

# Plurality in Teaching Macroeconomics

ROHIT AZAD

For economists, the Great Recession—the worst crisis the world has seen since the Great Depression of the 1930s—has highlighted the need for plurality in macroeconomics education. Ironically, however, there is a move towards greater insularity from alternative or contrasting points of view. Whereas, what is required for vibrant policymaking is an open-minded academic engagement between contesting viewpoints. In fact, there does not even exist a textbook that contrasts these contesting ideas in a tractable manner. This pedagogical paper is an attempt to plug that gap by presenting a comparative study across different traditions in macroeconomics in a unified framework, which can be developed into a semester-long intermediate-level course.

In the aftermath of the Great Depression, there was turmoil in the field of economics, which resulted in the Keynesian Revolution. However, the current Great Recession, the worst crisis that capitalism has faced since then, has failed, at least so far, to generate a significant change in the direction of teaching and practice of macroeconomics. For example, any standard undergraduate/graduate textbook on macroeconomics has more or less remained intact despite such a fundamental question raised on macroeconomics in light of the global crisis. I believe one of the central reasons for this inertia is that finance (unlike monetary theory and policy), the centre stage of the current crisis, does not form the core of the building blocks of new Keynesian economics, the workhorse of today's macroeconomics.

This seems bizarre, as if nothing has happened, and the economists are just going about doing business as usual. Without going into the politics of why this is so, let me just focus on how macroeconomics ought to be taught to students at the intermediate level, which gives them an overall perspective on the subject.

Macroeconomics as a subject proper came into existence with the writings of John Maynard Keynes.<sup>1</sup> There were debates during his time about how to characterise a capitalist economy, most of which are still a part of the discussion among economists. Keynes (1936, 1937) argued that capitalism is a fundamentally unstable system so the state needs to intervene to control this instability.

Keynes (1936) has been interpreted in different, often contradictory, ways. In today's context, they can be broadly classified in two categories: post-Keynesian and new Keynesian. I would like to place the IS-LM model, the starting point or most of the undergraduate textbooks,<sup>2</sup> as a precursor to new Keynesian framework and hence a part of the latter because it belongs to a similar interpretation of Keynes, and the new Keynesian 3-equations framework can be easily compared to the IS-LM model.

The central distinction between the two interpretations lies in what constitutes the short run. For the new Keynesian framework, it is the period during which prices are rigid, whereas for the post-Keynesian tradition, it is one during which investment is rigid. On the other hand, the similarity lies in the non-neutrality of money in the short run even though the reasons for why this is so are entirely different. Their long-term versions, therefore, are when prices are fully flexible and investment is endogenised respectively. Full price flexibility in the new Keynesian tradition makes money neutral, which is the opposite of what Keynes arrived at, and the supply side takes over in determining the growth of an economy. For the post-Keynesian version, money and demand matter in the long run as well. Given that the primary focus of the paper is on short-run macroeconomics, I will stick

Rohit Azad ([rohit.jnu@gmail.com](mailto:rohit.jnu@gmail.com)) teaches at the Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi.

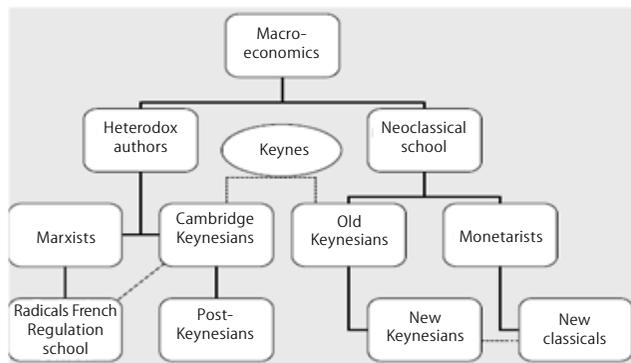
to just that. However, my argument of a holistic approach to macroeconomic pedagogy holds true for growth theory as well.

Ideally, a macroeconomics curriculum as a pedagogical exercise should give equal weightage to the two traditions to provide the students with the bigger picture so to speak. This is more so because the policy prescriptions flowing out of these paradigms are palpably at variance with each other and such a training can help the students make an informed judgment.

This paper is divided in four sections. Since old/post-Keynesian economics is missing in mainstream pedagogical tradition, I start the first section with that and show how it is more consistent with Keynes's own view. This is followed by the new Keynesian tradition. The third section compares the two traditions and the last section concludes the paper.

Figure 1 shows the different traditions of macroeconomics (Lavoie 2011). Of the current traditions, this paper covers two of them in detail.

**Figure 1: Keynes and the Post-Keynesian Tradition**



Source: Lavoie (2011).

**The Keynesian Problématique**

Keynes (1937) presented a simplified version of his arguments made earlier in Keynes (1936). The central question that Keynes (1936, 1937) raised was whether capitalism is a self-regulating system, that is, whether it can reach full utilisation of capital and/or labour or is it fundamentally unstable. That is to say, in general, is there is a simultaneous underutilisation of capital and unemployment of labour?

