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Underconsumption, Over-Investment and the Origins of the Great Depression

JAMES N. DEVINE*

ABSTRACT: This paper examines the role of underconsumption tendencies in the laws of motion of capitalism. First, underconsumption theories are examined. My conclusion is that underconsumption forces play a direct role only under restrictive supply and demand conditions, i.e., when labor-power is abundant and investment is depressed. Then, for the capitalist mode of production, I derive a theory of over-investment relative to consumer demand that applies when economic expansion does not pull real wages up as fast as productivity grows. Third, I develop the theory of the underconsumption trap as one result of an economic downturn. I argue that theory of over-investment relative to consumer demand is a plausible story of the 1920s and the origins of the Great Depression of the 1930s, while the underconsumption trap was an important reason why the Depression was so deep and long. Finally, I comment on the possible applicability of the theories to the post-World War II era.

If you look at [Coolidge's] record, he cut taxes four times and we had probably the greatest growth of prosperity that we've even known [Ronald Reagan, quoted in the Los Angeles Times, May 29, 1981].

Even before the current long stagnation, the origin of the Great Depression of the 1930s had stimulated a vigorous debate among orthodox economists. Most work centers on the question of whether it was a fall in real expenditure or a fall in the stock of money that pushed the United States and world economies into the Depression during the period 1929-33. Friedman and Schwartz [1965] started the recent debate by challenging the then-dominant Keynesian view, pointing to a "Great Contraction" of the money stock as the culprit. The Keynesians replied, emphasizing the role of real spending [Temin, 1976]. The Monetarists counter-attacked [Schwartz, 1981] and, finally, a move toward an emphasis on both money and spending has emerged [R.J. Gordon and J.A. Wilcox, 1981].

Underlying this debate (especially for the monetarists) is the notion that the United States economy was essentially stable during the 1920s. Some (like Reagan) see the 1920s as a Golden Age of "the greatest growth of prosperity that we've even known."

Only given this type of assumption does it follow that one should examine only a short period (1929-33) to see what forces knocked the United States

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economy flat. However the evidence for the stability of the United States economy during this period is far from conclusive. An older economic literature explained the collapse in terms of the developments of the 1920s [e.g., Soule, 1947] and suggested that increasing inequality of the income distribution undermined the growth of consumer demand, making the "prosperity" of the 1920s increasingly less viable. The Golden Age—when the business of America was explicitly business—actually contributed to the disaster of the 1930s, while the regressive Coolidge tax cuts encouraged instability.

Even those participants in the recent debate who doubt the stability of the 1920s economy [e.g., Gordon and Wilcox, 1981] treat capitalism itself as an essentially stable system. For them, instability comes from the "outside," i.e., from the stock market crash and from slowing population growth. They ignore the Marxist and underconsumptionist literatures which argue that capitalism creates its own instability and crises.

This paper aims both to revive the old underconsumption views and to advance the Marxist crisis theory debates. I respond to two key criticisms of the underconsumption explanation of the Depression and, using Marx's materialist conception of history, I develop a new view of economic crises that incorporates some underconsumption tendencies.

The first criticism of underconsumptionism, which is summarized in the first main section, is theoretical. This leads to the development of two modified versions of underconsumptionism, instead of a complete rejection. The first, discussed in the second main section, is that over-accumulation of fixed capital (i.e., over-investment) relative to consumption makes an economy increasingly less stable as growth continues. This theory does not apply in all historical conditions—only in a "labor-abundant" economy such as that of the United States during the 1920s. The second theory, i.e., the "underconsumption trap" described in the fourth main section, turns a recession into a serious and prolonged depression, especially when combined with a debt-deflation.

The second criticism is empirical. Robert Keller [1973] made a good case for an underconsumption view of the 1920s, but later [1975] rejected the theory because it did not fit the facts. This rejection, if true, also applies to my theory of over-investment relative to consumption. In the third main section, I argue that Keller's test was not adequate; a more reasonable test makes it clear that stagnant consumer demand was crucial. However, putting the 1920s into historical context shows that consumption was not the only factor causing the Depression.

I also try to deal briefly with other explanations of the Depression of 1929-33. While I do not provide a detailed critique of monetarism, I criticize that school's basic assumption that the the United States economy was stable during the 1920s. Also, I argue briefly against the Gordon-Wilcox hypothesis that "exogenous" problems were primarily responsible for this instability. Third, I question the empirical validity (when applied to the
1920s) of two major Marxian crisis theories; the tendency for the rate of profit to fall [e.g., Shaikh 1978] and the high-employment profit squeeze [e.g., Boddy and Crotty 1975].

Since my views of the 1930s are not very controversial, I simply use evidence from that decade to illustrate the discussion of the underconsumption trap (in the fourth section). A full-scale examination of the Depression itself is left for another paper.

In the final section, I speculate briefly on the applicability of my theories to the era after World War II.

Underconsumptionism

For underconsumptionists, depression is neither simply a phase of the business cycle nor accidental, but a state toward which an economy normally tends due to inadequate consumer demand [Bleaney 1976:11]. In what is probably the most developed version of the underconsumption view, Baran and Sweezy [1966] add exogenous counteracting forces—including Schumpeterian “epoch-making innovations,” wars, the Cold War, and credit expansion—to explain periods of relative prosperity. From this perspective, the question is thus not why the Depression occurred in the 1930s but why it did not happen earlier [Baran and Sweezy 1966:Ch. 8].

With or without counteracting tendencies, the underlying tendency is the most important. To understand this tendency, examine a simple model. Ignoring the role of the government and foreign trade, total planned nominal spending (E) is consumer expenditure (C) plus planned investment (I). If Z is nominal full-capacity GNP, then the equilibrium rate of capacity utilization (where there is no unplanned inventory accumulation) equals:

\[ E/Z = C/Z + I/Z \]

The underconsumption chain has three links: (a) as capitalism grows, the income distribution becomes increasingly unequal, and the ratio of surplus (R) to Z rises;* (b) this causes a falling C/Z ratio (given different propensities to consume between classes); and (c) because of strong limits on rises of I/Z, E/Z falls.² Since (b) is hardly controversial, consider only links (a) and (c).

For (a), there are two basic theories, centering on “monopoly” or on “competition.” The first is best represented by Baran and Sweezy, who use “monopoly” to mean a company has some power to set prices. For them, R/Z tends to rise during the “monopoly stage” of capitalism. Prices in oligopolistic markets are sticky downward (or even rise) when demand falls while unit labor costs tend to fall because money wages lag behind produc-

* Workers under capitalism produce surplus-value, which is embodied in a surplus-product and realized (through sale) as a money surplus (total profits), which in turn is distributed as industrial and commercial profits, interest, and rent. The surplus provides most of the funds for capitalist consumption and accumulation.
tivity increases. Second, increased monopolization of markets occurs. Third, over time oligopolists learn to collude and raise prices.

The other argument is based on competition, here meaning not the structure of a single market but the decentralization of capitalist ownership and decision-making and the resulting dynamic process of capitalist rivalry [Weeks 1981:Ch. 6]. Marx [1973:420] suggested that capitalists—not seeing the ultimate depressing effect on consumption—attempt to raise productivity and cut wages to survive the competitive battle.

Both views imply that without counteracting forces, R/Z rises. The two tendencies can coexist because monopolization of individual markets does not imply that the system as a whole is planned and can thus avoid increasing inequality of distribution.

Problems arise when the role of the working class is examined. If the working class is strong—because of either strong organization or buoyant demand for labor-power—it can prevent the distributional shift. If so, “monopoly” profits simply represent a redistribution from the competitive sector, so that aggregate R/Z does not increase. One could assume that the demand for labor-power is stagnant, but that is assuming what should be proved.

