

4 Explaining Inflation and Unemployment: An Alternative to Neoliberal Economic Theory

Anwar M. Shaikh

INTRODUCTION

For much of the post-war period, the problems of inflation and unemployment have been central to economic and political agendas. And in this domain Neoliberal economics has come to dominate both modern macroeconomic theory and policy.

Capitalism has undergone a world-wide economic crisis in the last two decades. Its response has been a series of attacks on labour and its supporting institutions, widespread business failures and bankruptcies, a dizzying spiral of concentration and centralization and an urgent drive to make available new markets and new resource areas to the unchecked power of the dominant world capitals (Shaikh 1987). Neoliberal economic policy arose out of the need to support and coordinate these characteristic responses of the capitalist class.

But Neoliberal economic *theory* came to the fore because Keynesian theory was unable to provide an adequate explanation for the 'stagflation' deriving from the economic crisis. This is a particular irony, given that Keynesian economic theory itself rose to power 30 years earlier because the neoclassical economic theory which underpins neoliberal economics was itself unable to explain the huge and persistent unemployment of the last great depression.

Modern heterodox macroeconomics finds itself caught in this conflict, because by the 1970s much of it had come to be subsumed under Keynesian concerns. Thus both radical and postkeynesian economics typically begin from some version of Keynesian or Kaleckian effective demand theory: a static equilibrium framework

in which markup pricing insulates prices from demand, thereby shifting the adjustment process onto output and employment at least until the vicinity of full employment. Within this framework, the obstacle to full employment with stable prices is generally political, not economic, rooted in the welter of conflicting interests arising out of the tri-cornered tug-of-war between capital, labour and the nation-state. The marxian wing of this tradition differs only in its somewhat greater emphasis on monopoly power and on the potential problems associated with 'full employment' (Kalecki 1968).

Neoclassical economic theory has no such problem, for it assumes that the capitalist system delivers full employment automatically and efficiently. In its basic form, inflation arises when an increase in the money supply stimulates aggregate demand in the face of a full-employment-constrained aggregate supply. More recent versions incorporating concepts such as the natural rate of unemployment are merely refinements of this basic argument. Here too, as in Keynesian-Kaleckian theory, inflation is expected to arise in the vicinity of full employment.

In contrast to these familiar perspectives, I would like to present a classical marxian explanation of inflation and its relationship (or lack thereof) to unemployment. Broadly speaking, a classical marxian framework considers economic growth to be the normal state of a capitalist economy, driven by the ceaseless attempts of each individual capital to constantly (self-) expand. Since each capital operates individually, without any direct regard for its place in the overall social division of labour, the interaction of these individual units produces an intrinsically turbulent process: the imagined division of labour created by the expectations of individual capitals is constantly confronted by an actual division of labour created by their own mutual actions, and the discrepancies react back on both expectations and actions, creating fresh discrepancies, and so on. This inherently turbulent process is precisely what neoclassical economics tries to cover up through its recourse to perfect competition and general equilibrium. But in fact, disequilibrium is always the existing condition, and it is precisely through offsetting phases of overshooting and undershooting that the inner tendencies are realized. From this point of view, balance conditions of various sort (demand-supply, output-capacity, sectoral growth, and so on) represent the inner forces which impose a hidden order on the outer disorder: order-in-and-through-disorder, an old concept in Marx which has finally been given legitimacy via non-linear dynamics.

In my own work, I have tried to show that this approach can be formalized so as to provide an **integrated** dynamic non-equilibrium framework for the analysis of endogenous growth, endogenous money and endogenous cycles (Shaikh 1989, 1991, 1992). Building upon Goodwin's classic work (Goodwin 1967), such a framework can be **extended to incorporate** an endogenous **theory** of persistent unemployment rooted in competition itself. This is what Marx calls a 'reserve army of labour', which we might today call an 'intrinsic rate of unemployment' to distinguish it from the pernicious Neoliberal idea of a 'natural rate of unemployment'. The former concept is rooted in the notion that the system is behaving perfectly well when it creates and maintains a pool of involuntarily unemployed people at the disposal of capital; the latter claims that it is imperfections in the system which give rise to voluntary employment – that is, to abstentions from work (Friedman 1968).

