5.6 The Long Term.

The variables $\bar{q}$, $\bar{v}$, $\bar{z}$, $\bar{z}_2$, $\bar{z}_n$, and $\bar{p}$ are the parameters that set the context for medium-term fluctuations of the economy. How are these variables determined? In general, they are determined as part of a broad socio-economic and historical process. The determination of these parameters is hard to reduce to mathematical formulae.

One way to pin them down is to see each of the trend variables as determined by a weighted average of variables in past business cycles. This would reflect not only the deviations from the trend within these cycles, but also exogenous influences.

For example, the trend rate of growth of productivity is most reasonable seen as determined by a technical-progress function, following N. Kaldor and Meirees (1960-1):

$$\bar{q} = \text{a function of } (q_1^{-1}, \sigma_1^2, \ldots)$$

where the arguments of the function represent the average rates of growth of the capital stock due to investment in past medium-term cycles. Note that here the distinction between wasteful and nonwasteful investment is relevant. While both types of investment can buoy aggregate demand, only nonwasteful appears as an argument of equation (65). An economy can escape a stagnation period through the "quick fix" of military expenditure, but in the long run, this quick fix will be disastrous if such expenditure doesn't contribute to productivity growth. Also, while military expenditure can through "spin offs" in the long run contribute to productivity growth of one nation, if it also contributes to the productivity of other nations that are not spending surplus on arms, then the spender (in the post-World War II period, the US) will lose out.
in international competition. Its competitors will have greater productivity growth because more of their surplus will be invested in non-wasteful projects that directly increase productivity. See Melman (1974), Smith (1977), and the debate between Chester (1978) and Smith (1978).

We might also introduce a theory of long swings of productivity growth and migration, in the tradition of Kondratieff. However, these long swings are beyond the scope of this dissertation.

It might seem possible to posit the existence of long-term equilibrium where $G_t$ is constant over several business cycles. Since there is no force that will push the economy toward this "equilibrium," however, it is not a valid concept of equilibrium.

For medium-term equilibrium, we assumed that

$$\bar{q} = \bar{w}; \quad \bar{p}_2 = \bar{p}_3 \quad \text{and} \quad p = \bar{q} = 0$$

With these assumptions, there is no medium-term trend toward a fall (or a rise) in the rate of profit. However, these assumptions may be unreasonable. For example, since $\bar{q}$ and $\bar{w}$ are set independently by different institutions, they may be unequal. We can introduce structural imbalances where $\bar{w} > \bar{q}$, etc., so that—with the no-inflation assumption—the economy would fluctuate in a downward spiral. However, this type of imbalance might be abolished in the long term by induced technical change.

In conclusion, long-term parameters and changes in these parameters set the context for medium-term fluctuations. In turn, medium-term fluctuations help determine these parameters in the long run.
5.5 Conclusions

In this chapter, we have analyzed the problem of growth of a purely capitalist economy. First, in section 5.1, we analyzed the major models of economic growth. The neoclassical and von Neumann-Sraffa models were found to be unrealistic and to present inadequate stories concerning the movement toward (and away from) the equilibrium where employment and the labor force are growing together (not to mention full employment). It was argued that a Marxist model was needed to explain the irregular growth of the capitalist mode of production.

In sections 5.2-4, this model was elaborated. The key variable in this model is the rate of profit, which is determined by the interaction between the rate of growth and supply-side considerations. This variable will fall (or rise) if the economy is in medium-term disequilibrium—afflicting both saving and investment so that the economy will not expand (or contract) without end. Given this, we charted the movement of other key variables in a hypothetical business cycle. While it is very hard to say a priori whether the economy will converge to or diverge from medium-term equilibrium, some qualitative conclusions were reached. One is the instability of this medium-term equilibrium.

The theory of the cycle can be summarized in terms of the contradiction between the production and realization of the surplus. As Marx wrote, the "conditions of direct exploitation, and those of realizing it, are not identical. They diverge not only in place and time, but also logically." (KIII, p. 244.) The best conditions for the realization of the surplus, that is, full capacity utilization, are bad for the production of it, since labor-power and raw-material costs are high. The best conditions for the production of the surplus—slack raw-material
and labor-power markets—are bad for realization; not only are rates of
capacity utilization low, but there is the threat of the fall into the
underconsumption trap. Investment is the dynamic force which drives the
economy from one of these situations to the other; while compensating
for inadequate consumer demand—and creating consumer demand through
multiplier effects—this dynamic factor implies the creation of imbalances
built into fixed capital that depress the rate of profit. Finally, it
is the dynamic nature of investment—the endless expansion of capitalism—
that makes the economy unstable in medium-term equilibrium, where a rough
compromise between the conditions of realization and those of production
is reached.

A useful way to summarize the contributions of this chapter is to
compare it to the most advanced Marxian macroeconomic growth model
developed so far, that of Harris (1975, ch. 10; 1973). First, this
analysis leaves the role of relations among sectors implicit, as a
determinant of h. But Harris's concept of the "disproportionality crisis"
can be added to the above model by introducing an additional equilibrium
condition for the balance between sectors. Second, this chapter presents
a more detailed analysis of both supply and demand conditions. The
labor-power market is analyzed in greater depth, allowing us to go
beyond the incomplete Harrod-Domar analysis where only the rate of change
of the unemployment rate plays a role; a wage-Phillips curve was made
part of the model. The labor-power market will be analyzed further in
the next chapter. The role of imported raw materials and the terms of
trade is introduced. The equilibrating role of the rate of capacity
utilization is made explicit, as is pricing behavior. Most important,
the capacity-capital ratio is allowed to vary and is shown to fall in
the boom. Third, Harris' model considers only the possibilities of crisis rather than actual disequilibrium and disequilibrium dynamics. This chapter shows not only the outlines of an abstract business cycle but an analysis of the underconsumption trap. With the more detailed analysis of supply-side factors, this allowed us to present some empirical data that shows the plausibility of the model.

Fourth, the division of the analysis into explicit time-frames—short-term, medium-term, long-term—makes clearer some of the implications implicit in Harris' model. It helps us understand the dynamic process of capitalist development in terms of historical rather than mere logical time. It also shows us the dynamic interaction between Keynesian analysis (concern with realization problems) and Marxian analysis (which emphasizes the supply-side and production). Keynesian analysis applies more in the short term, while Marxian analysis is more medium- and long-term in nature. For Harris, the long term is essentially exogenous. Here, it includes both exogenous and endogenous components, since medium-term dynamics help determine long-term parameters.

In the next chapter, we will weaken the assumption of an inflation rate of zero. Since inflation is by and large a political phenomenon, a short analysis of the political economy of inflation in the post-World War II U.S. will be presented.