The theoretical superiority and rigour of Keynes (1936, 1937) comes from the fact that he could demonstrate the instability in a world with full (output) price flexibility (competitive markets). This to my mind is one of the central distinctions between Keynes and the new Keynesian tradition.<sup>3</sup> Unlike Keynes (1936), the new Keynesian version assumes imperfect competition with rigidity in prices, which provides non-neutrality to money. Is this distinction important? I believe Keynes's abstraction of a world with flexible prices is to show that even in a world of full price flexibility, both labour and capital can remain underutilised, so, price/wage rigidities are not the cause of unemployment. That perfect competition is far removed from reality is not a weakness of Keynes's (1936) argument. Instead, I believe, this theoretical abstraction shows the beauty and resilience of his argument against the orthodoxy prevalent during his time (and ours as embodied in the mainstream tradition today).

Prior to Keynes, it was believed in the Marshallian tradition (as is in the new Keynesian tradition today) that there could be unemployment of labour provided there is a downward rigidity of real wages in the labour market, which restricts labour demand ahead of its supply at that level of real wages. So, unless these rigidities are removed, unemployment cannot be removed (Figure 2). So, the causality moved from: Real wage rigidity → employment → output (through the production function).

On the contrary, Keynes's explanation for unemployment was just the reverse (Figure 3, p 53), that is, since the causality moves from:

Investment (*I*) → output (*O*) → employment (*E*)  $\bar{w}$ , marginal cost (*mc*) → prices (*p*) (hence the real wages  $\bar{w}/p$ ), investment is primarily the source of it.

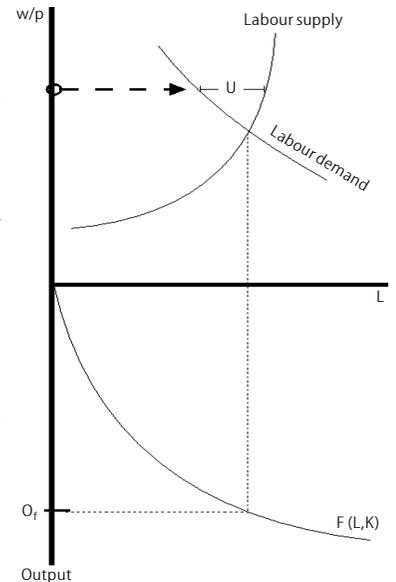
But what determined the level of investment?

Keynes (1936) elaborated on the above mechanism of determination of investment in the famous Chapter 17 of his book. Assets can be divided into three categories: capital asset (for example, wheat, steel, factories, etc), claim over capital assets (bonds, shares, futures, etc) and money (cash, demand deposits) with increasing order of liquidity in that sequence. Drawing the money line between the latter two categories is purely subjective depending on the issue at hand, so in certain cases, short-term deposits can be a part of money whereas in certain others, it cannot (definitions of M1, M2, etc).

Each of these assets have three characteristics in varying degrees of value: yield (*q*), carrying cost (*c*) and liquidity premium (*l*). The own rate of own interest of any asset, say wheat or bonds or money, which is the internal rate of return of an asset in terms of itself, is given by  $q - c + l$ . This own rate of own interest is of course not comparable with each other since they are denominated in respective commodities.

For comparability, they need to be converted into any<sup>4</sup> common denomination, which would require adding a component that measures the expected change in the value of the asset under consideration in terms of the common denomination. For convenience, let us take that common denomination as money. In that case, if  $a_s$  is the expected price appreciation of a capital asset in terms of money, say steel, and  $a_b$  of a claim over a capital asset, say a bond, then on the margin, the returns between these three categories of assets should be the same for all three to be held. In the absence of that, the demand for the asset, which has the

**Figure 2: Real Wage Rigidity and Classical Unemployment**





---

---

**SOME THEORETICAL CONSIDERATIONS**

---

---

the level of total demand, and hence output through the usual Keynes–Kahn multiplier (second quadrant in Figure 3b). This output, through the marginal cost curve (which can be drawn only if nominal wages are given), determines the level of price (first quadrant in Figure 3b) and real wages (fourth quadrant in Figure 3b). It is clear that rigidity of nominal wages enters the system only at a later stage, that is, of price determination. For output determination, which is what Keynes was more concerned about, rigidity of wages plays no role, the exact opposite of the new Keynesian tradition, which is discussed later.

Let us now locate the continuation of this thought in the post-Keynesian tradition, followed by the fundamental departure from this thought in the new Keynesian tradition.

**Points of Departure in the Post-Keynesian Tradition**

The post-Keynesian tradition eventually developed through the writings of one of his contemporaries, Michal Kalecki (1971) and his colleagues at Cambridge, Nicholas Kaldor (1986) and Joan Robinson (1971). There are two fundamental ways in which the post-Keynesian tradition appends the arguments made by Keynes (1936), but they in no way alter the basic argument or the structure of his theory in my opinion. Out of the three independent variables in Keynes (1936)—MEC, interest rate, and propensity to consume—the post-Keynesian tradition alters the role and nature of the second primarily.<sup>5</sup>

**Broadening the Role of Finance**

Finance plays a shadow role in the broader scheme of things of Keynes's theoretical structure. It primarily enters the system through the interest rate (price of finance).