In other words, underconsumption forces are more important in under-and economic boom in a labor-abundant economy, where agricultural or foreign labor-power reserves and the weakness of working-class organization prevent wages from rising with productivity during an economic expansion.³

If R/Z does rise, underconsumption is valid only if link (c) is unbroken. Underconsumptionists usually see investment as meekly following consumption (except where exogenous forces intervene). However, capitalism produces not for consumption, but for profit. Capitalist investment depends on expected profit rates, which in turn depend crucially on actual profit rates. Rising R/Z can thus stimulate investment and I/Z to rise. Indeed, as argued in the next section, capitalist investment does not simply rely on existing investment opportunities but often expands beyond limits determined by present conditions.

But Baran and Sweezy assume that consumption constrains investment. They [1966: 82] deny the possibility of a “Tugan-Baranowsky path” (TBP) where the demand for means of production justifies investment, which then creates more demand for means of production. (On this path, see Sweezy [1942:Ch.11.]) Monopoly corporations, they say, are too cautious to undertake such a risky venture. But this implicitly assumes that capitalists are conscious of and act on the aggregate results of their actions. If so, why cannot underconsumption be planned away?

Sweezy [1978] sees a TBP as possible and integrates it with a theory of credit-based short cycles. Even more, he has recently begun to write of “over-investment.” But that brings back link (a) of the chain: if the economy is not labor-abundant, investment can pull up wages, and with
them, C/Z. Investment can then be self-validating, and a TBP unnecessary. Corporations' fears of market saturation might block investment. But this only explains investment stagnation in the "monopoly" sector—and expansion out of that sector—and not stagnation of the economy as a whole.

In sum, underconsumption tendencies cannot be omnipresent; nor can we see prosperity as the problem that must be explained. The role of underconsumption depends on conditions in the labor-power market and on barriers to investment. This suggests the two alternative theories proposed in this paper.

**Over-Investment Relative To Consumer Demand**

The contradiction between individual appropriation and social production of surplus-value is central to the laws of motion of capitalism. Each capitalist must expand to survive. The headlong accumulation drives the system as a whole against barriers, breaking the social conditions necessary to appropriation of an "adequate" rate of profit. Breaking the conditions needed for expanded reproduction creates a crisis. Subsequently, either a recovery or sustained stagnation can occur. If it is the former, capitalism again drives against barriers, creating a cycle of crises.

In the following three sub-sections, I examine these propositions for a labor-abundant economy, focussing on capitalism's tendency to over-invest relative to consumer demand.

**The Tendency Toward Over-Investment**

Neoclassical and Keynesian conceptions of investment are not sufficient for the construction of a Marxist theory of over-investment and crisis. Contrary to the neoclassical view, investment is much more than intertemporal decision-making, the comparison of rates of return to the cost of credit. Nor are Keynesian theories of investment sufficient: capitalist investment cannot simply be explained using exogenously-given expectations, cash-flow problems, or the "flexible accelerator" theory (in which investment passively follows demand). While these conceptions say something useful about investment, they assume that investment occurs in a social vacuum, missing the specifically capitalist nature of investment in this society.

Abstracting from the roles of racism and patriarchy, investment decisions take place within the capitalist mode of production. The basic hypothesis is that capitalist investment and crises are different in origin and form from those generated by other modes of production (e.g., feudalism, socialism, and USSR-type systems). The "deep structure" of capitalism imposes the threat of costs for not investing on the individual capitalist—a falling profit rate or exclusion from a market or from the capitalist class.

These costs are not simply benefits for investing, since investment cannot abolish the mode of production that imposes them: they result from
structurally-based tensions. And these costs do not exist for a consumer’s decision to buy a consumer durable such as a refrigerator or a house, which concerns the distribution of use-values (consumption) over time and not the effort to grab as much surplus as possible. Nor do they arise simply because capitalism is a system of production for the market (commodity production). They arise because capitalism is generalized commodity production, where labor-power is a commodity. As Marx wrote [1977:874], under this systems workers are free in a double sense: they are free not only from the bondage of serfdom or slavery but from the privileges of property ownership.

Because of the latter, workers must labor for the capitalists in order to survive: they must work beyond the time necessary to reproduce themselves and their dependents, so that surplus-value is created. This exploitation distinguishes capitalism—and other class societies—from primitive communism, simple commodity production, and socialism. It also creates a serious structural tension, class antagonism.

Because of the former freedom, workers are mobile, untied to any single employer, though the cost of mobility may be very high (as in periods of high unemployment). This mobility distinguishes capitalism from slavery, feudalism, and USSR-type class societies. It is also the basis for the second structural tension, the competition among capitalists: anyone with enough money capital can purchase labor-power and join the competitive fray, to produce surplus-value or to fight other capitalists over its distribution [Weeks 1981:Ch.6]. Competition is the basis of the anarchy of production—which allows crises to occur—and of the conflict between individual and class goals of capitalists.

To understand how capitalism’s structural tensions—class antagonism and competition among capitalists—affect investment, first assume full capacity utilization. Investment is thus not blocked by large amounts of unused plant and equipment. In this situation, the two structural tensions push capitalists to expand. Investment clearly is not the only way that capitalists can expand (conquest of raw material supplies being another) but it is the one that I will focus on.

First, capitalists must invest to contain the class struggle in the labor process. As Braverman [1974], Edwards [1979], and others argue, capitalist technology is not simply used to produce use-values but to command and control workers. For production workers in large-scale industry, machine-pacing (the assembly line) is used most often. This control technique, however, does not abolish class antagonism. New techniques—and usually new investment—are necessary as workers learn how to “beat the system,” individually and collectively. For example, with assembly lines, it sometimes turns out that a minority of workers can slow production [Lippert 1978].

Also, capitalist accumulation continually creates new occupations, for example, key-punchers, that must be controlled. New control systems and thus new investment are required. Similarly, the expansion of secretarial
jobs requires investment in word-processing equipment to routinize and control. And a slowly-growing firm is less able to contain unionization drives—or to co-opt the leadership of existing unions. A multinational conglomerate has more clout than a small firm in "labor relations." Finally, investment eventually increases productivity and minimizes the effects of wage costs on profits.

Investment is not done simply to control workers. There is a related problem of the relations between capitalists and the "middle layers" of bureaucratic staff and line employees. Unlike production workers, bureaucrats do primarily mental labor (conception rather than execution) and so cannot be controlled using machine-pacing. Instead, loyalty to the firm must be inculcated in the bureaucrats. The most powerful source of this loyalty is the existence of advancement possibilities. The pyramidal structure of a bureaucracy means that only a minority can advance—so that a "zero-sum game" of internecine warfare threatens. The problem is solved if the company grows continually, creating more positions at the top. This is another constant pressure to invest.¹

The second structural tension, competition among capitalists, also induces investment. A company that does not invest in new plant and equipment ends up trying to sell unpopular items produced at high cost—so that it loses to its rivals. Even if capitalists actually expect a slump, they invest, since producing the most demanded products at the lowest cost allows them to survive the recession. Finally, to survive each capitalist must diversify, which also often involves investment.

Capitalists with monopolistic advantages may wish to delay investment in their markets to protect their rates of profit. But they have to invest to forestall entry and take-over bids. More importantly, they use their monopoly profits to move into more competitive markets—intensifying tendencies toward over-investment in those areas.

Competitive credit creation helps finance expansion: just as industrial capitalists are pushed to expand investment, competition induces banking capitalists to expand lending [Magdoff and Sweezy 1977]. Economic expansion also increases the banks' base for lending and encourages optimism, which raises the ratio of loans to deposits. Credit expansion thus counteracts the upward pressure on interest rates caused by a boom, especially when the credit system is unregulated. As Marx notes [1981:572], credit allows capitalism to break through the limits on accumulation and thus accentuates crises.

