BASTARD KALECKI
A Pedagogical Polemic

by

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I. Introduction.

Post-Keynesians have been reluctant to couch their theoretical schemes in terms resembling those employed by their adversaries, the so-called Bastard Keynesians, but there are some didactical and polemical advantages in doing so. The differences between the opposing theoretical camps may be more clearly drawn and the radically different programmes of research that they respectively suggest may be more sharply perceived. It is well known, for example, that post-Keynesian models typically assume differing savings behaviors on the parts of workers and capitalists, but it is not so widely known that such assumptions are not simply absent from Bastard Keynesian models but that, in fact, if included, render such models indeterminate. Nor is it well known that the simplest of post-Keynesian models permit a very direct analysis of the effects of monopolization, changes in labor productivity, and changes in money wages on national income and employment, subjects upon which Bastard Keynesian models are silent.

It is the purpose of this paper to clarify some of the differences between the Bastard Keynesian scheme of thought and that of the post-Keynesians by dressing a simple Kaleckian model in Bastard Keynesian garb. For this reason, and because the analysis will confine itself, in the main, to the comparative static method employed by the Bastard Keynesians, the perhaps unflattering nickname, 'Bastard Kalecki', has been chosen to title the paper. The so-called Bastard Kaleckian model that is worked out here
is a simplification of the model that is to be found in Kalecki (1971) and
bears a resemblance to the models of Harris (1973), Robinson and Eatwell
(1973), and Dougherty (1979). The notation and style have been chosen to
conform to that of contemporary Bastard Keynesian usage, such as in Sargent
(1979).

II. The Keynesian Indeterminacy.

In the popular income-expenditure version of Keynes, equilibrium
national income \( Y \) is equal to the aggregate demand for consumption goods
\( C \) and investment goods \( I \), and is expressed in the familiar
\[ Y = C + I. \]
Consumption is declared on behavioral grounds to be a linear function of
national income and investment is, to begin with, made exogenous.

Formally, with
\[ C = A + (1 - s)Y, \]
\[ I = I_0, \]
the model is closed. The model's three equations are just sufficient to
determine its three unknowns \( C, I, \text{ and } Y \), in terms of its three
parameters \( A, \text{ autonomous consumption spending, } s, \text{ the marginal propensity}
to save, and } I_0, \text{ exogenous investment).}

It is seldom noted in the Bastard Keynesian literature that if
savings out of profits are, at the margin, different from savings out of
wages, then the model's equations become inadequate for determining its
unknowns, yet such is surely the case.\(^1\) Two extra variables must be added
to Equation 2 (the consumption function), wages \( W \) and profits \( P \), but,
at best, one extra equation may be brought into the model along with them,
namely, an equation expressing national income as identically equal to the
sum of wages and profits. If we assume, along with Kalecki, that workers save nothing, and use $s_c$ to represent the savings rate of capitalists (both average and marginal), the revised model becomes

\begin{align}
  \text{(4)} & \quad Y = C + I \\
  \text{(5)} & \quad Y = W + P \\
  \text{(6)} & \quad C = W + (1 - s_c)P, \text{ and} \\
  \text{(7)} & \quad I = I_0.
\end{align}

In the first model, equilibrium national income is

\begin{equation}
  \text{(8)} \quad Y = \frac{(A + I_0)}{s}.
\end{equation}

That is, equilibrium national income, and, pro tanto, employment, is determined by autonomous expenditure on consumption and investment, and by the marginal propensity to save. In the revised model, equilibrium national income is indeterminate, but it depends upon the same set of factors. \textit{viz.}, Equations (4) - (7), when solved for $Y$ give

\begin{equation}
  \text{(9)} \quad Y = \frac{I_0}{s_c (1 - W/Y)}.
\end{equation}

The denominator of Equation 9 is like that of Equation 8 is the marginal propensity to save out of national income. But in Equation 9 that propensity to save appears as the weighted average of the savings propensities of capitalists and workers, with their income shares as weights. Looked at from this point of view, the reason that equilibrium national income is indeterminate is that it depends upon the distribution of income, which is not explained by the model.
III. The Kaleckian Closure.