**Volume of Credit**

Kalecki (1937) expanded the scope of finance by bringing in the volume of finance, which, quite aside from its price, limits investment.<sup>6</sup> He argued that the assumption of a risk premium independent of the level of investment in Keynes (1936) under the conditions of external finance is not justified. In fact, the risk increases as the level of debt as a proportion of equity capital (gearing ratio) rises for two reasons. It endangers the wealth position of the borrower as well as the increase in “illiquidity” in the event of a distress sale. If not the borrower, at least the lender who is entrusting the former with her own capital will assign a higher risk premium with a rise in the gearing ratio beyond a certain point (at/after the point denoted by own capital of the borrower). As is obvious, a firm with lower own capital will have the risk curve rising much ahead of a firm with a higher own capital, thereby, leading to a comparatively lower level of investment for the smaller firm. This argument brings the issue of finance (external credit), which was lurking in the background in Keynes (1936), to the forefront of his theory.

This contribution adds an additional layer to the instability of the investment process in Keynes (1936). Not only is the MEC fragile, its coming to fruition itself is linked to the availability of finance. This is an important contribution since it makes credit an active player in the process of investment. So, it is not just the price of the credit (the interest rate) that matters for investment,

the volume of credit as determined by the financial system is as much, if not more, important in limiting the level of investment.

Minsky (1975), taking this argument further, argued that instability in availability of finance creates the business cycles. Expectations about profits are based on current conditions, so during periods of optimism, capitalists might over-invest both because of low borrower's as well as lender's risk. This increases their gearing ratio since they borrow more as a proportion of their equity, thereby increasing the gearing ratio, but servicing this debt requires cash flows. So, he discussed three regimes of finance: hedge (cash flow is more than both the principal and interest commitments), speculative (cash flow is enough to only pay for interest commitments and not the principal), and ponzi (cash flow is less than both), which this process of investment expansion results in, in that order. Such a movement towards financial fragility leads to bankruptcy of firms indulging in ponzi finance. More the number of such firms, more is the possibility of a financial crisis, thereby increasing the lender's as well as borrower's risk further. This restricts investment and ultimately leads to its collapse.

**Price of Credit**

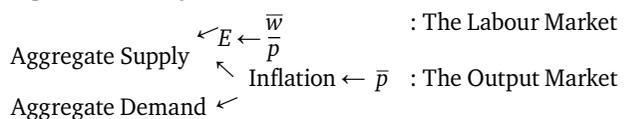
In Keynes (1937), the rate of interest was determined by the stock equilibrium in the demand and supply of inactive balances. Since the supply of inactive balances is fixed, and its demand is inversely related to the rate of interest, the rate of interest adjusts to bring the latter in equilibrium with the former. So, the supply of money is exogenous while the rate of interest is endogenous.

As opposed to this, Kaldor (1986) argued that in the modern world of fiat money, supply of money could not be exogenous. In fact, it is the interest rate that the central bank can effectively control, particularly the short-term rates of interest (for example, the federal funds rate in the United States). At that short-term rate of interest ( $i_s$ ), the level of money demand determines the supply of money. What matters for investment, if at all, is the long-term rate of interest ( $i_l$ ) since the terms of two assets, that is, capital goods and financial assets, have to be comparable. The two rates are linked according to what has been termed the transmission mechanism in this literature.

Since investment is dependent on long-term rate of interest, which itself does not follow a one-to-one relationship with short-term rate, the policy tool, it limits the scope of monetary policy as a countercyclical instrument during a business cycle.

**New Keynesian Framework**

Without any loss of generality, one could state that the other interpretation of Keynes (1936), popularly known as the new Keynesian economics today, reads the Keynesian problematique from the right to the left, that is,

**The Basic New Keynesian Framework**

One could see the IS–LM version of macroeconomics as a precursor to the new Keynesian framework. While the Hicksian

IS–LM–PC model shows that rigidity of prices can stop the economy just ahead of its full employment potential (LM curve drawn for a given price level resulting in a downward sloping aggregate demand curve in price), it does not provide the logical structure that produces these rigidities. The new Keynesian attempt is to provide microeconomic foundations to the otherwise ad hoc assertion of wage–price rigidities in the old IS–LM–PC version. While the broad structure remains intact (in terms of causality), the new Keynesian approach provides micro-foundations set in an environment of rational expectations with optimising agents to the observed characteristics as seen in the simplified IS–LM–PC version. In fact, the new Keynesian approach is visualised in terms of three similar relationships.<sup>7</sup> A key difference from the IS–LM–PC arises from the treatment of the LM curve, which becomes flat in the new Keynesian framework since the central bank intervenes through the interest rates and not through controlling the money supply (Romer 2000).

Research in this tradition is divided on studying the output and labour markets. Involuntary unemployment has been explained by showing various mechanisms through which rigidity in real wages manifests itself. On the other hand, disequilibrium in the output market is generated through some form of price rigidity. Let us look at the labour market first. The causality here is critical since the fundamental source of unemployment is some form of rigidity in either the price or the wage or both.

### Labour Market and Real Wage Rigidity

Different attempts have been made in this tradition to explain why the labour market stabilises at real wage rates higher than its market clearing level, thereby generating involuntary unemployment. They can be categorised as follows: (i) efficiency wage due to adverse selection, labour turnover, shirking, fairness; (ii) insiders wield a higher bargaining capacity than the outsiders.<sup>8</sup>

### Efficiency Wage Theories

These theories maintain that the productivity of workers are directly proportional to the level of real wages. So, the same number of workers could produce more if the real wages are more. Does that mean that you keep increasing real wages? No, because the rate of increase of effort itself diminishes as the real wages rise. Firms would try to minimise the wage cost per efficiency units, so it is possible that this efficiency real wage is greater than the market clearing equilibrium wage. These theories also attempt to explain why the efficiency rises with real wages.

