable the economy to attain their desired stabilization goals of price stability and full employment. But when animal spirits are thoroughly depressed, even zero levels of interest rates may be insufficient to induce in the short run the level of spending desired to realize the goal of full employment AD and output. This was the situation the world found itself in the 1930's, and has been termed a "Liquidity Trap". Keynes recommended additional government spending in this case, to raise AD to the level sufficient to generate full employment output.

But conservatives in many countries have now become thoroughly pessimistic about governments' ability to deliver, on any of their promises. Most governments, particularly in developing economies have very little ability to produce goods and services with the effectiveness of the private market. Almost all conservatives have convinced themselves, and have made their political reputation, as fierce critics of government waste and inefficiency. (Note that not a single Republican senator was willing to vote for President Obama's \$800 Trillion government expenditure package.)

The times when liquidity traps are generated are widely lamented by everyone. Unemployment is up, output is down, and it does not appear possible to stimulate the economy sufficiently to reach full employment levels of output in the medium run, while masses of people remain unemployed, hungry and angry. In addition the recent crisis has resulted in unprecedentedly large increases in the money supply, and the level of government borrowing.

As debt-GDP ratios increase, it appears increasingly likely that governments are rapidly approaching or have even reached, their debt "limit". There is also the belief that the knowledge of increasing tax obligations to repay these debts will operate in the future to depress current consumption spending, the so-called Ricardian equivalence theorem.

But conventional D/GDP ratios must be replaced by debt service/ratios: the ratio of interest service costs to GDP (rD/GDP). Since debts can always be rolled over, the interest cost or debt service ratio (rD/GDP) is the more appropriate measure of debt burden. It is widely believed that debt/income ratios above 100% constitute a kind of flexible upper limit for public debt. But in steady states the debt burden comprises solely the ratio of debt service costs/GDP. At very low interest rates, the debt service burden is dramatically reduced. It is not widely recognized that the current Japanese Debt/GDP ratio exceeds 250 percent. But due to their long historical period of low interest rates, the average interest rate on

government bonds is about 1%, and the debt service burden (rD/GDP) is a manageable 2.5 percent.

Rather than being a cause for extreme depression, liquidity trap situations could alternatively be viewed as times of exceptional social investment opportunities. Granted most governments are unable to produce private or public goods and services as efficiently as the private sector. But governments have one huge advantage: they have a much longer time horizon than the private sector, and they know the current recession will not last forever. As a result they are willing to invest, even at times when *“animal spirits”* are at their lowest levels, since unlike private firms, they do not have to show a profit in every period. They are thus able to finance the construction of public infrastructure projects, even when short run private prospects are dismal, since governments have no annual profit and loss statement to satisfy.

Even though they may be much less efficient than private firms in designing, carrying through, and administering infrastructure investment projects, it is nowhere written that governments must construct these projects themselves. They should instead put the projects out for bid, by private sector firms who have a comparative advantage in efficient construction and delivery, as is typically done by all governments currently for highway and road projects.

The possibility of private employment and profits also has the potential to make public infrastructure projects very attractive from a political viewpoint, since private capital can be expected to be enthusiastic about the prospect of privately creating public goods, so long as they can be domestically produced and do not compete with goods currently produced by the private sector.

Military expenditures were long regarded as the choice type of private spending, since they did not compete with goods produced by the private sector and offered private firms very profitable investment projects. In contemporary circumstances, the ideal public project would be social infrastructure investments to reduce climate warming: the insulation of existing buildings to save energy, and the development of alternative energy sources such as wind, tides, geo-thermal- and solar-generated power projects. Even the most conservative businessman would be in favor of the private construction of social infrastructure projects, whose expected returns substantially exceed the low interest rates generally ruling in liquidity trap situations, when animal spirits have flagged and there is little demand for private investment projects.

There is also the accompanying recognition that in credit money economies, total saving is no longer volitional but is simply the accounting record of investment spending.¹³ Expenditures on social infrastructure to prevent climate warming could easily become the

¹³ Moore, 2006.

aggregate demand replacement for increasing military spending in wartime. It is now widely recognized that the massive government spending for WWII was largely responsible for pulling the US out of the Great Depression of the 1930's. Green expenditures, designed to economize on energy and reduce climate warming, could become the AD replacement of WW's, for the 21st century. In liquidity trap situations, all such expenditures can be extremely cheaply financed, and so their high rate of return can be assured.

Climate warming could become the 21st century macroeconomic equivalent of World Wars in the 20th century. Intelligent leadership can make a huge difference in how the world responds to such new opportunities. Particularly in liquidity trap situations, it should not be an impossibly difficult sell to persuade electorates across the globe to exchange increased spending on energy saving, for the sake of the future health of our planet, for increases in military spending to permit us to dominate our neighbors. The choice is ours.

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