In the present chapter, I would like to address the other great problem: the question of inflation and its links, if any, to unemployment. I will trace the treatment of these issues in orthodox theories, as they arose historically in the face of challenges from historical events. Then I will outline an alternate approach to the question of inflation, and illustrate it with data for an average of the main OECD countries, and for the United States in particular.

UNEMPLOYMENT AND INFLATION IN THEORY AND HISTORY

Modern macroeconomics has its origins in the turmoil of the great depression of the 1930s. While the prevailing economic theory continued to insist that capitalism was intrinsically efficient, **self-regulating**, and **automatically able to offer** employment to all who desired it, economic reality told a different story. Widespread business failures, massive unemployment, generalized social misery – these were the social and historical facts of the day. It is in this context that Keynes' **General Theory** (Keynes 1936, 1964) stepped forward to provide an explanation for persistent unemployment, as well as a prescription for its cure. The familiar income-expenditure model derived from this approach was to dominate both macroeconomic theory and policy for a third of a century in most of the advanced capitalist world. It was systematic, quantifiable, flexible in its application and easily adapted to fiscal policy. The

model is driven by exogenous components of aggregate demand, under the assumption that there are unemployed resources, most notably labour. A rise in the exogenous demand component stimulates output and employment, the resulting higher incomes then stimulate consumption and hence further increases in aggregate demand (but by a lesser amount than in the preceding round), and so on, until the original impulse has eventually produced a multiplied effect on output and employment.

Within such a framework, fiscal policy appeared to be a powerful tool for regulating the level of employment, since a government deficit was thought to give rise to a multiplied increase in production and employment. Keynesians tended to believe that unemployment was a normal feature of an unregulated capitalist economy; but with the judicious use of fiscal deficits, the government could pump up the level of employment and achieve something resembling full employment. This became a fundamental premise of post-war social policy (Artis 1992, p. 139).

Later modifications somewhat softened the analysis of the powers of budget deficits, but did not reverse the basic thrust of the argument. It was recognized that a government deficit might raise interest rates, and insofar as these inhibited investment demand, this might offset some of the original expansionary impact of the deficit. The idea also grew that a reduction of unemployment owing to an expansion of aggregate demand might also lead to higher money wages and hence induce inflation. The notion of a Phillips curve trade-off between inflation and money wages (Phillips 1958), which was rapidly recast as a trade-off between inflation and unemployment, became a standard part of the arsenal. Fleming (1962) and Mundell (1963) extended the analysis to the relation between output and employment and the balance of trade ('external balance'). The resulting complexity of the analysis, with its multiplicity of potential 'targets' (desired levels of employment, inflation, interest rates, foreign trade balances, and so on), implied that economic policy was a task for the sophisticated. But it was clear that these complications were extensions of the basic theory, not a challenge to it.

Central to all of these developments was the notion that inflation would arise only when the economy was in the vicinity of full employment. But this confidently held conception had begun to break down by the late 1960s. By then, inflation had not only become a practical problem of some importance, it had also become a serious theoretical problem: whereas the Phillips curve predicted that

inflation would be accompanied by a *fall* in unemployment (which would stimulate a rise in *money* wages and hence prices), this actual new round of inflation was attended by a *rise in unemployment*. This new pattern seemed to contradict the very notion of a trade-off between the two.

One attempt to get around the difficulty was to suppose that expectations played a significant role in the wage-price spiral. Thus was born the concept of an *expectation-augmented* Phillips curve (Phelps 1967; Friedman 1968), along with a particular 'natural rate' of unemployment (NAIRU) which would keep inflation in check. Conflict models of inflation as well as the infamous NAIRU have their root in this same ground (Godley and Cripps 1983; Rowthorn 1984).