Class antagonism, bureaucratic ambition, competition, and competitive credit creation all push the system to expand. But to over-invest? For such a concept to be meaningful there must be some normal limitations on investment.
Barriers to Expansion: Increasing Instability

The barriers to investment's expansion reflect the necessary social conditions for expanded reproduction. Those conditions that allow a high rate of profit—which provides both the incentive to and the funds for investment—are critical. Capitalists can only receive what they consider to be an "adequate" rate of profit if social conditions are met for the production of surplus-value and its realization as surplus. The production of a high rate of profit requires specific supply conditions (low wages, etc.) while the realization of that profit rate requires high utilization, as determined by an equation such as (1). The forces described in the previous sub-section drive capitalism to break these conditions. The actual conditions broken and the form of the crises that result depend on the historical epoch. Diagram I summarizes the crisis possibilities for capitalism.

DIAGRAM I
Summary of Capitalist Crisis Possibilities

- Capitalism's Structural Tensions (Class Antagonism, Competition)
- Prosperity: Over-Investment
  - Peak: Is there labor-power scarcity?
    - yes
    - no
    - Over-Investment relative to supply
    - Falling profit rates
    - Over-Investment relative to consumption
    - Increasing instability
    - Downswing: Realization Crisis
      - Stagnation: Is there severe excess capacity and debt?
        - yes
        - Depression: underconsumption trap, debt-deflation, increased social disorder
        - no
        - Recovery: purging of imbalances
There are two basic situations for an expanding economy. First, if labor-power is potentially scarce, i.e., if buoyant accumulation can pull up real wages as fast as or faster than productivity growth, crises result from over-investment relative to supply constraints. (The necessary conditions for production are broken, depressing that rate of profit [Devine 1982a].) Second, if labor-power is abundant, there is over-investment relative to consumer demand.

Whatever the cause of the end of the boom, a realization crisis results as investment slumps, producing excess capacity and higher unemployment rates. Then there is either a recovery (as imbalances are purged from the system) or a fall into an underconsumption trap. The next sub-section and the fourth main section analyze these different results.

Cases of labor-abundant economies in the advanced capitalist world include Western Europe before agricultural reserves of labor-power were used up. On the other hand, the frontier made the United States, in effect, a labor-scarce economy during the nineteenth century, so that, compared to Europe, white workers had high wages. It is likely, therefore, that the United States was "labor-abundant" only during periods of mass immigration or rural-urban migration.

In labor-abundant economies like these, investment does not pull up money wages as fast as productivity. In addition, labor's weakness gives capitalists freer rein to use Taylorism and speed-up to boost productivity. Falling unit labor costs are not translated automatically into falling prices, so that the wage share of Z falls. Immediate price-cuts defeat the entire purpose of wage-cuts and productivity increases, which is to raise profits. Even in atomistic markets, capitalists will not cut prices relative to unit labor costs until competition forces them to do so. Price cuts imply immediate and obvious declines in cash inflow with the only compensation being delayed and uncertain increases in the quantity demanded. It is often safer to cut production (and cash out-flow). Oligopoly encourages such pricing behavior.

Given the greater marginal propensity to consume out of wage income, C/Z falls with the wage share. From equation (1), I/Z must rise to fill the gap to keep E/Z from falling. This investment boom (the TBP) is likely: it is encouraged by the structural tensions described above and by the rising actual and expected profit rates resulting from the distributional shift. An investment boom also encourages high capacity utilization (i.e., realization of the high profit rate) and thus investment. Even if capacity utilization is not superb, this problem can be (temporarily) covered up if the profit share of national income is rising sufficiently.

A rising income share of profits and rising utilization, however, may not raise the profit rate. The rate of profit relevant to business fixed investment is:

$$r = \frac{R}{K} = \frac{(R/Z)}{(Z/K)}$$

(2)

where K is the reproduction price of the existing stock of fixed capital and Z/K is the capacity-capital ratio. R/Z depends positively on the ratio bet-
ween full-capacity productivity and real wages, on the external terms of trade, and on the capacity utilization rate (E/Z). The ability of capitalism to fulfill the production conditions allowing expanded reproduction can be measured by the rate of profit at any given capacity utilization rate (e.g., at full capacity).

If Z/K declines, the rate of profit could fall during the expansion. But though the surge of investment (rising K) may depress capacity-capital ratios in many sectors, this tendency is counteracted on the aggregate level. The shift in the mix of spending to the sector producing means of production reduces the aggregate Z/K: because of the prevalence of small-batch production there, it is likely that that sector is less "capital intensive" than the sector producing wage-goods. More importantly, new fixed capital eventually raises the capacity to produce, boosting the capacity-capital ratio.

In sum, this type of boom allows both abundant production and abundant realization of surplus. But such growth masks the increasing instability that occurs as C/I falls. This instability gives a more rigorous definition of this type of over-investment: it is investment that lowers C/I too much to allow sustained stable growth.

First, investment is a much less stable component of aggregate spending than consumption. For any given distribution of income, consumer demand depends largely on habits and needs (following the relative income hypothesis) and on long-term plans and net worth (following the permanent income and life-cycle hypothesis). These factors are relatively constant in a given year, unlike those that determine investment (the rate of utilization, the expected rate of profit, interest rates, cash flow, and the expected growth of demand).

Second, if I/Z rises, productivity growth should increase after a few years. Thus, Z grows faster and real wages will have to grow faster than before to prevent an accelerated fall of C/Z. If wages do not do so, I/Z has to rise again. Investment must be even more buoyant to keep utilization rates from falling. Because of this, growing excess capacity may result as the boom persists. Even if investment does increase sufficiently to maintain full utilization, the economy is then even more dependent on the volatility of capitalist investment decisions.

One case where Z does not grow faster is where investment is "wasteful," e.g., is on speculation or advertising, which never lead to productivity growth. There are severe limits to this, however: the scope for advertising investment is limited, while speculative investment is more unstable than investment in fixed capital.

Redistribution to capitalists may make instability spill over into consumption. Demand by the rich favors luxuries, which are less tied to basic human needs than working-class consumption. It thus can be delayed more easily and is more unstable. This is clearest for consumer durables, which often have a luxury component. Spending on durables involves a large expenditure for a long stream of use-values and usually depends on credit. The
durables markets are also often easily saturated: given their extended life-
span (especially before the era of built-in obsolescence), it is difficult to con-
vince even rich people to buy more than one of each type of durable good.

In conclusion, as a long boom of over-investment relative to consumption
(the TBP) persists, downturns become more and more likely. The economy
is increasingly fragile, prone to collapse. Bottlenecks in the sectors produc-
ing machines or raw materials, short-term credit shortages, mild excess
capacity, or expectational fluctuations, which in other times do not cause
serious slumps, can trigger a severe downturn. Note than given the fragility
of the economy, the proximate cause of the downturn is a secondary ques-
tion: in fact, even a temporary increase in wages may be a triggering factor.

After a Downturn: Recovery or Depression?

In a downturn, investment typically falls more drastically. Thus, C/I
becomes higher and the economy more stable. However, there is a con-
tradiction between the conditions for production and realization of surplus.
As Marx noted, the conditions for the exploitation of labor and for the sale
of the surplus-product diverge not only in time and place but in theory
[Marx 1981:352]. Slow accumulation and high unemployment improve con-
ditions for surplus-value production. But the conditions for realization are
unfavorable since low capacity utilization depresses profit rates.\footnote{11}

In a period of stagnation, some forces push the economy toward recovery
while others push it toward depression. Because of this conflict, the timing
of a collapse of a long boom based on over-investment relative to consumer
demand cannot be predicted exactly. Mild downswings can occur within a
general boom (as in the 1920s) without ending that boom.