Adverse selection model talks of the signalling by firms through higher real wages to the workers with best abilities to avoid the “lemons” in the labour market (Weiss 1980). Salop (1979) showed that with high turnover costs of hiring and firing workers, firms are willing to pay higher real wages to deter them from quitting. To control shirking by workers, which is otherwise difficult to measure, firms are willing to pay higher real wages (Shapiro and Stiglitz 1984). Workers might not just be worried about their wages alone but also the relative wages,

so the firms in their attempt to being “fair” to their workers, pay higher wages (Akerlof 1982).

### Insider–Outsider Models

These models focus on the reasons why those unemployed do not offer labour at lower than prevailing wages, thereby bringing the labour market equilibrium where all those offering to work are indeed employed. Here, unlike the case of efficiency wages, where firms are willing to pay extra for higher productivity, it is the interaction between the insiders and the outsiders which ensures that real wages are not bid down.

Knowing that there are costs involved with firing the insiders and hiring the outsiders, for example, search costs, severance pay and litigation costs, and training new employees, the insiders use this as a leverage to negotiate for higher real wages. Presence of labour unions increases this leverage further as they can decide to go for actions like strikes and shut-downs, thereby increasing the costs till their demands are met. To avoid these costs, firms acquiesce to these demands, thereby creating a wage differential between the insiders and the outsiders.

A canonical representation of such disequilibrium in the labour market is shown in Figure 3. In the first quadrant, the level of unemployment  $U$  is generated because the real wages fail to adjust to their “natural” level. This is shown through the arrow originating on the y-axis in the first quadrant. To make the comparison between new Keynesian macroeconomics and old/post-Keynesian framework, readers are encouraged to contrast the first quadrant in Figure 5 (p 57) with Figure 3b. So, while the causality runs from real wage rigidity (y-axis) to employment (x-axis) in the new Keynesian framework, it is the exact opposite in Keynes with the arrows moving from the x-axis to the y-axis.

### Product Market and Price Rigidity

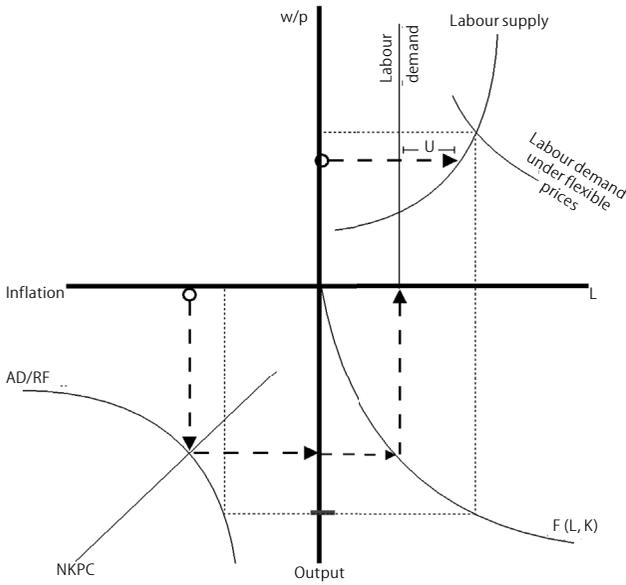
Aggregate demand plays only a passive role because it is assumed to be sufficiently elastic to price changes (similar to the IS–LM version). So, if only the prices were completely flexible (a vertical supply schedule), there would never be a problem of lack of aggregate demand because price adjustment will take care of any disequilibrium in the output market. Therefore, most of the theories in this tradition focus on the reason for why prices are not flexible.

### Aggregate Supply Function

The aggregate supply (AS) curve is central to this framework. The attempt here is to show that prices are not completely flexible (AS curve is not vertical), so a macroeconomic shock results in part price and in part quantity adjustment along an upward sloping AS curve. Such shocks, therefore, persist through fluctuations in output and employment around the full employment equilibrium. Before we go into the reasons for why prices are rigid, let us see how this generates an aggregate supply curve which is positively sloped in the inflation–output plane (see the third quadrant of Figure 4).

The new Keynesian price mechanism is derived from the micro-foundations of optimal pricing by firms with some degree of price rigidity. It is captured by assuming that in each

Figure 4: Macroeconomic Equilibrium in the New Keynesian Framework



period, a fraction of firms do not reset their price to its profit maximisation level, that is, where marginal revenue equals the marginal cost (Calvo 1983). As output rises, marginal costs rise, which should have translated into a rise in prices, but not all firms do that simultaneously. Hence, prices rise, but not to the same extent as they would have had all firms followed the profit maximisation exercise. The fact that there is always a fraction of firms sticking to their past prices creates some degree of rigidity in the overall inflation, the degree of which is directly proportional to that fraction. This gives us a positively sloped AS curve. But why are the prices rigid in the first place?