But these ideas proved to be of ambiguous benefit to the Keynesian paradigm: not only did they undermine the basic thrust of Keynesian social policy, they also provided the basis for the New Classical (NC) macroeconomics which was to eventually supplant Keynesianism itself (Artis 1992, pp. 140–2). For instance, the idea of a natural rate of unemployment has its roots in the automatic full employment paradigm of neoclassical economics – the very thing that Keynesians were trying to overthrow. In the neoclassical vision, it is assumed that when all markets are in equilibrium, all workers will be able to achieve their desired level of employment at some labour market-clearing wage. But if information is not quite perfect, and if there are impediments in the labour market, there will always be some frictional level, some 'natural' level, of unemployment even in general equilibrium (Mathews 1992, p. 247). Such a natural rate is voluntary, since it arises out of the decisions of individuals not to work in the face of existing costs of job search and existing unemployment benefits, welfare benefits, and so on. Thus, contrary to Keynesian views, the mere existence of unemployment, even rising unemployment, did not prove that it was involuntary. Not surprisingly, Neoliberal economists have been quick to proclaim that existing unemployment was in fact all voluntary (Bennett 1995).

Secondly, it was claimed that the actual level of inflation depended not only on the level of unemployment but also on inflation expectations. A higher level of inflation expectations could give rise to a higher level of actual inflation at any given level of unemployment. Since inflation expectations were assumed to change slowly (exhibit persistence), it followed that it might be necessary to tolerate (perhaps even induce) an unemployment rate higher than the 'natural' rate for long enough to lower inflation expectations.

As these fell, they would lower the actual rate of inflation consistent with any level of 'unnatural unemployment' (unemployment in excess of the natural rate), thus permitting excess unemployment to be also reduced somewhat until finally the economy would glide into a state of long-run equilibrium in which actual inflation and expected inflation would be zero, and unemployment would be at the natural rate (the lowest sustainable rate).

Keynesian economics might have accommodated the idea that 'wringing out' inflation could be costly. But the notion that any observed rate of unemployment was essentially voluntary was far afield from the original Keynesian conceptions. In any case, it was reality which once again dealt the decisive blow to Keynesian economics. Country after country in the capitalist world floundered in the 1970s and 1980s, exhibiting inflation, unemployment, slow growth and a rise in poverty and social misery — in spite of record budget deficits. These dismal patterns fuelled the growing sense that the Keynesian theory of fiscal policy, however much it had been modified, was simply inadequate in this new epoch.

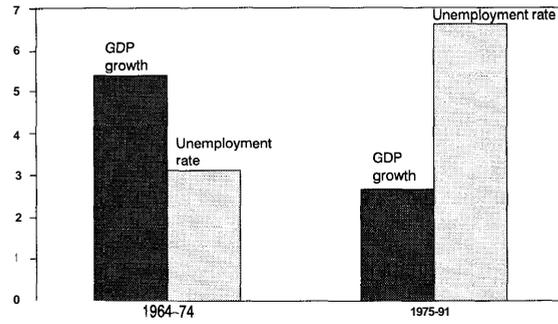
CONVENTIONAL THEORY VS. THE EMPIRICAL PATTERNS OF INFLATION AND UNEMPLOYMENT

We have seen that neoclassical and Keynesian theories differ on their explanation of inflation and unemployment. But it is important to note that they nonetheless share one a critical notion: namely, that there is an **empirical trade-off between inflation and unemployment**.

But is such a claim empirically supportable? Three points can be made here. First, as shown in Figure 4.1, between the first and second halves of the post-war period, the historical rise in average unemployment levels in OECD countries is directly associated with a corresponding fall in average output growth rates. I have tried elsewhere to show that this can be explained by the fact that a fall in the rate of profit gradually undermines the foundation for growth and hence produces the jump in unemployment rates (Shaikh 1987).