While excess capacity hurts the profit rate and discourages recovery, sus-
tained unemployment boosts profits by weakening labor. Slow investment
also contributes to recovery by temporarily slowing the growth of Z. Also,
the bankruptcy of the weaker capitalists allows the stronger to buy means of
production at bargain prices, stimulating recovery. To the extent that some
capacity is scrapped altogether, Z falls and the rate of utilization rises.

Even in the face of mild downturns, a long-term trend of increasing profit
rates keeps capitalist expectations optimistic and the system growing. These
expectations are socially irrational because they do not reflect the increased
instability. But the individual capitalists's greed usually dominates capitalist
class interests since competition makes it hard to see or act on class goals.\footnote{12}

When the end of the long boom comes, it can be severe. The accelerated
accumulation of fixed capital during the boom implies massive excess
capacity if demand falters. Debt is also often accumulated in a long boom.
Both of these imbalances are barriers to recovery, because they block invest-
ment. The longer the boom persists, the longer will be the time necessary to
purge the system of excess fixed capital and debt, to allow recovery. Alter-
natively, a deeper downswing is needed.

I hypothesize that sustained over-investment in the 1920s created condi-
tions for the total domination of the tendencies toward stagnation over those for recovery. This fall into an underconsumption trap made the downturn of 1929 into a Depression. In order to preserve historical order, the theoretical discussion of this trap—and of related problems—will be left until after the empirical analysis of the 1920s.

**Too Much Roaring in the Twenties?**

To analyze the 1920s and 1930s, I first consider international and domestic elements of structural instability, other than those related to problems of underconsumption, that contributed to the severity of the Depression. Then I turn to the abundance of labor-power, shifts in income distribution, and changes in consumption in the United States economy after the post-World War I recovery (i.e., after 1921).

*Elements of Structural Instability*

The international context might be called a structural crisis of the world system. Under than system (e.g., classical monopoly capitalism described by Lenin and others) capitalist competition had shifted, to a great extent, from the domestic to the international plane. This international rivalry meant that the world system was ripe for collapse.

The United States urban economy was a bright spot on a generally dismal background during the 1920s [Lewis 1949; Kindleberger 1973]. The rising industrial power of the United States economy made it a strategic determinant of world aggregate demand in a period of slow European recovery from the devastation of World War I.

United States workers did 42.2 percent of world manufacturing production in 1926-29, compared to 35.8 percent in 1913 [League of Nations 1945:13]. Of the major capitalist countries, only Japan and Mussolini’s Italy had greater growth in manufacturing between 1913 and 1925 than the United States. The other nations that grew faster than the world average (Holland, Czechoslovakia, Australia, New Zealand, India) were small or on the edges of the world system [Lewis 1949:35]. The pre-war colossus, England, stagnated, reaching its 1913 manufacturing level only in 1929.

In the late 1920s, however, an economic boom of sorts occurred. Between 1925 and 1929, world mining and manufacturing grew by 19 percent and in Europe, 22 percent. (Both figures exclude the USSR.) North American mining and manufacturing grew by only 15 percent [League of Nations 1937:163].

Despite this slower growth, the United States was still critical to world prosperity. First, United States growth was more long-lived, lasting throughout the 1920s. Second, the world economy was inherently unstable. A severe slump in primary production began in 1919. Protectionism was on the rise, despite such efforts as the League of Nations “World Economic Conference” of 1927. International transactions rested on the flimsy “gold
exchange” standard. Since important currencies were out of line (the pound sterling overvalued, the French franc undervalued) this ad hoc system was especially precarious.

Kindleberger [1973] argues that the problem was that the United States had not replaced England as the hegemonic power—and guiding hand—of world capitalism (as it did after World War II). In any event, Lewis notes that “So soon as America ceased to expand and to lend, then the underlying maladjustments [of the world economy] were to come out and take charge” [1949:50]. For example, the boom in Germany was built on the unstable base of short-term loans from the United States; war-related debts and reparations contributed to instability [Fleisig 1976]). When United States financial capital began to be pulled out in 1928, the German economy started to collapse.

Because the United States was so important to world demand, the rest of this study concentrates on that economy.

United States government policies contributes to instability. The Smoot-Hawley tariff contributed to the world trade war. Fiscal and monetary policy were passive (at best) in the face of the post-1929 collapse. Pepper’s [1973] study of fiscal policy and Hunter’s [1982:890] study of monetary policy indicate that government actions were contractionary at various times during the early 1930s. Government spending—whose relative constancy stabilizes aggregate demand—was small (8.5 percent of GNP in 1929, compared to 20 percent in 1980). Most of the “automatic stabilizers” (unemployment insurance, other transfers, the broad-based Federal personal income tax) were yet to be born. Federal Reserve policy, on the other hand, aimed to defend the dollar rather than to help the domestic economy. Thus, when international collapse began, deflationary policies were pursued.

The view that financial expansion accomodated over-investment fits the 1920s. Since most banking regulations were responses to the 1929 Crash, the banking system was largely unregulated. Thus its over-expansion tendencies were unblocked. In fact:

...several U.S. finance houses changed their tactics from the traditional one of waiting for the borrowers to come to New York to the more aggressive approach of sending out agents in search of potential borrowers. This move led to fierce competition, with many agents urging clients to borrow to the hilt [Fearon 1979:19].

The expansion of consumer credit and borrowing on the margin also encouraged real and financial expansion—and instability.

Economic Trends in the 1920s

In the United States, the urban economy was the “leading sector.” The “farmers’ depression” (part of the international slump in primary production) began in 1920. Thus, to test the theory of over-investment relative to consumption, I examine the urban sector where possible. Also, I focus on
the trends during the 1920s, especially between peaks in the business cycle (1923, 1926, and 1929) and from cycle to cycle, since the issue is whether or not the cycle itself was becoming increasingly unstable. Trends between decades are disregarded, since I am not proposing a theory of secular stagnation.

The urban economy was "labor abundant." While the racist immigration laws of 1921 and 1924 limited immigration, the farmers’ depression encouraged massive urban-rural migration. In spite of higher rural fertility, the farm population fell by about 1.5 million between 1920 and 1929; from 30 percent to 25 percent of the population. The abundance of labor-power in the cities is shown in column 1 of Table 1, which shows that the urban unemployment rate fell below 4 percent only in 1926.

It was not simply the reserve army of labor that undermined workers’ bargaining power. There was an employers’ offensive, including the Wilson-Palmer raids, the “American Plan” of open shops, company unions, and Fordism. The unionization rate fell from 12.1 percent in 1920 to 7.2 percent in 1929. The number of work stoppages fell steadily—from 3411 in 1920 to 921 in 1929. Unions’ ability to defend their members’ standard of living declined drastically.

The resulting stagnation of money wages, combined with abundant productivity growth, depressed unit labor costs. Increasing monopolization of markets [Keller 1973;1975] reinforced the normal downward inflexibility of prices. The GNP deflator did not change much during the 1920s, despite increasing excess capacity and falling unit labor costs. In sum, profit margins increased.

As a result, the distribution of income—both between classes and individuals—became increasingly unequal [Keller 1973;1975]. For example, the ratio of profits plus interest to wages (R/W, shown in column 2 of Table I) increased from 27.3 percent to 30.6 percent to 32.8 percent 1923 to 1926 to 1929. R/W rose in each of the three expansions, with the absolute size of the increase growing between cycles. Holt [1977] reports that the personal income distribution became significantly more unequal in the 1924-26 and 1927-29 expansions.