Kalecki clearly understood the implications of this model and its fundamental indeterminacy in the early 1930's, before the publication of Keynes' *General Theory*. He closed it by making the share of wages in national income (W/Y) depend upon unit prime costs (wages and materials) and upon the pricing policy of firms. Unlike the Bastard Keynesians, in whose models the competitive structure of industry plays no evident role, Kalecki assumed that most industries are oligopolistic, dominated by a few large firms that are price makers rather than competitive (neoclassical) price takers. He assumed that they set prices by applying a mark-up to unit prime costs. The size of the mark-up, it is assumed, varies from firm to firm, depending upon the "degree of monopoly" possessed by the firm.

Proceeding in this manner he was able to conclude that the price level, in the short run, is proportional to average prime costs, with the factor of proportionality being an index of the "degree of monopoly" prevailing in the economy as a whole. That is, it is concluded that

\[ p = ku, \]

where \( p \) (lower case) is the price level, \( k \) is the economy-wide degree of monopoly, and \( u \) is average prime costs.\(^5\) [\( p \) (lower case) is the price level, while \( P \) (upper case) is nominal profits]

At the aggregate level, Equation 10 implies that aggregate proceeds (which equal \( C + I + M = W + M + P \), where \( M \) is expenditure on materials [raw and finished]) are proportional to aggregate prime costs, that is, that

\[ W + M + P = k (W + M). \]

From this it follows that
\[ P = k(w + p) - (w + m) = (k - 1)(w + m), \]

and that the share of wages in national income may therefore be written

\[ \frac{W}{Y} = \frac{W}{(W + P)} = \frac{W}{[W + (k - 1)(W + M)]} \]

\[ = \frac{1}{1 + (k - 1)(1 + j)}, \]

where \( j = M/W \), the ratio of materials to wages costs.

Equation 11 may be used to close the revised model of income
determination by assuming, following Kalecki, that unit prime costs \( u \),
the ratio of materials to wage costs \( j \), and the degree of monopoly \( k \)
are constant in the short run.

For the sake of this paper we will simplify Equation 11 even further
by assuming production to be completely vertically integrated, in which
case, \( j = 0 \), and Equation 11 reduces to

\[ \frac{W}{Y} = \frac{1}{k}. \]

We are now in a position to set out a complete and simple (Bastard)
Kaleckian model, fully alternative to the simple model of Bastard
Keynesianism. It consists of Equations 4 through 7, Equation 12 (the
Kaleckian Closure) and three additional equations which make explicit
certain "real" relations which have formerly been implicit. Capital
letters, in what follows, represent nominal magnitudes, while small letters
represent real magnitudes and parameters:

\[ (4) \quad Y = C + I \quad (12) \quad \frac{W}{Y} = \frac{1}{k} \]

\[ (5) \quad Y = W + P \quad (13) \quad y = Y/p \]

\[ (6) \quad C = W + (1 - s)P \quad (14) \quad p = k(w/b) \]

\[ (7) \quad I = \pi_0 \quad (15) \quad n = y/b \]

In Equation 13, \( y \) is real output (or income). Equation 14 is the formal
pricing rule. \( w \) (lowercase) is the money wage per man employed and \( b \) is
output per man employed (productivity), both of which are assumed constant in the short run (the consequence of the earlier assumption of constant unit prime costs). w/b is, therefore, unit prime costs, and k, as before, is the mark-up factor (an expression of the "degree of monopoly").

Equation 15 is an identity, showing n, total employment, as the ratio of real output to output per man. In Equation 7, i₀ is exogenous real investment. We assume, along with Kalecki, that real investment expenditure in the current period is the outcome of decisions made in previous periods. Finally, note that in Equation 6, the subscript has been dropped (for the sake of economy) from s, the savings rate of capitalists.

IV. Comparative Statics.

The comparative statics properties of the Bastard Keynesian model are comparatively banal. Examining the partial derivatives of the model's solution, Equation 8, with respect to the model's parameters, reveals that national income increases with any increase in investment or autonomous consumption spending, and decreases with any increase in the marginal propensity to save. In the economical language of mathematics,

\[ \frac{dy}{di_0} > 0, \quad \frac{dy}{dA} > 0, \quad \text{and} \quad \frac{dy}{ds} < 0. \]

All of this is certainly familiar stuff to economists everywhere.