New Keynesian models are based on firms engaged in imperfect competition, that is, the firms, instead of being price takers, are price-makers. So, the firms choose both the price and output depending on the principles of profit maximisation. A firm will increase its production by one unit only if the additional revenue generated is greater than the additional production cost. This additional revenue itself will depend on the extent of an increase in sales and the fall in prices. If the sales increases proportionately higher than the fall in prices, additional revenue will be generated (this proportion is measured by the elasticity of demand). On the other hand, the increase in marginal cost will depend on the increase in labour cost arising out of the falling marginal productivity of labour. Firms' profit maximising point will be where the additional revenue is equal to the additional cost, that is, the famous microeconomic condition for imperfectly competitive markets, marginal revenue is equal to the marginal cost. So, the price chosen will be such that this condition is satisfied. This makes the prices a function of nominal wages, marginal productivity of labour, and elasticity of demand (which is inversely related to the mark-up).

Despite this being the profit maximising principle, there are firms which might not let the prices change even if the condition so demands. And one of the most written about reasons is the theory of menu costs. These costs could involve printing of new price lists and menus as well as renegotiating contracts with

both downstream and upstream firms. While they seem trivial in explaining macroeconomic fluctuations, they produce large macroeconomic fluctuations according to this framework. So, the firms do not just take the cost of production into account but also these menu costs while deciding whether to change their prices. Higher the menu costs, higher will be the resilience shown by prices to move towards their profit maximising levels.

There were, however, doubts cast within this tradition on the extent to which small menu costs could explain the rigidity in prices. So, the menu cost theory was appended by other real rigidities. It was argued that the other real factors like the marginal productivity of labour or the elasticity of demand could behave in a way that even relatively low menu costs could generate significant price rigidities. It is possible, in these theories, that a fall in industry level output does not generate a fall in prices because either the desired mark-up might rise (elasticity of demand falls) as a result of greater collusion or the marginal cost does not fall or both.

In Figure 4, I show the implications of price rigidity generating an upward sloping AS curve (the New Keynesian Phillips Curve or NKPC in short), which makes output adjustment necessary for any macroeconomic equilibrium. So, the causality in the product market moves from price rigidity to output, which is below its "natural" level (the level determined by flexible prices and wages) as shown by the direction of the arrows in the third quadrant. It is important to see that if the prices had been completely flexible, the NKPC will be vertical at the "natural" level of output (configuration depicted by the dotted line). At this point, in the absence of wage-price rigidities, the labour market equilibrium is given by the profit maximisation condition of marginal revenue equalling marginal cost, that is, labour demand curve meets the labour supply curve determined by the labour-leisure choice of the workers (equilibrium combination shown by dotted lines in the first quadrant). It can also be seen that with an upward sloping NKPC, a fall in output as a result of a demand shock leads to an actual fall in output which does not get self-corrected since the prices do not adjust fully.

### Aggregate Demand Function

The aggregate demand curve of the new Keynesian framework is arrived through inter-temporal optimisation of a representative consumer who is trying to find an optimal bundle of labour and consumption today given the budget constraint, which apart from the current income, includes the income coming from purchase of bonds out of current savings (Gali 2009). This inter-temporal optimisation condition results in today's consumption being directly related to the expected consumption tomorrow and inversely related to the expected real rate of interest (inversely related to the expected bond price) minus the discount rate. The inverse relation results from the fact that a higher expected rate of interest means a higher opportunity cost for today's consumption while a higher discount rate gives lesser importance to tomorrow's consumption. So, what matters is the net impact of the two in deciding the optimal path of consumption. This consumption function, in a baseline model, is converted into the output-interest rate space by

abstracting away from other sources of demand, that is, all output is consumed.

To understand this framework, we need to bring its two components, aggregate demand and supply, in the same frame. While the aggregate supply function is located in the output–inflation plane, the demand function is in the output–interest rate plane. They can be made compatible by converting the demand function into the output–inflation plane. It can be done in two ways depending on the assumption of exogenous or endogenous money. In the case of exogenous money, for an exogenously given rate of growth of money supply, the aggregate demand (AD) curve will be negatively related to the rate of inflation because a fall in inflation means an increase in real balances, and hence, a higher real balance effect. In the case of endogenous money, the central bank can play the role of ensuring the inverse relationship. A fall in inflation loosens the hands of the central bank to decrease the interest rates and expand the level of output, and vice versa. So, we still find a downward sloping demand curve, but it is generated through policy intervention. This curve is also called the reaction function (RF as shown in Figure 5), as it depicts the movements in output as a reaction of the policy intervention of the central bank.

### A Comparative View of the Two Interpretations

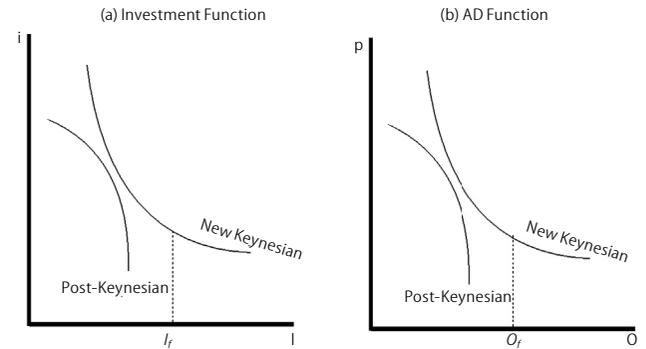
While, ostensibly, the difference between the two traditions is believed to be in terms of the lack of micro-foundations and optimising agents in the post-Keynesian tradition, it cannot be farther from the truth. The difference is much more fundamental in terms of how they view capitalism as a system and its mechanisms at work than mere methodological differences.