All of these data contradict the Boddy-Crotty [1975:1-19] high employment profit squeeze theory which suggests that R/W falls in the late expansion phase of the cycle. Though it is possible that quarterly or even monthly data fit their hypothesis, I believe that their theory is irrelevant to a labor-abundant economy. The most dramatic evidence for the labor-abundance of the 1920s is that increasing inequality coexisted with a steep fall in unemployment rates in the 1924-1926 expansion.

The data cited above do not reflect the impact of tax laws. The Revenue Act of 1926, pushed through by millionaire Treasury Secretary Andrew Mellon, cut taxes for the rich with few concessions for others. So between 1923 and 1929, the per capita disposable income of the top 1 percent of taxpayers rose by 64 percent, compared to a 33 percent rise in before-tax in-
Table I
KEY MACROECONOMIC DATA DURING THE 1920s

<table>
<thead>
<tr>
<th>date</th>
<th>nonfarm unemployment rate</th>
<th>profit wage ratio (R/W)</th>
<th>output capital ratio (Y/K)</th>
<th>estimated rate of profit (Devine)</th>
<th>(Mills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1921T</td>
<td>19.5%</td>
<td>27.2%</td>
<td>.46</td>
<td>7.2%</td>
<td>n.a.</td>
</tr>
<tr>
<td>1922</td>
<td>11.4</td>
<td>24.5</td>
<td>.48</td>
<td>7.0</td>
<td>9.7</td>
</tr>
<tr>
<td>1923P</td>
<td>4.1</td>
<td>27.3</td>
<td>.53</td>
<td>8.7</td>
<td>11.2</td>
</tr>
<tr>
<td>1924T</td>
<td>8.3</td>
<td>25.6</td>
<td>.54</td>
<td>7.9</td>
<td>10.1</td>
</tr>
<tr>
<td>1925</td>
<td>5.4</td>
<td>29.3</td>
<td>.53</td>
<td>9.0</td>
<td>12.4</td>
</tr>
<tr>
<td>1926P</td>
<td>2.9</td>
<td>30.6</td>
<td>.55</td>
<td>9.6</td>
<td>12.7</td>
</tr>
<tr>
<td>1927T</td>
<td>5.4</td>
<td>27.2</td>
<td>.53</td>
<td>8.5</td>
<td>9.8</td>
</tr>
<tr>
<td>1928</td>
<td>6.9</td>
<td>30.1</td>
<td>.55</td>
<td>9.2</td>
<td>11.3</td>
</tr>
<tr>
<td>1929P</td>
<td>5.3</td>
<td>32.8</td>
<td>.55</td>
<td>10.3</td>
<td>12.8*</td>
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<td>averages</td>
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<td>1921-23</td>
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<td>26.3</td>
<td>.49</td>
<td>7.6</td>
<td>10.5**</td>
</tr>
<tr>
<td>1924-26</td>
<td>5.5</td>
<td>28.5</td>
<td>.54</td>
<td>8.8</td>
<td>11.7</td>
</tr>
<tr>
<td>1927-29</td>
<td>5.9</td>
<td>30.0</td>
<td>.54</td>
<td>9.3</td>
<td>11.3</td>
</tr>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- "P" is a peak year in the NBER cycle, while "T" is a trough year. "n.a." means not available.
  (1) Source: Lebergott [1964:512]
  (2) \( R = \) Corporate Profits & IVA + Net Interest
     \( W = \) Employee Compensation.
  Source: Swanson and Williamson [1972:58].
  (3) \( Y = \) gross private domestic product minus gross farm product (both in 1929 dollars).
     \( K = \) Private nonfarm nonresidential capital stock (in 1929 dollars).
  (4) \( R \) (from column 2) deflated using GNP deflator divided by \( K \) (from column 3).
  GNP deflator from Temin [1976:6]
  (5) Source: Mills [1932:486.] This is the profit rate for 2,046 corporations.
     *For 1929, Mills' number is based on a smaller sample of 71 corporations.
     **This is an average for 1922-23.

come. For the lower 95 percent of taxpayers, after tax-income actually fell slightly even though before-tax per capita income was constant [Holt 1977].

Column (3) of Table I presents data for the urban output-capital ratio. This ratio rose slightly between cycle averages and cycle peaks, suggesting that the ratio of full-capacity output to capital \( (Z/K) \) did so also.22 It is not surprising, therefore, that the before-tax rate of profit generally rose during the 1920s, as shown by column (4). The profit rate rose between the three peaks, between the three cycle averages, and in each of the expansions, despite increasing excess capacity. Not only does this seem inconsistent with the orthodox-Marxist theory of the tendency for the rate of profit to fall but it also suggests that we should not expect economic collapse to be always preceded by profit rate declines.

Mills’ data on the rate of profit (column 5) are not as strong as mine in contradicting the falling profit rate hypothesis. Though they rise from 1923
to 1926 to 1929 and from 1922-1923 to 1927-1929 and in each of the three expansions, the rate of profit fell from 1924-1926 to 1927-1929. However, the 1929 number is not strictly comparable to the other ones, since it represents a different (much smaller) sample of corporations. Also, because they are for the leading urban sector as a whole, the numbers in column (4) are more appropriate to the analysis of an aggregate over-investment process.

As the theory presented above suggests, capitalist success (high profits) can be the harbinger of disaster. Even before the stock-market crash of 1929, a realization crisis (over-production) had begun:

It is clear that the rise in output of durable goods in 1928-1929 was too rapid to be long maintained. Excess capacity was developing in a number of lines, and this meant a decline in the demand for capital goods. As a matter of fact, new orders for some types of durable goods declined fairly early in 1929. The tire industry had been overbuilt, and tire production had fallen sharply in the latter part of 1928. The textile industries had been suffering from over-capacity for some time. Residential construction had been declining sharply since the beginning of 1926, and an over-built situation obviously existed in that area [Gordon 1974:43-44].

Recent "cliometrics" confirm Gordon's view that the automobile and housing markets were becoming saturated in the late 1920s [Mercer and Morgan 1972;1973]. As suggested earlier, the collapse triggered the world Depression.

The stock market crash should be seen more as a result than an independent cause (as Gordon and Wilcox [1981] see it). The rising profit rate encouraged the stock-market boom, by raising corporate earnings. Further, the distributional shift meant a larger flow of speculative funds to the market, because the rich (unlike the working class) can afford to be financial risk-lovers. (It is no surprise that the big bull market was not the only speculative bubble: consider the Florida land craze of 1925). The stock market boom was unstable, not only because of the laissez-faire financial system but also due to the underlying instability of the high profit rate.

The Role of Consumption

A key step is missing in the story, the behavior of consumption and investment. Keller [1975] argues that the rise of the C/I ratio during this period contradicts interpretation based on underconsumption forces. Column (1) of Table II shows that C/I not only rose between 1923 and 1929, but rose in the crucial 1927-1929 expansion. If Keller is correct then my theory should be rejected.

But that would be premature. First, Keller relies too heavily on national income accounts definitions. Second, we should look at changes rather than levels of consumption.

In the national income and product accounts, housing expenditures are seen as "investment," rather than as consumer spending, since housing is a durable. In testing any theory that points to slow growth of consumption as
### Table II

#### BEHAVIOR OF CONSUMPTION-INVESTMENT RATIOS

<table>
<thead>
<tr>
<th>date</th>
<th>C</th>
<th>C + H</th>
<th>CΔ</th>
<th>CΔ</th>
<th>C+HΔ</th>
<th>CΔ</th>
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<td>...</td>
</tr>
<tr>
<td>1922</td>
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<td>21.0%</td>
<td>45.3%</td>
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<td>12.9</td>
</tr>
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<td>5.0</td>
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<td>29.9</td>
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**averages**

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<th>CΔ</th>
<th>CΔ</th>
<th>C+HΔ</th>
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<td>6.1</td>
<td>26.1</td>
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</tr>
<tr>
<td>1924-26</td>
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<td>5.3</td>
<td>10.0</td>
<td>15.8</td>
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<td>5.4</td>
<td>5.1</td>
<td>16.5</td>
<td>15.6</td>
</tr>
<tr>
<td>1924-29</td>
<td>3.8</td>
<td>5.6</td>
<td>5.2</td>
<td>15.8</td>
<td>18.6</td>
</tr>
</tbody>
</table>

(1) (2) (3) (4) (5) (6)

**Notes:**

- C = flow of goods and services to consumers.
- H = residential non-farm construction.
- I = expenditure on producer durables and construction (excludes inventories).