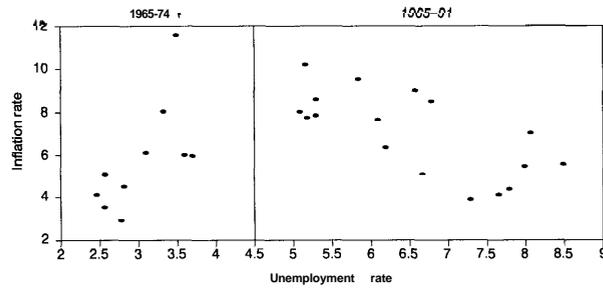
Second, as Figure 4.2 shows, there is **no general historical trade-off between unemployment and inflation**. As one can see, the patterns for the OECD countries as a whole indicate that while such a trade-off appeared to exist for the more recent period from 1975-91, the very opposite pattern holds for the early period from 1964-74 (comprehensive data is not available for unemployment before 1964).

Figure 4.1 OECD growth and unemployment, 1964-91



Source: OECD Main Economic Indicators.

Figure 4.2 OECD inflation vs. unemployment: 1965-91



Source: OECD Main Economic Indicators.

Indeed, this earlier pattern seems to have reasserted itself in recent times, as unemployment has fallen in countries like the United States with no discernible resurgence of inflation — much to the dismay of proponents of the natural rate hypothesis. By 1995 for instance, the US unemployment rate had fallen to 5.4 per cent, at a time when leading proponents such as Martin Feldstein and Robert Gordon had pegged the natural rate of unemployment — the trigger point of inflationary pressure — to be 6.0 per cent or even 6.5 per cent. Yet by 1997, with the unemployment rate still lower, there is still no evidence of renewed inflation (accelerating or otherwise). Gordon, at least, has responded by successively lowering his estimate of the natural rate as the actual rate fell below it (Bennett 1995).

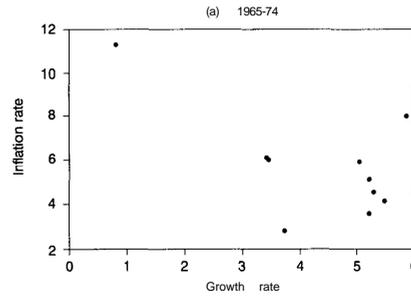
There is, however, an interesting clue in the empirical relation between inflation and economic growth depicted in Figure 4.3. In the first period from 1965 to 1974 (Figure 4.3a), even if one excludes the 1974 OPEC oil price jump in the upper left quadrant, there appears to be little relation between inflation and growth. If anything, it would suggest that lower growth is associated with *lower* inflation. But in the succeeding period from 1975 to 1991 (Figure 4.3b), lower growth is associated with *higher* inflation. As in the previous case, this behaviour is *puzzling* from the point of view of conventional theories. We will see that it need not be so in a *classical-marxian* theory of inflation.

RECONCILING THE EMPIRICAL EVIDENCE: AN ALTERNATIVE APPROACH TO INFLATION

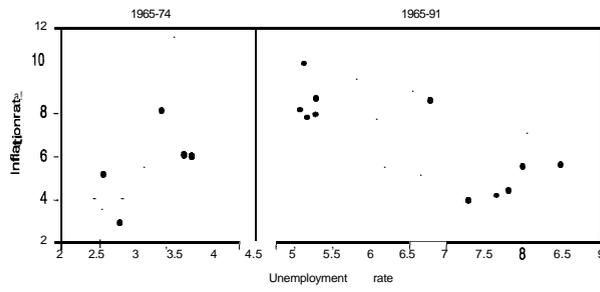
The facts presented above are quite consistent with an alternative **approach to inflation and unemployment derived from the classical and marxian traditions**. There are three elements to this approach.

