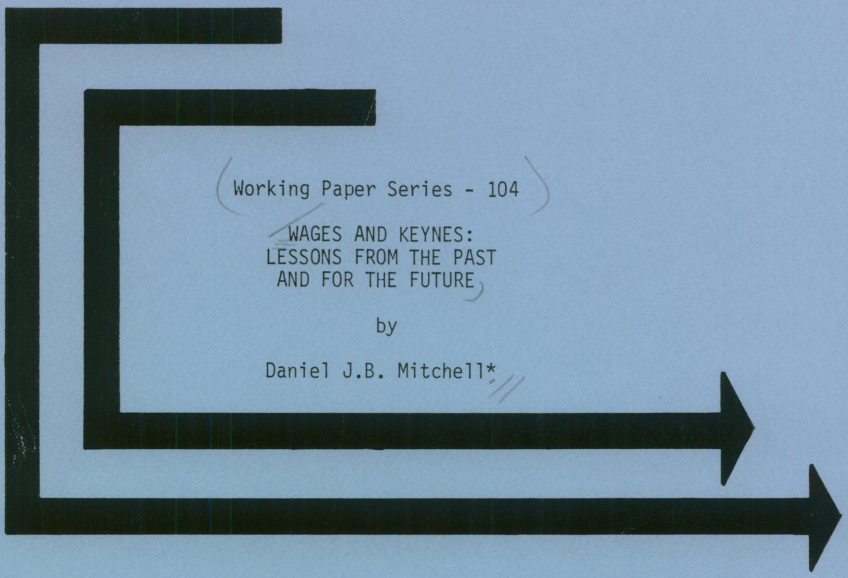

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WAGES AND KEYNES: LESSONS FROM THE PAST AND FOR THE FUTURE

by

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ABSTRACT

Keynes' ideas on wages had a profound impact on macroeconomic analysis. He argued that because wages bargains were made in nominal terms, and because prices were markups over wages, cutting wages would not change real wage levels, and thus could not raise employment. Wage reductions could not cure depression. The problem in the labor market (unemployment) could not be solved in that market. Its solution lay elsewhere in regulating demand.

Often the Keynesian impact is pictured as a battle between Keynes and earlier classical economic theorists whose ideas were shown to be obsolete. In fact, examination of the literature of the 1930s does not reveal a classical consensus. Rather, there were diverse, vague, and contradictory notions about wages and unemployment. The disarray was exacerbated by the lack of appropriate, readily-available data on labor markets and output.

Keynesian ideas became dominant because of the analytical disarray and because of the development of new data sources (pushed by Keynesians). However, the Keynesian principle that wages didn't much matter led to a neglect of micro foundations of wage setting and to acceptance of ad hoc empirical constructs such as the Phillps curve. In addition, certain ideas of Keynes were congenial with the use of anti-inflation wage controls, implemented by several postwar administrations.

Modern economic thought on wage flexibility has produced promising developments. Most notable is the Weitzman proposal that the form of the wage contract, i.e. the absence of profit sharing, causes unemployment and stagflation. Weitzman's analysis suggests that, contrary to Keynes, the problem in the labor CAN be solved in that market. On the other hand, other recent work on the causes of macro-level unemployment risks ignoring Keynes'important distinction between micro and macro analysis.

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The economics profession is now in the fifth decade since the appearance of Keynes' GENERAL THEORY. Yet the debate over the meaning and impact of that theory continues. Economists are still capable of arguing with interest -- and passion -- about whether Keynes was really a Keynesian. (Colander; Salant, p. 1058; Meltzer; p. 41; Patinkin, 1983, pp. 49-50) To many, Keynes is now viewed as having propounded a questionable theory, but nevertheless producing useful policy insights. Still, although there are few strict Keynesians left, much Keynesian influence remains._1_/

This essay focuses on Keynes' views regarding wage setting and unemployment. The emphasis is on the American response to these views. There are obvious drawbacks to this approach; Keynes' theory was meant to be general, covering the determinants of interest, investment, and consumption as well as wages. And Keynes' ideas arose from the British tradition. Nevertheless, the narrower focus taken below makes the topic manageable and serves to illuminate some recent developments in economic thought.

Discussion of Keynes' views on wages and unemployment can be divided into two categories: historical and analytical. Under historical falls the question of why Keynesian ideas came (with a lag) to be so influential. Under analytical comes the identification of key Keynesian insights of enduring validity and -- since the subject is economics -- of the price paid for acquiring those insights.