What is not so familiar is the enormously richer set of results that comes from performing the analogous comparative statics exercises on the Kaleckian model of Equations 4-7 and 12-15. In that model, exogenous investment (i₀) and the marginal propensity to save (s) again appear as parameters, but there are, in addition, parameters representing the degree of monopoly (k), labor productivity (b), and the money wage (w). The model thus permits us to examine the effects of changes in these parameters on
national income and employment.

It is quite remarkable, and quite unappreciated, that one and the same model provides answers to three of the most venerable questions in the history of economic thought, namely, the effects of monopoly, technical change, and wage cutting on employment and national income. These results are in addition to the usual Bastard Keynesian results, noted above, which also derive from this model. In the sections that follow we will look, in turn, at the comparative statics results of each of these cases.

Monopoly. The economy-wide "degree of monopoly" is represented by the parameter \( K \). It denotes, as noted above, the power of firms, in the aggregate, to mark their prices up above their costs, which here are being assumed to consist entirely of wages. It may also be thought of, and often is, as "the mark-up". The effect of an increase in the degree of monopoly (or mark-up) on real national income may be obtained by examining the model’s solution for \( y \), which is

\[
(16) \quad y = io/[s(1 - 1/k)].
\]

Clearly, national income, \( y \), falls when the degree of monopoly, \( k \), rises, and \textit{vice versa}. It follows, as well, that employment, \( n \), rises and falls with \( y \), since the model’s solution for \( n \) is

\[
(17) \quad n = y/b = io/[bs(1 - 1/k)].
\]

The reason that monopoly power and employment are inversely related is that an increase in the mark-up reduces the share of wages in national income and increases the share of profits. The result is a redistribution of income from spenders, workers, to savers, capitalists, which reduces aggregate demand. In other words, if the degree of monopoly increases, prices are raised. This reduces the real income and real demand for
consumption goods of workers. Capitalists, on the other hand, at the new prices and old level of output, would find their real incomes increased by the amount that workers' incomes have fallen, but because they save some part of any increase in income, they would not increase their real demand for consumption goods by the amount that workers have decreased theirs. The result will be a fall in aggregate demand (real) and an excess of savings over investment, and production over demand. Output and employment will be reduced as a consequence, and will continue to fall until saving again comes into equality with investment, and production is again adjusted to demand. Cowling (1981), who uses a model similar to this one, argues that an increase in the degree of monopoly is doubly pernicious, not only reducing employment through its effect on the distribution of income (as here), but also reducing it by diminishing the incentive to invest.

Money Wages. A rise or fall in money wages that is matched by a rise or fall in prices, that is, a rise or fall in money wages which leaves the degree of monopoly unchanged, will have no effect upon income or employment. This is evident from inspecting Equations 16 and 17, above, which are the solutions of the model for $\gamma$ and $n$, neither of which involve the parameter $w$. The reason is that a rise or fall of money wages accompanied by an equal percentage rise or fall in the price level will leave the real incomes of workers and capitalists unchanged. Consequently, there will be no change in their aggregate demand for consumption goods, and no change in real national income or employment.

If, however, the change in money wages is not met by an equal change in the price level, the effect will be the equivalent of a change in the degree of monopoly in the opposite direction. An increase in the money
wage rate, in other words, reduces the degree of monopoly (or mark-up) and, therefore, increases income and employment. The reason is that the increase in wages redistributes income from capitalists to workers, that is, from savers to spenders, and the net effect will therefore be to increase real aggregate demand. On the other hand, a fall in money wages which is not accompanied by an equivalent fall in prices, has the effect of an increase in the degree of monopoly, and its attendant shift of income from spenders to savers. The result, therefore, will be a fall in national income and employment. Falling money wages, in this theory, will fail to cure a slump and may, instead, make things worse. 6

We may also make sense of Kalecki's remark that in an inflationary environment, workers' demands for higher wages not only protect their real incomes but also protect their jobs. Rising prices, pari passu, shift income from workers to capitalists and hence reduce aggregate demand unless matched by compensating increases in money wages.

**Productivity.** Worker productivity is represented in the model by the parameter $b$. Inspection of Equations 16 and 17 will show that an improvement in productivity will reduce employment and will leave national income unchanged.