The first has to do with the question of short-run equilibrium. Both Keynesian and neoclassical economics tend to analyze actual output and the price level as if they were equilibrium levels associated with the short-run equality of demand and supply. From this point of view, the business cycle is a fluctuation in the **short-run equilibrium output itself** (Kalecki 1968). But I have argued consistently that the *process* of equalization of aggregate demand and supply is what gives rise to the observed three-five year business (growth) cycle: what we nowadays call 'the' business cycle is the **fluctuation in actual (disequilibrium) output as demand and supply**

Figure 4.3 OECD inflation vs. growth



Source: OECD Main Economic Indicators.



Source: OECD Main Economic Indicators.

chase each other around an endogeneously generated growth path. This means that up and down phases of the cycle are associated with phases of positive and negative excess demand, respectively (Shaikh 1989, 1991, 1992).

The second element has to do with money and credit. Deficit spending by any unit — that is, its spending in excess of its current income — can be financed only by running down its assets (borrowing from stocks) and by borrowing from others (Earley, Parsons *et al.* 1976). For the economy as a whole, this boils down to the creation of new loans by private banks and new high-powered money by the central bank. Since neither new credit nor new high-powered money is created to satisfy the demand for money as a liquid asset, this can easily give rise to persistent episodes of aggregate excess demand fuelled by an endogenously generated excess supply of money (Moore 1969, p. 483). **Aggregate deficit spending by governments**, by the private sector (including households), combined with foreign inflows of purchasing power, can therefore result in persistent pressure on various markets, particularly the commodity market. In an ongoing project, we are developing measures of aggregate excess demand and of the finance behind it, and attempting to **demonstrate their relation to growth and inflation in the US economy**.

The third element involves the implication of persistent excess demand. Excess demand, which is the excess of a generally growing demand over a growing supply, accelerates the growth in supply. The limits to this process then arise from the limits to the growth in supply. Both neoclassical and Keynesian traditions assume that the availability of *labour* provides the general limit to commodity supply. Therefore they both anticipate that excess demand will stimulate inflation only after practical full employment has been attained. They differ, of course, on what practical ‘full employment’ means, and whether or not it is the normal state of capitalism, but they share the notion of a trade-off between unemployment and inflation. The trouble with this, as we have seen, is that it requires considerable contortions on their part to explain persistent periods of both rising inflation and rising unemployment.

Neither **marxian** theory nor capitalist history gives us any reason to suppose that output is limited by the supply of labour. Indeed, within the classical tradition there is a separate **intrinsic** limit to growth. In effect, **even when labour is freely available at the going real wage**, the maximum sustainable rate of capital accumulation within an economy is given by the normal-capacity rate of profit.

Marx was the first to demonstrate that sustained accumulation requires balanced growth, and it is clear from his schemes of expanded reproduction that the maximum sustainable growth rate occurs when all surplus value is reinvested—that is when the rate of growth equals the rate of profit (Marx 1981). One can arrive at a similar result along a Harrodian warranted (that is normal-capacity utilization) path with a (Kaldorian) classical savings function, since there the investment-savings equality $I = S = SC \cdot P$ implies that the warranted rate of accumulation of capital

$$gk^w = I/K = SC \cdot (P/K) = SC \cdot r$$

where SC = the savings propensity of capitalists, P = aggregate (normal capacity) profits, K = the stock of capital, and $r = P/K$ = the normal capacity rate of profit.

It follows from this that the maximum warranted growth rate occurs when all profits are saved ($SC = 1$). Finally, the celebrated articles by von Neumann and Leontief demonstrate the existence of this same limit in multisectoral models (von Neumann 1945-6; Leontief 1953).¹

I will call the maximum sustainable growth rate the 'throughput limit' of the economy. Now, suppose that in some period there exists persistent excess demand, along with unemployed labour. Then the excess demand will stimulate (accelerate) the rate of growth of output and of capital and reduce the unemployment rate—as long as the growth rate is not constrained by the throughput limit. **But if for any reason the gap between the actual growth rate and the throughput limit narrows**, there will be less and less room for output growth and consequently more and more pressure on prices. The ratio of the actual accumulation rate to the throughput limit (the normal-capacity rate of profit r), which I will call the 'throughput coefficient', is therefore an index of inflationary pressure. Note that the throughput coefficient is simply the ratio of investment to normal-capacity profits, since the capital stock appears in the denominator of both the rate of accumulation (I/K) and the rate of profit (P/K).