The historical analysis below suggests that the eventual influence of Keynesian analysis of wages and unemployment was due to the disarray of economic thinking in the 1930s and before. It was not a case of "Keynes versus the classics" (with debate over whether Keynes misrepresented the classical position). Rather it was Keynes versus the muddle. An important contributing factor to that muddle was the lack of appropriate data bases in the 1930s. When such data bases were developed in the 1940s and later, Keynesian insights became apparent.

On the analytical side, Keynes' chief contribution was drawing a distinction between macro versus micro analysis of the wage/unemployment issue. Some recent literature suggests that this important distinction is eroding, to the detriment of the understanding of important economic issues. On the other hand, will be argued that the spread of Keynesian ideas contributed to neglect of the micro foundations of wage setting and to the failure to integrate those foundations with macroeconomics. Keynes emphasized the unimportance of the wage contract to macro outcomes. But recent work on micro foundations suggests that -- contrary to Keynes -- economic performance could be improved by modifying the form of that contract.

I. Wages in the GENERAL THEORY.

Debates on Keynesian economics are prone to mix interpretation of what Keynes "meant," or what he should have said to formulate a

"correct" theory, with what he actually did say. While editorial comments are inevitable -- particularly since Keynes said different things at different times and wrote for the popular press as well as for an academic audience -- this section will be confined to what the GENERAL THEORY said about wages and unemployment. The GENERAL THEORY devoted much attention to the subject, especially in its introductory pages, and in a chapter (number 19) devoted to wage adjustments.

Keynes emphasized that "classical" theory -- which he illustrated with the writings of A.C. Pigou (1933) -- could only explain frictional unemployment and "voluntary" unemployment caused by legislation, unions, and the obstinate behavior of workers in refusing to accept a market-clearing wage. Since workers, contrary to classical assumptions, make wage bargains in nominal terms, they will accept real wage cuts caused by rising prices, but will resist those caused by decreases in nominal wages. However, Keynes believed that it would be incorrect to attribute cyclical unemployment to such behavior. After all, he noted, money wages fell significantly during the depression (he cites the U.S. in 1932), and yet unemployment grew. Thus, even when nominal wage cuts occur, they do not alleviate unemployment._2_/

The problem with nominal wage reductions, according to Keynes, was that prices were tied to wages via the cost mechanism. In a micro-level labor market, a wage cut could raise the demand for labor by improving the profitability of employers in that market. But, when there is a general reduction in money wages, the cut leaves the ratio of wages to prices -- the real wage -- unchanged. Classical economists, in Keynes' view, were prone to the "fallacy of composition." They confused micro with macro analysis by assuming that since workers in a given labor market could negotiate real wage reductions via nominal wage cuts, workers en masse could do the same.

In the Keynesian model, workers could not negotiate the real wage, due to the wage/price connection. And, in any case, they do not seek to do so since their preferences in wage determination are linked to wages paid to other workers. Under a decentralized system with staggered wage decisions, a cut in wages of one group lowers RELATIVE wages. But increases in the price level cut real wages across the board and, hence, are less likely to be resisted._3_/

Nominal wage rigidity played two roles in the Keynesian system. First, it permitted a definition of "involuntary" unemployment, which occurs when more employment could be induced by an increase in the price level, i.e., a diminution of the real wage by inflation rather than by wage cuts. Without the "involuntary" label, unemployment would appear not to be a social problem, since the unemployed (or their unions or political representatives) would have brought the condition upon themselves willingly and would have the power to alleviate it.

Second, nominal wage rigidity stabilizes the price level when the economy is at less than full employment. Keynes believed that nominal wage cuts could not clear the labor market (because they could not reduce the real wage). But in an auction-type labor market, wages would keep falling in the face of excess supply whether such reductions would do any good or not. Since, in the real world, wages and prices do not fall without limit, some stabilizing force was needed. Money wage rigidity makes the model more realistic.

Keynes provided a list of possible exceptions to his general conclusion that the problem in the labor market cannot be solved in the labor market._4_/ Wage cuts -- accompanied by commensurate price cuts -- could have a monetary effect, lowering interest rates and stimulating investment. But Keynes pointed out that it would be easier to increase the money supply to achieve this effect. In any case, he was pessimistic that interest rate manipulations through monetary means could sufficiently stimulate investment. (Private investment decisions were based on fickle expectations and social control of investment was deemed necessary by Keynes). Hence, the possible use of wage decreases as an ersatz expansionary monetary policy was not seen by Keynes as a substantial qualification to his general principle of the impotence of wage reductions.