"Cycle averages" for columns (4) through (6) are instead changes of C between the starting and terminal years, divided by average investment over the period and stated in as annual rates.

A problem, however, durability is not the primary issue. The over-investment theory does not apply to consumer durables such as houses, but only to business fixed investment. To the extent that over-investment occurs in the housing industry, it is in machines and infrastructure needed for house-building. Second, it is part of the underconsumption view that weak consumer incomes reduced the demand for housing after 1926 [Soule 1947:288]. If we follow official definitions, however, this depresses the denominator of C/I, raising the ratio. Since Keller’s test would then reject the underconsumption view, it is clearly missing something.

Many reject the underconsumption interpretation of the housing collapse, blaming it on declining population growth [e.g., Gordon and Wilcox 1981]. But this view ignores the fact that the number of people is not as important to the construction industry as the amount of money they spend on housing. A stagnant population with growing real income can afford larger and more expensive homes—and even extra ones. In addition, though aggregate population growth slowed, urban population growth was abundant. In sum, the changes in the distribution of income, not in the population, was critical.
Spending on residential construction (H) can, in many cases, be treated as part of the demand for consumer durables and thus be included in consumer spending. Alternatively, since the proportion of H that is on commercial apartment buildings or speculation is unknown, the housing sector can be excluded from the analysis altogether. (We can then rely on the Mercer and Morgan [1973] study of that sector.) Both of these methods have been used. Columns (2) and (3) of Table II show the behavior of the consumption-investment ratio when housing has been included in C and excluded completely.

As suggested by the theory, the ratios fell in each of the three upturns, between the three peak years, and between cycle averages. Changes were milder between 1926 and 1929 than between 1923 and 1926, but the trend is clear. Note that even the unadjusted C/I (column 1) fell between 1921-1923 and 1927-1929.

The second flaw in Keller's rejection of consumption problems in the 1920s is that C/I (however measured) is inadequate. One need not believe in a rigid accelerator to see that it is best to compare the increase in demand (the change in consumption) to the increase in potential supply (the level of net investment). The ratios of ΔC to I (following all three definitions) appear in columns (4) through (6) of Table II. The ratios should fall if the theory is correct.

Looking at the peak years of the cycles, consumption was increasing much more in 1922-1923 than in 1925-1926, and even more than in 1928-1929. The results are clearer if housing is included in consumption (column 5) than if it is not.

One curious result is that the ratios consistently rise from the first phase of the upswing (e.g., 1921-1922 to the second phase 1922-1923). This may be due to the multiplier effects of investment on consumer demand or the deceleration of investment in the latter phase. This phenomenon is not especially relevant to analysis of trends, but it does suggest the need to examine longer time periods. After all, investment does not increase supply immediately. Also, the higher ΔC/I in the late expansion may counteract the effects of the low ratio in the early expansion.

The bottom rows of Table II show the change in consumption relative to investment (with all three definitions) for complete expansions. For all, the ratio falls from 1921-1923 to 1924-1926 and from 1921-1923 to 1927-1929. But the ratio rises from 1924-1926 to 1927-1929 for two of the measures (columns 4 and 6).

The problem may arise from a rigid adherence to the NBER definition of the cycle. It is common to see 1924-1929 as one long expansion. As Sumner Slichter noted, "The recession which began in the fall of 1926 was so mild that one hesitates to regard it as recession in general business" [quoted in Gordon 1974:41]. Though unemployment rose significantly, industrial production fell by only 6 percent while real GNP actually rose between 1926 and 1927 [Gordon 1974:41-42]. So from a capitalist point of view, the 1926-1927
recession was merely a pause in a general boom.

Treating 1924-1929 as an extended expansion, as shown in the last row of Table II, the ΔC/I ratios all fell from 1921-1923 to 1924-1929. So the data are, in general, consistent with the theory.

Even so, the data do not support the hypothesis of increasing instability between 1924-1926 and 1927-1929 in columns (1), (4), and (6) of Table II. (And note that column 6, unlike the first two, cannot be rejected on theoretical grounds.) Because the distribution of income shifted in capital’s favor during the 1920s, any buoyancy of consumption was probably unstable. Working-class consumption was increasingly based on installment credit, while capitalist consumption was equally unstable because of its luxury component.

Table III suggests the increasing instability of consumption. Column (1) indicates that in the trend, gross individual and noncorporate debt rose relative to consumption. Though much of this reflects stock-market speculation (buying on margin, etc.), consumers are encouraged to cut back

### Table III

<table>
<thead>
<tr>
<th>Debt Ratios</th>
<th>The Role of Durables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Debt Cons</strong></td>
<td><strong>Nonfarm Pers. Debt Output</strong></td>
</tr>
<tr>
<td>1921</td>
<td>0.83</td>
</tr>
<tr>
<td>1922</td>
<td>0.87</td>
</tr>
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<td>1923P</td>
<td>0.82</td>
</tr>
<tr>
<td>1924</td>
<td>0.81</td>
</tr>
<tr>
<td>1925</td>
<td>0.86</td>
</tr>
<tr>
<td>1926P</td>
<td>0.84</td>
</tr>
<tr>
<td>1927</td>
<td>0.89</td>
</tr>
<tr>
<td>1928</td>
<td>0.91</td>
</tr>
<tr>
<td>1929P</td>
<td>0.91</td>
</tr>
<tr>
<td>21-23</td>
<td>0.84</td>
</tr>
<tr>
<td>14.26</td>
<td>0.83</td>
</tr>
<tr>
<td>27-29</td>
<td>0.90</td>
</tr>
</tbody>
</table>

| (1) | (2) | (3) | (4) | (5) |

**Notes:**

(1) "Personal debt" is total individual and noncorporate debt, from US Bureau of the Census [1975:989 (X402)].

"Cons. " is consumer expenditure, from Swanson and Williamson [1972:55].

(2) "Nonfarm personal debt" is personal debt from (1) minus farm debt, from US Bureau of the Census [1975:989 (X403, 404)], deflated by the GNP deflator, from Temin [1976:6].

(3) "Private Debt" is personal debt plus corporate debt, from US Bureau of the Census [1975:989 (X398)].

- GNP is from Swanson and Williamson [1972:55].
- (1)-(3): Debt figures are an average of the numbers for the beginning and end of a year.
- (4) and (5) are calculated from R.A. Gordon [1974:24].
- CD = expenditure by consumers on durables.
on spending as this ratio rises. Column (2) presents a debt/output ratio for the urban sector. The steady increases of these ratios from peak to peak suggest that urban spending as a whole was becoming increasingly fragile and the economy more prone to a debt-deflation depression (see the next section). Though there was no major change between the first two cycle averages, this conclusion that fragility increased is reinforced by sudden increases in the debt ratios from 1924-1926 to 1927-1929. Note that though these debt ratios fell in the 1921-1923 expansion, they rose in the second two expansions.