The process described above need not come about through a rising growth rate. If the normal-capacity rate of profit were falling, as it has done for most of the post-war period in the United States, then one would expect growth rates of capital (which depend on expected profitability of investment), also to fall. But if the accumulation rate fell more slowly than the profit rate, the throughput

coefficient (which is the ratio of the former to the latter) would rise. In this way, it becomes possible to understand how *falling profitability can induce both rising unemployment through slowed growth*, and also *increased inflationary pressure via a rise in the throughput coefficient*. I would argue that this precisely why most advanced economies experienced both stagnation and inflation in the 1970s and 1980s – something neoclassicals and Keynesians have had great difficulty in explaining.

To test the relationship between the throughput coefficient and inflation, one needs data on aggregate profits, capital stocks and capacity utilization. In what follows I will use data for the United States alone, because I have consistent series on the necessary variables.⁷ It should be noted that the United States is a large part of the OECD as a whole. Figure 4.4 shows that both the US **normal-capacity corporate profit rate and the corresponding rate of accumulation** (growth rate of capital) fell sharply from the mid-1960s to the early 1980s. Such a fall explains the rise in unemployment rates over this period.

It is in Figure 4.5, which compares the US inflation rate with its throughput coefficient, that we find that the same movements also explain inflation over the period. **The key empirical expectation** is that the rate of inflation will tend to rise as the economy's accumulation rate approaches its throughput limit – that is, as the throughput coefficient rises. We can put this proposition to a crude empirical test by directly comparing the two. Figure 4.5 depicts the US rate of inflation (in terms of the GDP deflator), and the throughput coefficient defined here as corporate investment in plant and structures relative to total normal-capacity corporate profits. **Normal-capacity profits** are defined in a similar manner to normal-capacity (potential) output, by dividing actual profits by the level of capacity utilization, the latter being based upon a measure developed in Shaikh (1987).

It is quite striking how closely the inflation rate in the United States mirrors the movements of the throughput coefficient. **Looking** at Figures 4.4 and 4.5, we see that from 1947 to 1962 the profit rate is high and both the profit rate and the accumulation rate are stable. Therefore **in** this period the throughput coefficient is low and stable, and so is the inflation rate (and the unemployment rate). Then follows a brief Vietnam War induced profit boom from 1963 to 1965, in which the profit rate rises but the accumulation rate rises even more, so that the throughput coefficient rises substantially

Figure 4.4 US profit rate and accumulation rate (corporate sector, real rates), 1947-95

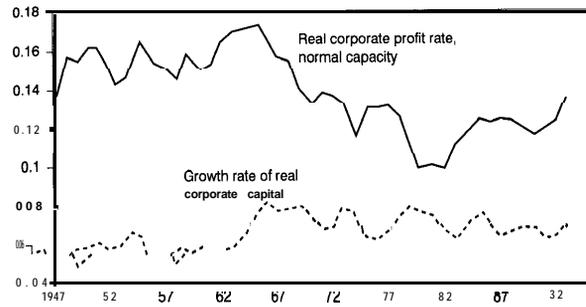
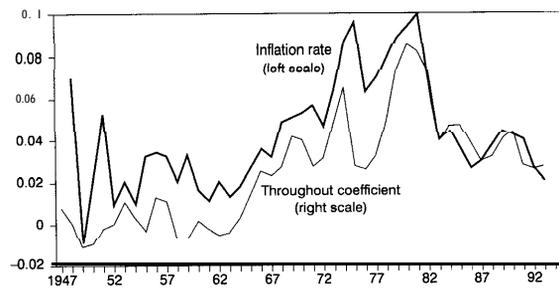