According to Keynes, a cut in money wages in an open economy might increase net exports, a stimulatory effect, by improving a nation's international competitiveness. It could also worsen the international terms of trade, thus reducing real national income and reducing saving, another expansionary impact. Wage cuts might make entrepreneurs more optimistic, thus stimulating investment. And, the investment effect could be enhanced, if the wage cut were seen as temporary; firms would be motivated to undertake investment projects while labor costs were a bargain.

But arrayed against these potentially positive impacts of wage cuts were counter arguments. Wage cuts might cause labor troubles, thus making entrepreneurs fearful and harming investment. Or wage cuts might lead to expectations of further wage reductions, thus causing postponement of investments. And wage cuts, accompanied by price cuts, would raise the burden of debts to borrowers, possibly leading to a climate of pessimism._5_/

Keynes noted that wage cuts might redistribute income toward "rentiers" through lower prices. If rentiers had a lower propensity to consume than workers, aggregate demand would decrease and unemployment would rise._6_/ This argument, it might be noted, is related to a theory then popular in the U.S. that high wages were needed to maintain demand through enhanced worker purchasing power and that low wages caused depressions. Some writers have incorrectly asserted that the wage/purchasing power doctrine was central to Keynes. (Tolles, pp. 140-141) Nevertheless, some Keynesians -- and others in the U.S. looking for an intellectual rationale for the wage/purchasing power doctrine -- assumed that

Keynesian theory supported New Deal policies aimed at pushing up wages.

By listing out a series of pro and con arguments for wage cutting, Keynes accomplished two purposes. First, he assumed a non-dogmatic posture, showing himself willing to consider special cases in which wage cuts would do some good. Second, he showed that the special cases were all second order effects, not the assumed direct stimulus to labor demand which he attributed to classical economics. No one would want to have a policy prescription based on minor, second order effects -- especially when reverse cases could be enumerated. Thus, by listing arguments for wage cutting, Keynes was actually degrading THE basic proposition that wage cuts would cure depressions.

Keynes recommended that over the long run, national wages policy should aim at gradually rising real wages and stable prices, i.e., nominal wages should be limited to to the rise in productivity. This approach would permit declining industries to shed labor gracefully. That is, their relative wage could decline without the necessity of nominal wage cuts. But despite the desirability of a stable price policy, he feared that excessive wage inflation might be touched off as the economy approached -- but before it attained -- full employment. Apart from the productivity-linked upward trend, flexible wages should be avoided, according to Keynes, because they would lead to erratic price fluctuations._7_/

In summary, Keynes made three key arguments with regard to wages. Two involve macroeconomic implications. The third is an attempt to explain nominal wage rigidity. They are:

1) Wage bargains are made in nominal, not real, terms. Workers cannot set the real wage and, therefore, wage setting rigidities do not explain unemployment. The explanation for unemployment is insufficient aggregate demand, which is determined outside the labor market. THE PROBLEM OF THE LABOR MARKET CANNOT BE SOLVED IN THE LABOR MARKET.

2) Nominal wage bargains determine prices, as firms base their pricing decisions on costs.

3) Nominal wage rigidity is explained by decentralization in the labor market and interdependent worker utility functions. Any wage cut, because it is made locally, is seen as a relative wage cut and thus is resisted.

Note that Keynes, in making his points and observations, often referred to unions and wage BARGAINING. Given British institutions, this tendency is not surprising. Had Keynes been writing from an American perspective, his union orientation might have been much less pronounced. During the period of the great slump (1929-1933), American unions -- already substantially weakened in the 1920s -- were a negligible force in wage setting._8_/ Indeed, in late 1932, the president of the American Economic Association took note of the

"declining influence" of unions and saw no reason to believe unions would ever stage a comeback. (Barnett)

II. The Debate Over Keynes and the Classics.

Most readers will be familiar with the outline of the "Keynes versus the classics" debate. Keynes viewed his theory as the general formulation, with classical analysis relegated to the special case of full employment. Later interpreters and analyzers of Keynes were more likely to see the classical case as general, with Keynes as a special case featuring money wage rigidity and weak or severed links between monetary policy and real activity. (Modigliani, Hicks) As Harrod put it, "Mr. Keynes has not affected a revolution in fundamental economic theory but a re-adjustment and a shift in emphasis." (Harrod, p.85)

Defenders of classical theorists have long argued that Keynes misrepresented the classical position. In this view, the classical economists did not really ignore unemployment and the business cycle. Rather, they had a dynamic view of the cycle which they found difficult to model precisely. And, in any case, they were more concerned with secular labor market adjustment, i.e., impediments to labor mobility from declining to expanding industries, than with more short run phenomena.