I believe building an empirical case against either of these interpretations of Keynes is difficult because of the problem of endogeneity with macroeconomic data. To give a concrete example, the view on whether savings causes investment or the other way round is almost impossible to prove through a pure empirical exercise. In the ex post sense, the relationship is an identity and since neither of these variables can be observed in data in an ex ante sense, which is what will conclusively prove the causality, it is nearly impossible to drive theoretical judgments based on an empirical exercise. Empirical attempts at proving it one way or the other have required heroic efforts without much gain in terms of understanding the world (Gordon 1997). In my view, such contentious issues in macroeconomics can only be resolved through consistent theoretical arguments and experimenting with policy to accept/append or discard these alternative structures.

### Limitations of the Real Balance Effect

It must be clear by now that price and interest elasticity of aggregate and investment demands are what differentiate the two sides of the Keynesian spectrum. While Keynes and post-Keynesians argue both these functions to be relatively inelastic, the new Keynesian/new Classical version requires them to be sufficiently elastic, in the absence of which the full employment levels of output and investment might not even fall on these curves respectively, let alone the economy stabilising at them (Figure 5).

**Figure 5: Comparison of Investment and Aggregate Demand Functions**



An elastic aggregate demand function requires a real balance effect to be at work in the case of exogenous money and a sufficiently responsive investment function and a proactive interest policy in the case of endogenous money. Are these justifiable assumptions to make in the world that we live in? I would like to argue that they are not.

### Exogenous Money

First, there have been serious doubts cast on the existence of the real balance effect (RBE) (Patnaik 2009: 35–36; Palley 1996). This requires, in the case of exogenous money, the increase in the consumption demand of those who gain from the appreciation of their wealth (such as creditors) to be more than the fall in consumption demand of those whose wealth falls (such as debtors).

Second, the RBE coming into operation requires the presence of inelastic expectations, because in the event of a fall in prices if the agents believe them to fall further, then they might just postpone consumption for a future date instead of consuming today.

Third, for the other RBE through the investment channel, an increase in the supply of real balance should not lead to a commensurate increase in the liquidity preference; otherwise the interest rate will not fall. But in a situation where the expectations about the economy are pessimistic, the demand for money balances can rise in the same proportion or more than a rise in its supply.

### Endogenous Money

Fourth, in the case of endogenous money, where RBE cannot exist by definition, interest elasticity of either consumption or investment requires the working people or the firms to be oblivious of their current income or profits respectively. If the current incomes or profits are low because of loss of jobs or slack in industry demand, a fall in the interest rate will hardly bring about an increase in either consumption or investment purely based on the fall in the discount rate of future consumption or the cost of loans.

Moreover, the households might be credit-constrained (even if we were to accept that despite low current incomes they would like to increase their consumption). Also, the firms might not see a fall in the cost of loans as an incentive to invest more when their factories are running below capacity. In fact, we could imagine a kinked investment function akin to the kinked demand curve (Figure 5). In such a case, a fall in the interest rate will not bring about a sufficient rise in investment (or no rise in investment especially with a severe lack of demand) for

the full employment level of investment to lie on this kinked schedule. In other words, the investment/consumption curve may cut the income axis ahead of the full employment level. If this were the case, no fall in the interest rate will bring about a sufficient rise in the level of output for the economy to self-adjust to its potential. Those who argue that a negative rate of interest can solve this problem, either by allowing a negative nominal rate of interest or letting the inflation rise, are mistaken because they assume the investment schedule to be sufficiently elastic (with the equilibrium at a negative rate of interest).

Fifth, even if the aggregate demand function were interest elastic, there is no obvious mechanism through which the central bank might be able to target a specific long-term rate of interest, which might be demand determined in conditions where the liquidity preference of the people rises by more than the fall in the policy rate. In such a situation a fall in the interest rate might not have the adequate impact on the long-term rate of interest, which is what affects investment.

With all these objections about the elasticity of the aggregate and investment demand schedules, one can safely argue that assuming these to be a stable function under conditions of volatility, such as what entails in capitalism under general circumstances, is unjustified.

**Finance and the Role of Interest Rate**

The new Keynesian tradition is quite limited in its treatment of the financial markets. Even the money market enters in their “real” system only in conditions of rigid prices, in the absence of which money determines only the nominal variables.

It is important to see here an important difference even on the issue of money. It is normally assumed that since the new Keynesian framework gives importance to money, it is closer in spirit to Keynes (1936). I believe it is the mirror image of Keynes’s (1936) own take on money. In Keynes (1936), while money can cause a downturn, it cannot effect a reversal, at least not on its own (see the shape of the Keynesian investment function in Figure 5). In the new Keynesian approach, it is the exact opposite, that is, money may not cause a downturn but it can effect a reversal. So, even in this limited sense, money is treated quite differently between these traditions.

Linked to the above, another key difference between the two approaches lies in their treatment of the credit market and finance. Since the focus of the new Keynesian approach is on the interest rate and monetary policy, it gives less importance to the role of credit in determining the level of investment and employment in the economy as opposed to a key role it plays in the post-Keynesian tradition as shown above. So, while the current global crisis can easily fit into a Minsky–Kalecki framework, it is not so easy to fit it in any conventional macroeconomic textbook framework. I believe on this count alone, the alternative interpretation of Keynes deserves space in macroeconomic pedagogy.