Real national income only increases in this model as a consequence of an increase in real aggregate demand. Real aggregate demand only increases as a consequence of a change in the distribution of income or an increase in autonomous spending, which in this model consists of investment spending only. The improvement of productivity will have no effect on real aggregate demand because with no change in the mark-up there will be no change in the distribution of income. Hence the equilibrium level of real
income prevailing before an improvement in productivity will continue to prevail after it has occurred. Employment will fall because the improvement in productivity will enable fewer workers to produce the unchanged level of real output.

This result may appear to resemble Ricardo's famous conclusion that the introduction of machinery may be injurious to the interests of the working class. But this is not exactly the case. Ricardo's conclusion results from means for the employment of labor being used up in the production of machinery which, when introduced, increase real profits while at the same time reducing necessary employment. In fact, it is more akin to Marx's distinction between the production and realization of surplus value. Surplus value originates, in that view, in the production process and via the exploitation of labor. It is realized in the market through the sale of the product of exploited labor. "The forces of production," Marx wrote in volume II of *Capital," can never be utilized beyond the point at which surplus value can be not only produced but also realized." (quoted in Sweezy (1946), p. 177) In the case discussed here, capitalists are unable to realize greater profits as a consequence of improved productivity because additional goods cannot be sold. The principle also applies to the result obtained in the previous section where falling wages and an increasing degree of monopoly led to reduced employment and unchanged profits. There, capitalists were unable to realize greater profits as a consequence of a more effective exploitation of labor because the shift of income away from workers reduced aggregate demand.

A clear and important conclusion of this model is that improved labor productivity will only benefit the working class as a whole (via
increased employment) if, at the same time, investment spending is increased, or the degree of monopoly is reduced. In other words, workers put out of employment by technological advances can only be put back to work if aggregate demand increases. That increase may come about though an increase in investment spending or an increase in consumption spending (via a change in the degree of monopoly [mark-up]), but it must come about through some channel or total employment will fall. Increased productivity, per se, does not generate the increased purchasing power which is necessary to (socially) justify it.

V. Research Programmes.

The most natural programme of research suggested by any highly simplified model consists in explaining the determination of the model’s parameters and in accounting for the features of the world most obviously excluded from it. The parameters of the Bastard Keynesian model are autonomous consumption spending (A), the marginal propensity to save (s), and investment spending (i₀). In the Kaleckian model the parameters are the savings propensities of capitalists and workers, investment spending, the degree of monopoly (or mark-up) (k), the money wage (w), and labor productivity (b). Distinctly excluded from both models is any account of monetary institutions. The appearance is given in both that ‘money does not matter’.

The Bastard Keynesians overcome their model’s parametric treatment of investment and ignorance of monetary factors by assuming that investment spending is determined by the rate of interest and that the rate of interest, in turn, is jointly determined in the ‘goods market’ and the ‘money market’. The result is the famous IS-LM model which has served as
the springboard for both theoretical and empirical research for the last forty years.7

From the post-Keynesian point of view, the research programme that followed the construction of the IS-LM model was ill-founded and fundamentally misconceived. Money matters, in that model, only insofar as it effects the rate of interest, which itself matters only insofar as it affects investment spending. From a Kaleckian perspective, investment spending in the current period is the outcome of decisions made in past periods. To the extent that interest rates influence investment it is interest rates of the past (and expectations formed in the past of interest rates expected to prevail today and in the future) that are relevant. The IS-LM model may be neat, but it trivializes both monetary institutions and investment decision making.8

As noted in an earlier section of this paper, the Bastard Keynesians have been able to work out elaborate macro-theories while paying little if any attention to the competitive structure of industry. In fact, the assumption of perfect competition has been made in most Bastard Keynesian work. This is the leading difference between the Bastard Keynesian programme of research and that of the post-Keynesians.

From the Kaleckian point of view, modern industry is typically oligopolistic, and, as we have seen above, the oligopolistic character of the economy is crucial in determining the distribution of income, output, and employment. This follows from the fundamental importance of the parameter $k$, the 'degree of monopoly', in the simple Kaleckian model depicted above. Post-Keynesians also believe that the oligopolistic character of industry influences the other parameters of the model, investment spending, $i_o$, the money wage, $w$, and labor productivity, $b$.9
The post-Keynesian research programme has also tended to be class based. In the Bastard Keynesian scheme of thought, on the other hand, class relations are utterly irrelevant. Class distinctions are important in post-Keynesian theories not only because different savings behaviors are assumed on the part of workers and capitalists, but also because they are considered relevant to the determination of the money wage and the rate of change of labor productivity.