Modern proponents of the classical position note recent literature emphasizing Pigou-style real wage rigidity as the villain for high unemployment rates in Europe and elsewhere in the late 1970s and early 1980s. This new work is seen as redeeming the classics. (Casson, pp. 222-247) As will be seen below, however, such explanations risk falling into the fallacy of composition trap -- confusing macro with micro -- against which Keynes warned.

Pigou himself went on to refine the classical position. He introduced the real balance effect (Pigou effect) which permitted wage cuts -- even if accompanied by proportional price cuts -- to restore full employment by raising the real value of what was later termed "outside" money. (Patinkin, 1965, p. 15) Despite this accomplishment, Pigou reportedly became a figure of mirth for younger Keynesian colleagues, by authoring books such as LAPSES FROM FULL EMPLOYMENT. (Was the Great Depression well characterized as a "lapse"?) Yet he left Keynesians clinging to a non-theoretical argument that wage cutting was impractical. Alternatively, they were forced to argue that wage cuts MIGHT lead to harmful expectations of further deflation.

It is commonly believed that Keynes' views overwhelmed the alternative, classical position and thus became dominant in economic thinking by the late 1950s. In the U.S. case at least, this view is misleading. It IS true that Keynesian ideas eventually became dominant. But it is NOT true that they overwhelmed classical notions of unemployment which prevailed in the 1930s.

The fact is that there was NO coherent prevailing view of unemployment and its relation to wages in the U.S. literature. Rather the issue was shrouded in theoretical murk and empirical fog. Wages were often seen as having some role in the Great Depression. But the precise nature of that role was left uncertain and ambiguous in the contemporary literature, as illustrated by Schumpeter's analysis:

> "The Depression has not been brought about by the rate of wages, but having been brought about by other factors, is much intensified by this factor. The causes are different in different countries but everywhere wages are higher than is compatible with full employment. This statement does not mean that unemployment in its present extent is due to the rate of wages. But part of it is, as shown by the unusually high figures during the preceeding prosperity. Moreover our statement does not mean that the rate of wages is too high in any other sense or that the policy of high wages is a mistaken one. For there may be compensating advantages." (p. 181)

Keynes' ideas on wages and unemployment came to be accepted in the U.S. for three reasons. First, Keynesian views seemed to explain the stylized facts of the Great Depression (particularly when relevant data were available in the 1940s and later). Second, Keynesian propositions could be related to -- and taken to support -- political positions regarding wages and unemployment associated with the New Deal. Third, Keynesian activism supported the development of an underlying empirical base which in turn reinforced Keynesian thinking.

III. International Analysis of Wages and Unemployment.

There are a variety of reasons for doubting the wide acceptance in the 1930s of the classical conclusion that unemployment could be remedied by wage cuts. Keynes singled out Pigou's THEORY OF UNEMPLOYMENT for criticism because, he said, it was the only place a statement of the classical theory could be found. (1936, p. 7) Hicks later commented that he doubted most economists were familiar with Pigou's work. (p. 147) Indeed, when Pigou's book appeared in the U.S., it was reviewed by S.E. Harris (1935) as "one of the truly great books that have appeared since Marshall's day" and as a challenge TO Keynes -- whose ideas were already circulating -- rather than the other way around. The application of rigorous classical theory to the study of wages and unemployment was thus seen as a NEW contribution.

Conveniently, the ENCYCLOPAEDIA OF THE SOCIAL SCIENCES was published in London at about the time Keynes' theories were being formulated, with review articles on various aspects of then-prevailing economic ideas. Writing on unemployment, Karl Pribram explained that there were various theories on the subject. But he argued that theories which indicated that wages could bring about equilibrium in the labor market were inadequate to explain real world phenomena. Apart from the wage approach, Pribram

described theories of long waves in economic activity caused by non-economic disturbances, theories of problems in the financial system, of underconsumption, of cyclical corrections of excesses which accumulated during booms, and of technological advance.

