Marc Lavoie, Post-Keynesian Economics: New Foundations
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REFERENCES


1. Characteristics of the labor market

The chapter is centered on something which does not truly exist according to post-Keynesian theory: the labor market. The labor market has properties that highlight more than any other market the importance of institutions, norms and conventions. The chapter will nonetheless concentrate on the notion of employment.

A fundamental property of the post-Keynesian labor market is its segmentation between the core economy (characterized by high wages and productivity, well structured wage scale, and high degree of unionization) and periphery economy (characterized by low wage and productivity and high turnover). Obviously the distinction between core and periphery is not clear-cut and firms might have workers belonging to each segment.

A fundamental concept of post-Keynesian economics is the rejection of Say’s law. The quantity of output sold depends on the level of aggregate demand. Because in the short run the capital-labor ratio is constant, aggregate demand determines the demand for labor. Thorough the chapter, aggregate demand will be assumed to entail a variable component of consumption out of wages and an autonomous component, representing investment and/or government expenditures: \( AD = wL + a.p. \) Moreover, aggregate supply is determined by the quantity of output produced by the employed labor: \( AS = p.q(L) \)
The chapter presents two models with non-segmented labor market: the Marshallian model and the Kaleckian model. The Kaleckian model is then augmented with a segmented labor market.

2. The Marshallian Post-Keynesian Model

Two versions of the mainstream model (called Marshallian) of labor market model are presented, one with flexible prices and one with fixed prices. The model is mainly based on the standard neoclassical production function with decreasing returns, which is justified via a Ricardian logic: as the quantity of workers increases, skilled and unskilled workers are employed implying a decreasing marginal output for each worker.

Before getting to the gist of the comparison between the flexible and fixed price version of the model, we need to describe its core. The model is constructed on two curves in the employment/real wage space, the notional demand for labor, built around the profit maximizing firms, so that the real wage is equal to the marginal product of labor. The effective demand for labor is built on the assumption that workers do not save, which implies that all that is produced is actually sold. The two curves cross when the real wage of the effective demand for labor is at its maximum.

The flexible price model represents the case of pure competition where firms do not know market prices but can only build expectations about it. Keynes could then define the point of effective demand where expected profits are maximized. However, since expected demand and effective demand are different, firms might decide to employ too many or too few workers, leading to a temporary disequilibrium in goods market, price being the equilibrating factor. Firms will then build new expectations, employing the new quantity of workers which leads to a new price-clearing market, until the expected demand curve meets the effective demand curve. These dynamics are sometimes called “ultra-short” periods and, according to Keynes could be cut for the sake of clarity of his theory.

Main outcomes of the model: effective labor demand determines the real wage, thus lower level of employment, based on expectations leads to higher real wages because too little has been produced. The only way to encourage full employment is by increasing autonomous expenditure via the Keynes effect (a decrease in prices implies a decrease in money demand, which in turn, leads to a decrease in interest rate and thus to an increase in autonomous consumption) or via the Pigou effect (a decrease in price leads to an increase in real money demand, and consequently to an increase in autonomous consumption). However, the post-Keynesian view rejects both the effects since money and credit are endogenous. Furthermore, a decrease in prices might lead to debt deflation dynamics. Thus, the only solution to increase the effective demand curve is via an increase in government expenditures. Nevertheless, the negative correlation between real wage and employment still hold.

Fixed price model which is central to the French disequilibrium school of thought assumes that: markets are imperfectly competitive, prices are set in advance but quantities clear market through flows of production and inventories. In this framework, there are two types of unemployment: the Classical and the Keynesian but both are unstable. However, because of the set-up of the model, real wages must decrease in order to obtain full employment.
3. Kaleckian Model of Labor

Assuming that the aggregate demand $AD = wL + ap$, and thus the effective real wage is determined at the point where all units of output produced is sold:

$$\left(\frac{w}{L}\right)_{eff} = \frac{y - \frac{a}{L}}{L}$$

where $y$ is the labor productivity. Because the production function do not admit decreasing returns to scale, the notional demand for labor disappears, there is no optimal quantity of labor, as long as output is being sold, producing more is always good. The ultra short period dynamics towards equilibrium between AS and AD is achieved via quantities, which highlights the importance of inventories. The main conclusion deriving from this model is that: all things being equal, a higher level of real wage will lead to a higher level of employment. Furthermore, it is possible to demonstrate the paradox of thrift by elaborating a bit more the aggregate demand and by including consumption out of profits and investment.

The model can then be used to analyze: (i) the impact of technological change: if $y$ increases faster than real wages, then employment decreases and technological unemployment goes up; (ii) work-sharing policies: for a constant real wage, the model highlights the importance of the impact of such work-sharing schemes. If it is accompanied by an increase in productivity, then the scheme leads to lower employment and higher profit share, if productivity remains constant, then employment increases.