It is true that corporations were not yet in trouble in the late 1920s: the rising profit rate allowed a falling corporate debt/profit ratio, from 17.4 (1921-1923) to 16.5 (1927-1929). However, column (3) suggests that for the private economy as a whole (including corporations), financial fragility was increasing: these numbers follow exactly the same pattern as those in columns (1) and (2).

Further indication of the instability of consumer demand is seen in columns (4) and (5). They indicate that the role of consumer durables (CD, a proxy for luxuries) increased in the 1920s, as did the role of CD plus housing. Though the evidence is weak between 1924-1926 and 1927-1929, consumer spending appears to be more unstable when 1923 and 1929 and 1921-1923 and 1927-1929 are used for comparison.

So the weight of the evidence indicates that the United States economy became progressively less stable as the 1920s progressed. The increasing role of investment in propping up aggregate demand and the increasing instability of consumption made the economy ripe for a serious downturn.

THE DEPRESSION

After the 1929 slump, a large stock of debt coexisted with extreme excess capacity, suggesting that the economy fell into an underconsumption trap with a debt deflation.

In the "trap," investment is blocked since it is seen by capitalists as simply creating new excess capacity. Individual capitalists cannot see that investment might (through a multiplier process) increase aggregate demand and raise utilization and profit rates.

Capitalists are in a double bind: they want to raise the rate of profit, but cannot use the time-honored techniques of investment and productivity growth (relative surplus-value extraction) to do so. To survive the intensified competitive battle, they must raise profits by cutting wages and raising productivity through speed-up (absolute surplus-value extraction). High unemployment weakens labor's resistance, making this effort more successful. Given the downward stickiness of prices, unit labor costs fall relative to prices. This depresses C/Z even further. Since investment is blocked, E/Z falls. Thus, contrary to capitalist intentions, profitability is hurt. If investment is hurt further, the economy sinks even deeper.

Though hardly an underconsumptionist, Temin notes that average week-
ly real wages fell from 1929 to 1933; they at the same time there was an extraordinary fall in consumption [Temin 1976:139, Ch.3]. The latter fall probably occurred partly because of the former—and partly because capitalist consumption was hurt by the stock-market crash [Mishkin 1978]. (The stock-market crash was thus both a result of underlying instability and a contributing factor to the magnitude of the collapse.)

Macroeconomics textbooks usually argue that declining prices always cause the economy to recover through wealth effects. But others, such as Tobin [1975] and Minsky [1982], doubt this proposition: falling prices can be disastrous because they cause a liquidity crunch and depress expectations of future sales, thus discouraging investment. Moreover, hoarding is encouraged as money is expected to become more valuable.

As Gramm [1972] shows, "pervasive" wealth effects occurred in the 1930s. Falling prices, illiquidity, and bank failures encourage people to hold more currency instead of bank deposits and banks to hold large excess reserves. Hunter [1982] describes hoarding by corporations in the 1930s. Even Friedman and Schwartz [1965:37] present data showing that a significant increase in the monetary base was more than negated by this behavior, while "velocity" fell drastically. The flipside of the over-expansion of the credit system during the 1920s was thus the severe implosion of the 1930s.

By redistributing wealth from debtors to creditors, unanticipated price cuts hurt spending (since debtors spend more than creditors). And after an over-investment process, assets are illiquid and physical (fixed capital, consumer durables) and, consequently, are hard to sell during a general glut. In contrast, debts are stated in nominal terms and increase in value as deflation occurs. This produces a debt-deflation depression [Fisher 1933].

Lower limits on investment and consumption combine to form a "floor," a limit on the underconsumption trap and debt-deflation. Gross investment cannot be negative. Consumption's fall is also limited by subsistence needs. Finally, the size of the state budget puts a lower limit on aggregate spending's fall.

More serious for capitalism were the social problems that arose. Since the system no longer delivered the goods in even its normal way, much of its legitimacy was lost. Even workers lucky enough to be employed suffer from wage-cuts and speed-up. In the 1930s, therefore, events such as the Bonus March, the Unemployed Councils, and general strikes occurred. Even though United States capitalism was never fundamentally threatened, capitalist expectations were probably dampened, prolonging the stagnation.

Recovery can make the social situation worse for capitalism by giving the working class more confidence and ability to express discontent. That seemed the case during the short-lived United States recovery of 1936-1937 when strikes and unionization drives peaked. This was one factor that encouraged a relapse.

The conclusion to this section is commonplace: only World War II saved the United States and world economies from the Great Depression.
SUMMARY AND IMPLICATIONS

The process of over-investment described above can be summarized by borrowing an analogy from Fisher [1933]. Capitalism acts as if it were a boat rocking back and forth, righting itself each time—until capsizing. But contrary to Fisher’s views that such forces are exogenous, those forces that “rock the boat” are inherent in capitalism as a social system. They reflect capitalist accumulation coming into conflict with the social conditions necessary for capitalism’s continued expanded reproduction.

The evidence presented above for the 1920s fit this theory. Due to the generally poor bargaining position of labor, profit income and investment rose much more than wages and consumption in the trend and in most cyclical upturns. To some extent, consumption was supported by rising debt-spending ratios, though this only delayed the Depression and increased the degree of instability. In the 1929 cyclical downturn, the rate of capacity utilization fell below the threshold that separates “normal” fluctuations from depression. There, because of the increased C/I ratio, the economy was relatively stable. However, wage-cutting made the situation worse, especially since social unrest and a debt deflation were encouraged.

Further work is needed on the applicability of the theory to other periods and countries and on the validity of other views of the origins of the Depression (including those criticized above and other theories of over-investment such as Hayek’s). Instead of starting such an effort here, I now turn to the implications of my theories to the post-World War II era.

In the United States, the 1950s and 1960s seem like a good example of a period when accumulation pulled up wages and consumption (despite the increasing weakness and bureaucratization of unions). It was an era which might be called “United States-dominated corporate capitalism,” lacking the destabilizing rivalry among capitalist imperialisms that typified the 1920s or 1930s. Simultaneously, a large warfare-welfare state budget acted as a balance wheel, limiting the economy’s oscillation even before Keynesian-style demand-management came to be consciously applied. Nevertheless, capitalism did not become free of crises. Rather, crises took another form. Instead of over-investment relative to consumer demand, the United States in the 1950s and 1960s saw over-investment relative to supply [Devine 1982a]. The long-term trend was gradual deindustrialization—instead of increasing instability—and a drift toward stagflation in the 1970s [Devine 1982b].

Turning to the 1980s, Reagan’s economic policies are not the same as Coolidge’s. Though the Reagan administration is doing everything within its power to redistribute income from the poor and working classes to the rich, the underconsumption effect is to a large extent cancelled by the massive increase in military spending. Moreover, the government and Federal Reserve are committed to keeping the recession “mild,” protecting big banks and corporations from bankruptcy and moderating social discontent.

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But this is not to say that a new world depression cannot happen or that tendencies toward underconsumption are irrelevant. An underconsumption trap and debt-deflation are becoming increasingly likely on a world scale. The decline of United States hegemony, increasing international capitalist competition and protectionism, international financial instability, and third-world and Eastern European debt problems (in sum, the structural crisis of United States-dominated corporate capitalism) make a collapse increasingly likely. (For a debate on this issue, see Minsky [1982:xii-xxiv] and Sweezy and Magdoff [1982].) And instead of the simple story of capitalist competition driving down real wages and consumption, it is competitive state-directed austerity and export-promotion programs that may cause a new world Depression.

Of course, a recovery is also possible. Higher profit rates may stimulate accumulation. Though it is hard to predict the future, it is likely that any new growth will be based on increasing income inequality, with further calls on labor and popular movements to "tighten their belts" in the name of investment (i.e., profit) promotion. Wage controls (the Democratic policy) or yet another upward redefinition of the "natural" rate of unemployment (the Republican policy) could legitimize austerity. Growth-with-austerity, when pursued simultaneously and competitively by many different capitalist countries threatens to produce over-investment relative to consumption on a world scale. But the theory presented above suggests that this over-investment will become increasingly unstable. A boom of this sort simply delays—with the cost of intensifying—a new world Depression.