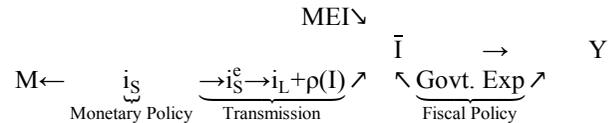
**Limited Policy Choices**

Given their understanding on the cause of unemployment being the rigidity in labour markets, the new Keynesians argue for greater labour market flexibility which effectively translates into

curtailing the power of the labour unions in advancing the rights of the working people (Lindbeck and Snower 1988). Moreover, these theories fail to see the demand side effect of wages. While it is true that a fall in the real wages might bring down the cost for the employers, it also brings down the demand for their goods. So unless one assumes the Say’s law, such a fall in the real wages will inevitably lead to a fall in employment, which is the exact opposite of what the new Keynesian approach argues for.

In the sphere of active state policy, the dominant policy instrument in the new Keynesian approach is interest rate. An optimal policy rule is such that the central bank tries to minimise the loss function arising from the deviation of the actual level of output and rate of inflation from the targeted one (Bofinger et al 2006). As a rule of thumb, an approximation of this exercise is now called the Taylor’s rule. Any deviation from the output and inflation targets can be minimised through changes in the interest rate. Since interest rate as a policy instrument is seen to be omnipotent, the dominance of monetary policy over fiscal policy in this framework is quite obvious.

As opposed to this, Keynes (1936) and post-Keynesians have argued in favour of an active fiscal policy with a supporting role by the monetary policy. This is particularly relevant in conditions where the investment function is interest inelastic such as the world has been facing since 2008. Fiscal policy is considered to have a direct impact on the level of output, private investment, and employment. The contrasting role of monetary and fiscal policies in the post-Keynesian framework can be represented in the following causality:



Why should the working people suffer because of the poor tool box of the policymakers which puts all their eggs in just one basket of monetary policy: whether to target inflation or unemployment? It is in the arena of policymaking that theoretical frameworks should be tested, and I have argued above that the new Keynesian framework fares not so well especially in conditions of recessions or cost–push inflation, which are primarily conditions under which policy intervention is required.

**Liquidity Trap vs Flat Money Demand Curve**

It can be seen that in their theoretical and, hence, in their policy approach, the new Keynesian framework has turned Keynes (1936) on its head. The only condition where the new Keynesian framework does not give primacy to monetary policy is in conditions of deep recessions as is happening today where economists like Paul Krugman are talking in a somewhat Keynesian language. What difference does a deep recession make? It brings liquidity trap into the picture. If the interest rate falls to such an extent that it is impossible to stimulate the economy through monetary policy any more as there is a lower bound of zero to interest rates, active fiscal policy will be required. Sans this possibility, expansionary fiscal policy is distortionary. In this respect, they are consistently anti-Keynesian. So, the same economists in the mainstream framework, who

are talking the language of Keynes, will become anti-Keynesian as soon as the Great Recession is over.

But even in this limited sense, they have misunderstood Keynes (1936). The relative ineffectiveness of monetary policy does not arise only in conditions of the so-called liquidity trap, which Keynes (1936) has brushed aside as a rare occurrence not worthy of discussion. Downward inflexibility of interest rates does not arise out of liquidity trap alone, it can arise even at higher rates of interest since it merely requires the agents to become risk averse on a large scale. So, for example, at higher rates of interest, if the rate of interest falls as a result of policy, the agents might expect the interest rates to fall further, in which case, they will increase their liquidity preference and prevent the market determined interest rate from falling. The money demand curve, therefore, can be perfectly elastic not just at low liquidity trap rates of interest but at any rate of interest. This means that even under normal recessions, active monetary policy alone might not inject demand into the system. A strict adherence to monetary policy in the absence of a liquidity trap condition merely prolongs the recovery of an economy, which would have done well to shed its monetarist hawk position and embraced a more pro-people fiscal policy of intervening directly to stimulate employment.

## Conclusions

Despite my preferences of the post-Keynesian approach over the new Keynesian approach, just as others might have of new

Keynesian over post-Keynesian, my point was to raise the issue of holistic teaching. Such an approach of teaching both these interpretations should be followed on both sides of the Keynesian spectrum. In light of this, the current paper attempted to address how macroeconomics ought to be taught to students at the advanced intermediate level, which gives them an overall perspective on the subject. The level of mathematical sophistication in the new Keynesian framework, which is often considered the reason for its superiority, should not make it impervious to criticism especially since policies, which drive people's lives, are essentially flowing out of a particular view of capitalism. Let me end with a quote from Davidson (2006: 151–52), a post-Keynesian, on the relative methodological sophistication, which might be a bit provocative but nonetheless necessary for shaking the souls of economists who believe in a biased vision of teaching economics:

Post-Keynesians recognize that their logical model is neither fully developed, nor as neat and precise, as the mainstream model. After all, the number of person-hours put into developing the orthodox model exceeds those invested in the post-Keynesian analysis several million-fold. Nevertheless, post-Keynesians believe that it is better to develop a model which emphasizes the special characteristics of the economic world in which we live than to continually refine and polish a beautifully precise, but irrelevant, model. Moreover, when one is dealing with human activity and institutions, one may be, in the nature of things, outside the realm of the formally precise. For Keynes, as well as for post-Keynesians, the guiding motto is “it is better to be roughly right than precisely wrong!”