Interestingly, the Kaleckian model shares with the standard mainstream model, the downward sloping curve for aggregate demand in the output/price space. However, the reasons for this negative slope are fundamentally different. While the mainstream model is related to theories such as the Pigou or Keynes effects, the Keleckian model explains the negative slope by the positive impact of decreasing prices on real wages, which leads to an increase in demand and thus to an increase in output. Concerning this relationship, the impacts of decreasing prices on wealth should be emphasized. While the Pigou effect implies that a decrease in prices leads to an increase in consumption via an increase in real wealth, the Fisher effect emphasizes the negative effect that an increase of real debt might have on consumption. There are great reasons to believe that the Fisher effect might overcome the Pigou effect (since asset prices follow deflation in goods prices and debt contracts are fixed in nominal terms, and because of the redistribution effect from worker-debtors towards capitalist-creditors that deflation consequently has) emphasizing what Krugman calls the “flexibility paradox”, i.e. lower real wages does not lead to higher levels of employment.

The framework also allows analyzing efficiency (or Webb) effects that is the fact that productivity of labor depends positively on real wages. Interestingly, the topic is of interests both for Marxists and mainstream economists. When assuming a linear relationship between labor productivity and real wages, one can show that the overall impact on labor demand of an increase in real wages depends on the slope of the linear relationship. In some cases, an increase in real wages will lead to a decrease in overall employment: the increase of productivity more than offset the increase in aggregate demand. In other cases, the opposite occurs. The positive relationship between real wages and employment might thus be questioned when a broader picture is considered.
When leaving out the government, the model shows clearly that any change in the profit share (or the costing margin) does not change the level of profits because the output decreases in the same proportion than price increases. This changes when a government is added to the model. For a given level of government expenditure, any decision to increase the costing margin allows the private sector to increase the level of profits via public deficit, due to a decrease in tax revenues caused by the decrease in output. This result is supported by the sectorial balances equation, obtained by manipulating the national account. Indeed, in the case of a closed economy the net savings of the private sector are equal to the net dissaving of the public sector. If the budget deficit is made endogenous, the result does not hold anymore, which probably explains why the private sector is not supporting a high wage policy. Indeed, only if the policy has any impact on autonomous expenditures (investments), an increase in real wages will lead to a decrease in the level of profits.

4. The Supply of Labor

For some post-Keynesians, the supply of labor is deeply related to the consumption reference group. The theory assumes that households target a certain level of consumption related to the reference group and supply a given amount of work to afford the level of consumption. An increase in the rate of real wages would thus imply a reduction of labor supply. However, it is important to notice that a change in the rate of real wages might lead to a change of the reference group and thus to a shift to another labor supply curve. Throwing away this special case, the labor supply curve is downward sloping, which leads to an unstable labor market in the case of flexible wages.

Another traditional labor supply curve is the so-called “backward bending” which features the traditional upward trending labor-real wage relationship up to the point where the curve bends backward. The theory behind the curve encompasses the notion of satisfactory level of income leading to a reduction in hours worked when income lies over this threshold. In that case, the labor market presents two equilibriums (low-wage and high-wage) where only the low-wage equilibrium is stable. If the labor market presents this structure, then any rigidity in the form of minimum wage legislation, unions, or market structures would be positive in the sense that they may favor the emergence of the unstable high-wage equilibrium.

The last labor market frame analyzed is based on Shapiro and Stiglitz (1984) “No-shirking Constrain” (NSC). The NSC represents the minimum level of real-wage required to incentivize workers not to shirk. In the case of high unemployment, the real wage under NSC need not to be high because of the fear of losing the job and obviously it increases as unemployment decreases. The real-wage NSC curve is asymptotic to the (vertical) labor supply curve. As in the case of backward bending curve, the NSC-real wage curve, when combined with the effective demand for labor curve, allows for two equilibriums (low-wage and high-wage) displaying the same stability features than the backward bending framework.

The three cases studied highlight the importance of labor market structure and institutions, despite there is no precise labor supply function in the post-Keynesian theory.
5. The Kaleckian Model with Overhead costs

The model introduces the differentiation between fixed workers (i.e administrative staff or white collars) and variable workers (i.e. blue collars). While variable workers are proportional to the desired level of output, fixed workers are determined by the full capacity of output. In the model, it is assumed that variable workers are paid at a lower wage than fixed workers.

Because the productivity of each type of workers is different and because the quantity of fixed workers remain constant regardless of the level of output, the average productivity of labor becomes variable and a non-linear function of utilization capacity. This allows giving a natural theoretical ground to Okun’s law, in contrast to the neoclassical needs for ad-hoc assumptions and so forth.