We have not attempted in the preceding few paragraphs to exhaustively catalogue the differences between the Bastard Keynesian and post-Keynesian programmes of research. It is hoped, however, that we have succeeded in showing what the chief differences are, and that those differences can be very clearly seen to derive from differences already present in the simplest of models of the rival theoretical camps.

VI. Conclusions.

The polemical intent of this paper has been to argue that the Kaleckian approach to macroeconomics is far richer than that of the Bastard Keynesians, even when given the most severe comparative static treatment. The didactic intent has been to demonstrate, in a simple way, to readers more familiar with 'Keynesian Crosses' than models with workers and bosses, that an elementary Kaleckian model can be built up which is fully alternative to the basic model of Bastard Keynesianism. Along the way, we have investigated, in some depth, three of the more interesting results that derive directly from the Kaleckian approach but of which there is not the vaguest trace in the Bastard Keynesian theory in any of its forms. We concluded by briefly indicating the alternative programmes of research that have been followed by Bastard Keynesians and post-Keynesians. We end by
noting the chief limitation of both Bastard Keynes and Bastard Kalecki: As theorists we may change, to our hearts' delights, the values of whatsoever parameters that we choose, and assume that the processes thus touched off move gracefully to a new state of rest (equilibrium). But in life, as humans, we may be sure that such events we shall never observe. Parameters do not change one by one. Economies do not appear to us in equilibria. The challenge is, therefore, to develop a scientific mode for discussing and learning about on-going economic processes in historical time. If comparative statics exercises may guide such an analysis or play an integral role in it, then they will not have been in vain. But at present no sure answer is known.
NOTES

1An exception to this is Tobin (1948).

2From a purely formal point of view the indeterminacy raised here may be viewed as a simple result of disaggregation, but it is in fact connected to a very fundamental difference in the manner in which Kalecki and the Bastard Keynesians conceptualize the capitalist economy. It is a particular instance of what Dobb (1973) referred to as differing "preanalytical visions". Kalecki was reared in the Marxist tradition and hence, on historical and sociological grounds, conceptualized capitalism as essentially class-based, and divided into two fundamental classes, capitalists and workers. Capitalists, in this view, are driven to accumulate (save), and workers, by their poverty, are precluded from saving. This view, in fact, is not purely that of Marx, but was common to the entire classical tradition, from Smith to Mill.

3The weighted average of savings rates referred to here is $s_c (1 - W/Y) + s_w (W/Y)$. Since $s_w$, the workers' savings rate is being assumed to equal 0, this expression reduces to that shown in the text. If we had assumed Bastard Keynesian style consumption functions for workers and capitalists, that is

$$C_w = A_w + (1 - s_w)W,$$

for workers, and

$$C_c = A_c + (1 - s_c)P,$$

for capitalists, the equilibrium condition would be

$$Y = (A_w + A_c + I_o) / [s_c (1 - W/Y) + s_w (W/Y)].$$

4The first three essays in Kalecki (1971), translations of articles
originally published in Polish before 1936, should make this clear to the skeptical reader.

5 This argument is contained in Kalecki (1971), pp. 104-105.

6 Tobin (1948) appeals to the neoclassical principle of substitution to discount this conclusion. That is, a fall in money wages may lead to greater employment in spite of differing savings propensities if the relative cheapening of labor induces entrepreneurs to substitute labor for other variable inputs whose prices have not fallen.

7 See any of the most current and most respectable macroeconomic textbooks, such as Dornbusch and Fischer (1984), to verify the continuing pre-eminence of the IS-LM model.

8 For a discussion of Kalecki’s characteristic treatment of investment, see Asimakopulos (1976).

9 See Harris (1974) and Cowling (1981) for detailed theoretical discussion along these lines.
REFERENCES


Christopher Dougherty (1979), Interest and Profit, New York: Columbia Univ. Press.