Because of the increasing international mobility of capital, it is difficult for one country to pursue non-austere accumulation: capital will flow to the areas with low unit labor costs. A transition to the (relatively benign) labor-scarce economy and over-investment relative to supply requires pressure from the labor and progressive movements on all or almost all capitalist states. Such internationalism is also a necessary precondition for the abolition of the structural bases of capitalist crisis tendencies (class antagonism and capitalist competition) and of the transition to socialism.

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NOTES

1. See Sweezy [1942] and Shaikh [1978] for useful reviews of this literature.
2. While Marx and Keynes saw investment as the key determinant of demand, underconsumptionists emphasize the dominant role of consumer demand and the passivity of investment.
3. The issue of the supply of labor-power and the determination of the value of labor-power (and the wage) is thorny. Marx rejected physical-subistence theories of wages, pointing to the moral and historical element in the reproduction cost of labor-power [1977:275]. He also refers to the "customary supply of labor" beyond which wages are pulled up by capitalist accumulation [1977:763]. Though superior to the neoclassical reliance on unex-
plained "tastes" (because it points to the need to understand the historical context of the wage struggle and the importance of socially-created needs) it is still hard to pin down theoretically. But one can posit that for any nation there exists a "backward L" shaped supply curve. Real wages rise until the economy gets to the customary supply of labor where the curve becomes inelastic. The elastic "tail" shifts up as needs arise or if the working class as a whole becomes more organized. The curve shifts out with labor-force growth.

The distinction between labor-scarcity and labor-abundant hinges on whether real wages rise faster than productivity as labor-power demand (determined by accumulation) moves along this curve. As noted in the final section, increasing international mobility of capital may prevent labor-scarcity from persisting.

4. My conceptions of capitalism and USSR-type systems are similar to Sweezy's [1980].

5. Under capitalism, this bureaucratic tension is a combination of the two more basic ones, competition and class antagonism. Bureaucrats (especially the top ones) share the power and privileges of the capitalists—and compete to get more—while often (especially at the lower end) selling their labor-power.

6. See the discussion surrounding equation (2) below for a further analysis of conditions allowing production of an "adequate" rate of profit. Though realization conditions follow equation (1), strictly speaking it is not sufficient. The structure of demand must also match the structure of supply (as in Marx's reproduction schemes).

7. Since most markets are normally in disequilibrium, as Arrow [1959] points out, they behave as if they were monopolistically competitive.

8. Some will argue that the rate of profit in formula (2) is not measured the way that Marx would prefer: it is not in value terms, nor does it include the wages of unproductive labor-power as part of the surplus. But that is to miss one implication of the contradiction between social production and individual capitalist appropriation: while Marx's profit rate helps reveal the social nature of production, capitalists (suffering from the illusions produced by competition [Marx 1981:Ch.50]) act according to a rate of profit such as (2).

9. It is true that consumption may slump suddenly if consumers suffer from serious cash-flow problems, but this usually occurs after a downswing has begun.

10. "Wasteful" spending is spending done by capitalists that is neither directly productive (i.e., is not on productive workers' wages) nor indirectly productive (i.e., is not on means of production or workers who increase the productivity of productive workers).

11. The other horn of this capitalist dilemma occurs with over-investment relative to supply and causes the high employment profit squeeze to occur, where realization conditions are best but conditions for the production of surplus-value are poor.

12. This again shows the irrelevance of the theory of "rational" expectations, which conflates individual and collective goals.

13. I have some evidence that other countries suffered from underconsumption problems, which I will make available to interested readers.

14. US Bureau of the Census [1975:96(C76), 10(A29)].

15. Using Lebergott's urban unemployment rate makes the working class's situation appear even bleaker than does Coen's [1973] adjusted version of Lebergott's national unemployment rates. In table II, the unemployment rate averaged 6.2 percent for 1922-29, while for Lebergott's and Coen's national rates, it averaged 3.7 percent and 5.4 percent. The urban unemployment rate is probably more meaningful than the national rate, which aggregates two qualitatively different types of labor-power markets, urban and agricultural.

16. The unionization rate is calculated from US Bureau of the Census [1975:177 (D94) and 126 (D1)]. It was 8.3 percent and 7.6 percent in 1923 and 1926. The number of work stoppages is from US Bureau of the Census [1975:175 (D970, 977)]. They numbered 1553 in 1923 and 1035 in 1926.

17. Bernstein [1960] and Stricker [1983] describe the working class plight during the 1920s in greater detail.

18. Numbers presented by Kendrick [1961:338-9] indicate that in the private nonfarm economy, output per labor-hour increased on average by 2.1 percent per year between 1919 and 1929 (compared to 1.7 percent between 1900 and 1916). Hourly money wages in manufac-
uring increased by 1.7 yearly between 1919 and 1929. [US Bureau of the Census 1975:170 (D803)]. This suggests that in the 1920s, unit labor costs fell. Capacity utilization in cycle peaks fell from 94 percent (1923) to 89 percent (1929) [Baran and Sweezy, 1966:237]. The GNP deflator equalled 100 in 1923 and 1929, and 101 in 1926 [Temen 1976:6].

19. As a percentage of national income, the share of profits and net interest rose from 16 percent in 1923 to 19 percent in 1929 [Swanson and Williamson 1972:58, Table 2]. Most of this was at the expense of proprietors’ income and rent and the shift seems to be the result of increased urbanization. By looking at R/W, I control for the rural-urban shift.

20. Holt argues that per capita farm income rose significantly during this period. This might undermine the underconsumption view (and the historian’s “farmers’ depression”). However, the rise in per capita income seems to be the result of the migration of the poorer rural population to the cities. With the decline of farm population, per capita farm income also becomes a smaller determinant of aggregate consumer demand.

21. It is true that the corporate tax rate rose from 12 percent to 13 percent. But the lower rate was restored by the Revenue Act of 1928


23. Sirkin [1975] argues that for at least half of the twenty-nine major Dow-Jones industrials studied, stock prices were in line with earnings and their growth in 1929. This indicates that the stock-market boom was not totally irrational for individual speculators.

24. Keller uses numbers from Swanson and Williamson [1972], while here I use Kuznets data presented by R.A. Gordon [1974]. This is simply because Kuznets disaggregated more than Swanson and Williamson. As far as I can tell, similar aggregates move together; thus I switch between the two sets of NIPA according to the type of disaggregation required.

25. For 1924-1926, this ratio was 15.5, so that corporate financial instability first increased and then decreased. Calculated from US Bureau of the Census [1975:989 (X399)] and Swanson and Williamson [1972:58]. Minsky [1982:11] presents data showing a rising corporate debt-income ratio. If Minsky is correct, this strengthens the view that the United States economy in the late 1920s was increasingly fragile.

26. Monetarists [e.g., Schwartz 1981:24] focus on the rise of the hourly real wage during this period. But rather than being the result of a labor-power supply curve moving along an imaginary marginal product curve, the falling hourly real wage probably resulted because employers usually lay off low-paid production workers before high-paid “overhead” workers (supervisors, managers, etc.) In any event, weekly real wages are more important to aggregate demand.

27. For a more general analysis going beyond the Depression, it should not be presumed that worker resistance automatically rises (or, for that matter, is restricted to Depression levels). Class struggle is a profoundly political and social process, not reducible to economics. Divisions in the working class, forms of political and economic organization, and previous experience in the struggle help determine the working class response.

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