While in the simpler Kaleckian model, higher real wages leads to lower unemployment; the more elaborated model can explain the apparent empirical independence between real wages and employment. In that aim, it is necessary to differentiate between mean real wages ($\omega_M$, depending on the composition of labor) and the base real wage ($\omega$, the real wage of variable labor). The effective demand for labor, obtained as usual by equating aggregate supply and aggregate demand and thus assuming that all that is produced finds a buyer, can be expressed as a function of either the base real wage or the mean real wage. While the standard positive relationship between the effective demand for labor and the minimum real wage still holds, it is not the case between the mean real wage and the effective demand for labor.

Notwithstanding, this negative relationship arises from the fact that as output increases, ceteris paribus, the mean real wage decreases because of the composition of labor, displaying a larger share of cheaper variable workers. The causality does not go from lower wage to higher employment rather, from higher employment of variable workers to a mathematical reduction of average real wage. Interestingly, while an increase in autonomous expenditures leads to a decrease in the average real wage (because of the increase in employment), an increase in the minimum real wage might have a positive or negative impact.

The three variants of cost-up pricing, namely direct-cost pricing, normal-cost pricing and target-return pricing, have different functional forms within this model structure. However, it is possible to obtain a simple functional form for each three of them and to show the relationship between the first two, which are linked via the normal capacity of utilization and the ratio of variable to fixed workers.

Once the mark-up pricing has been formalized, it is simple to determine aggregate profits and the net profit share. Comparative statics tell us that the share of profits is a function of various parameters, including the mark-up on direct unit costs and autonomous expenditures. Furthermore, the model can determine both the share of profits and the level of output which is in contradiction with Kaldor (1956).

The same exercise can be run in the case of target-return pricing which brings other insights on the model. In the case of target-return pricing, an increase in overhead costs (i.e. higher wage for fixed workers or larger ratio of fixed to variable workers) does not necessarily lead to an increase in economics activity. It actually depends on whether the
new rate of the capacity of utilization is above or below the normal rate of the capacity of utilization.

6. Fiscal Policy and Full Employment

Thorough the chapter, it was shown that there are no market forces that ensure an economy to operate at full employment. Moreover, the role of autonomous expenditures and real wages was put forward. However, higher real wages cannot be used as the only response to low employment as it lowers the level of profits, despite the increase in output. Therefore, High real wages must be accompanied by an increase in autonomous expenditures.

The Great Financial Crisis has shown the limits of high consumption financed by high levels of debt. The role of government expenditure is thus obvious. This is to be contrasted with the notion of sound finance, which has the government playing merely a countercyclical role, when allowed (cfr. The Golden rule adopted by most European countries).

An alternative to sound finance can be found in Abba Lerner’s functional finance which claims that (i) the role of fiscal policy could achieve full employment without inflation, (ii) there is no constraints on a government backed up by a central bank, and (iii) the debt to GDP ratio will converge towards a constant while achieving full employment.

This last assertion can be proven formally: firstly it is worth noting that, in a closed economy, the liabilities of the public sector are the assets of the private sector. Secondly, by assuming a consumption function depending on disposable income and past wealth, it is possible to show that private sector savings are such that the wealth of the sector converges toward the level associated with disposable income. We can thus express current period public debt \( V \) as a function of past output and past public debt of the form \( V = A + B.V_{-1} \), which converges to a constant value when \( 0 < B < 1 \), which is always the case for realistic parameter values.

Obviously, the situation is more complex in the case of an open economy, due to current account impacts and because public liabilities might be held by foreigners. Furthermore, the distributive impact of high public debt should not be overlooked, especially focusing on the impact that debt to GDP might have on interest rates.

7. Comments

The first comment I would like to make regards the ultra-short run dynamics and whether they can be skipped and assume expectations to be equal to the effective demand. Given the rigidities and structure featured in the so-called labor market, it seems fairly important to concentrate on the dynamics emerging out of expectation being precisely not on target. The impact this divergence might have on inventories, as pointed out on p. 295, is essential. Furthermore, the possibility of asynchronous decision, as highlighted in the young agent-based literature, should shed some lights on these dynamics. If the model at hand shows hysteresis, as should any macro-model, then these expectation-revision dynamics will be fundamental even in the medium to long run.
The second comment regards the segmentation of the labor market. In most of the European countries we observe a new segmentation between young and mature workers. Indeed most young workers only access to precarious low wage jobs, no matter the level of education they have, while mature workers still benefit more stable and well paid work, and enjoy a higher level of employment. Furthermore, the demographic divide is even stronger when, constrained by the European stability pact, government are forced (sometimes too willingly) to postpone the retiring age and thus opposing even more young and mature workers.