Figure 4.5 US inflation rate vs. throughout coefficient, 1947-95



taking the inflation rate with it. From 1966 to 1982, however, the normal-capacity profit rate declines, and the the rate of accumulation follows suit. But the latter declines less rapidly, so that the throughput coefficient continues to rise, and hence so does the inflation rate. It is only in the last period, from 1983 to 1995, that a rising corporate profit rate manages to outstrip the accumulation rate, thereby sharply reducing the throughput coefficient. And it is precisely in this period that we find that the inflation rate falls just as sharply. On the whole, the throughput coefficient performs extremely well as an indicator of inflationary pressure in the US economy.

SUMMARY AND CONCLUSIONS

Both Keynesian and neoclassical theories expect that inflation will arise only in the vicinity of full employment. They differ among themselves on whether capitalism is normally in a state of full employment. But they share the critical notion that the expansion of supply is limited by the availability of labour, so that the pressure on prices increases as the system approaches full employment. This presumed trade-off between inflation and unemployment has been a central concern of both theory and policy over the post-war period.

But within marxian economics, no such presumption need exist. The concept of an endogenously generated and maintained pool of (involuntarily) unemployed workers is central to this tradition. This implies that the growth in labour supply will not generally provide the limit to the growth of output. And historical evidence certainly bears out the notion that inflation is not necessarily, or even usually, associated with (effective) full employment.

So how does one explain the fact that rising inflation was associated with rising unemployment in the 1970s–1980s, and that falling inflation is associated with unemployment remaining unchanged (in many OECD countries) or even falling (in the United States), in more recent times? I argue that the relevant limit to the growth of the system lies in its normal-capacity rate of profit, because that constitutes the maximum rate of accumulation (growth rate of capital) of the system. The ratio of the actual growth rate of accumulation to the normal profit rate, which I call the throughput coefficient, can therefore be viewed as strain gauge for inflationary pressure.

The differential dynamics of the two variables involved provide the key to explaining inflation and its various links to unemployment. The data for the US economy over the postwar period bear this out by showing a strong connection between the throughput coefficient and the inflation rate (Figure 4.5).

Lastly, it is worth mentioning that although labour appears as the basic limit to production in a static framework, as in most accounts of Keynesian and Kaleckian theory, the notion of an intrinsic growth limit is perfectly compatible with dynamic versions of the very same theories. Harrod obviously comes to mind here. There need be no contradiction, therefore, between the ideas set forth here and those of the Keynesian and Kaleckian traditions. Indeed, the throughput coefficient, which is a kind of utilization rate of growth potential, frees us from the contortions involved in trying to construct some mechanical trade-off between inflation and unemployment.

Notes

1. The aggregate Harrodian-type relation makes it clear that the same limit would exist even if over time the rate of profit were to change due to technical change and class struggle. Pasinetti, however, argues that in a *disaggregated multisectoral* model with ongoing technical change and changing demand proportions, the technology-based maximum rate of balanced growth derived by Leontief and von Neumann (1953; 1945-6) is no longer relevant (Pasinetti 1981, pp. 118-23). But while this may be strictly true, in the sense that ongoing differential rates of technical change and demand growth might modify the exact definition of the maximum sustainable growth rate (the throughput rate), it seems equally clear that they cannot abolish the limit itself.
2. **Data for Figures 4.4 and 4.5 are from Citibase.** Real investment = residential + non-residential investment, in 1987\$. Real profits = total domestic corporate profits with IVA and Capital Consumption Adjustment, deflated by the implicit price deflator for investment. Normal capacity profits = real profits divided by capacity utilization. The measure for capacity utilization is derived from Federal Reserve Board survey data on capacity additions and expansion, as explained in Shaikh (1987, Appendix B). It was updated by regressing it on the published Federal Reserve Board series for manufacturing capacity utilization.

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