## NOTES

- 1 While Michal Kalecki arrived at most of the Keynesian conclusions simultaneously with, or in some cases before, Keynes, he was inaccessible to English readers as his initial writings were in Polish.
- 2 There have been extensive critiques of the IS–LM approach as not being true to Keynes' own view from different approaches. See Leijonhufvud (1968) and Minsky (1975) for details.
- 3 The post-Keynesian tradition too assumes imperfect competition, which although more realistic, I believe, blunts the theoretical charge that Keynes (1936) was mounting on the economic orthodoxy of his time. It is important to make this distinction, otherwise it gives the impression that Keynes/post-Keynesianism is about price rigidity, which they are absolutely not.
- 4 It is important to note here that which commodity serves as this benchmark is immaterial to the discussion that follows. It could be wheat or steel or bonds or money for all you care. Denomination in terms of money, as done here, is just a convenient way.
- 5 It changes the nature of the multiplier too by distinguishing between output versus price adjustment but since that is not central to the structure of this paper, I am omitting it. Those interested can take a look at Bhaduri (1986).
- 6 I believe the credit rationing argument in the new Keynesian tradition has much to acknowledge to this fundamental contribution made by Kalecki.
- 7 For an intermediate and graduate levels of the new Keynesian approach, readers are encouraged to refer to Bofinger et al (2006) and Gali (2009), respectively.

- 8 Snowdon and Vane (2005) present a comprehensive literature survey of this and other macroeconomic schools of thought.

## REFERENCES

- Akerlof, George A (1982): “Labor Contracts as Partial Gift Exchange,” *Quarterly Journal of Economics*, Vol 97, No 4, pp 543–69.
- Bhaduri, A (1986): *Macroeconomics: The Dynamics of Commodity Production*, M E Sharpe.
- Bofinger, Peter, Eric Mayer and Timo Wollmershauser (2006): “The BMW Model: A New Framework for Teaching Monetary Economics,” *Journal of Economic Education*, Vol 37, No 1, pp 98–117.
- Calvo, G A (1983): “Staggered Prices in a Utility-maximizing Framework,” *Journal of Monetary Economics*, Vol 12, No 3, pp 383–98.
- Davidson, P (2006): “Keynes and Money,” *A Handbook of Alternative Monetary Economics*, Philip Arestis and Malcolm C Sawyer (eds), Edward Elgar Publishing.
- Gali, J (2009): *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework*, Princeton University Press.
- Gordon, D M (1997): “Must We Save Our Way out of Stagnation? The Investment/Saving Relation Revisited,” *The Macroeconomics of Saving, Finance, and Investment*, Robert Pollin (ed), University of Michigan Press.
- Kaldor, Nicholas (1986): *The Scourge of Monetarism*, Oxford University Press.
- Kalecki, Michal (1937): “The Principle of Increasing Risk,” *Economica*, Vol 4, No 16, pp 440–47.
- (1971): *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge University Press.
- Keynes, J M (1936): *The General Theory of Employment Interest and Money*, Harvart Book/Harcourt, Inc, 1991 edition.

- (1937): “The General Theory of Employment,” *Quarterly Journal of Economics*, Vol 51, pp 209–21.
- Lavoie, Marc (2011): “History and Methods of Post-Keynesian Macroeconomics,” *A Modern Guide to Keynesian Macroeconomics and Economic Policies*, Eckhard Hein and Engelbert Stockhammer (eds), Edward Elgar Publishing.
- Leijonhufvud, Axel (1968): *On Keynesian Economics and the Economics of Keynes: A Study In Monetary Theory*, Oxford University Press.
- Lindbeck, A and D J Snower (1988): *The Insider-Outsider Theory of Employment and Unemployment*, Cambridge, MA: MIT Press.
- Minsky, Hyman P (1975): *John Maynard Keynes*, New York: Columbia University Press.
- Palley, Thomas I (1996): *Post Keynesian Economics: Debt, Distribution and the Macro Economy*, London: Macmillan Press.
- Patnaik, Prabhat (2009): *The Value of Money*, Columbia University Press.
- Robinson, J (1971): *Economic Heresies: Some Old-fashioned Questions in Economic Theory*, Macmillan.
- Romer, David (2000): “Keynesian Macroeconomics without the LM Curve,” *Journal of Economic Perspectives*, Vol 14, No 2, pp 149–69.
- Salop, Steven C (1979): “A Model of the Natural Rate of Unemployment,” *American Economic Review*, Vol 69, No 1, pp 117–25.
- Shapiro, Carl and Joseph E Stiglitz (1984): “Equilibrium Unemployment as a Worker Discipline Device,” *American Economic Review*, Vol 74, No 3, pp 433–44.
- Snowdon, Brian and Howard R Vane (2005): *Modern Macroeconomics: Its Origins, Development and Current State*, Edward Elgar Publishing.
- Weiss, Andrew (1980): “Job Queues and Layoffs in Labor Markets with Flexible Wages,” *Journal of Political Economy*, Vol 88, No 3, pp 526–38.