A rather similar review by business-cycle analyst Wesley Clair Mitchell also appeared in the ENCYCLOPAEDIA. He cited his own work suggesting that "costs" (including, but not limited to, wages) squeeze profits at cyclical peaks, a problem corrected at troughs. But falling costs have a perverse effect of causing delays in purchasing during depressions, and only when they stop falling can the perverse effect cease. (Exactly why costs stop falling was not explained).

Finally, Jakob Marschak's review of wage theories contained virtually no discussion of any connection between wages and unemployment. He did note that theoretically unions might push wages high enough to cause unemployment. But this possibility was treated skeptically, and was a minor point in the exposition.

A League of Nations study of contemporary business cycle models, directed by Gottfried Haberler (1936; 1937), provided further evidence of the diversity of opinions. Many of the theories he reviewed had no explicit wage component at all. Haberler himself seemed of two minds. On one hand, he was not sympathetic to the wage/purchasing power theory underlying New Deal legislation in the U.S. He argued that public works could make up for losses in worker purchasing power which wage cuts might cause. Thus wage cutting could be fostered without concern about the demand effect. But on the other hand, Haberler argued that the failure of wages to be high enough in booms caused excessive investment and insufficient consumption, thus precipitating a business downturn.

IV. The American Literature.

If the international literature was cloudy, American writings presented an even denser miasma. Fifty years before the publication of the GENERAL THEORY, the American Economic Association had its origins in a revolt of "institutionalists" against what was then considered the classical tradition. (Coats) Although this wound had partially healed, there were still prominent economic institutionalists in the 1920s and 1930s, particularly in the field of labor, who did not accept Marshallian precepts. (Tolles, pp. 51-66; Bronfenbrenner)

Institutionalists were criticized for a lack of methodology and "as poorly disguised professors of sociology" (Estey, p. 798; Burns), but their continued prominence indicates the prevailing tension over theory and methodology. "Orthodox" economists were also criticized during this period as impractical theoreticians. One critic characterized orthodox theorists as inhabitants of "Universities where the surviving specimens of the dying race of nineteenth century economists are kept artificially alive, carefully guarded against any breath of reality." (Paul Einzig quoted in

Estey, p. 796) There was not, in short, a clear consensus on methodology, theory, or policy in the 1930s.

i. Textbook Economics.

Advanced American graduate students in the 1920s and 1930s may well have used Marshall's PRINCIPLES as a text. If so, they would have found practically no references to unemployment. Marshall believed that the impression that unemployment was associated uniquely with industrial society was illusionary. Worker idleness was simply more visible in industrial society because of the clear demarcation of employee and employer. In earlier agricultural society, such idleness was simply hidden from view. (Marshall, 1895, p. 777)

Undergraduate texts must have been severely disappointing to students hoping for an interpretation of the Great Depression. Such textbooks typically devoted substantial space to forms of corporate organization, the regulation of natural monopolies, and similar topics. Regarding wage determination, the student would be confronted with an array of different theories, presented in a way suggesting all were equally plausible. The same was true of explanations of the business cycle. "Perhaps one man's guess is as good as another's..." concluded one book. (Mitchell, 1932, p. 516)

Textbooks appearing in the late 1930s felt a greater obligation to take positions and to deal with public policy questions such as make-work projects and the National Industrial Recovery Act (NIRA). Still a panoply of theories was offered. And lest the student come away with the impression "that if all the economists in the world were placed end to end they would not reach a conclusion..." assurance was given that "the diversity of opinion ... is a matter more of differing emphasis than of disagreement about the facts of outstanding importance." (Knight, p. 420) Would that it were true!

ii. Academic Literature.

As Leijonhufvud points out, "the trouble with the textbook tradition is that one does not know whether anyone of consequence (took) what it said seriously." (1981, p. 178) However, a review of articles appearing in prominent American economics journals during the 1930s confirms the same impression of diversity and confusion obtained from the textbooks. This finding should not be surprising if the state of American economic literature in the 1930s is kept in mind. During this period, theories relating business depressions to sunspots were still appearing in such academic publications as the QUARTERLY JOURNAL OF ECONOMICS. (Garcia-Mata and Shaffner)

Also noteworthy was the lag in perceiving relevant economic developments. Even as what was clearly cyclical unemployment worsened in the early 1930s, economists persisted in discussing the problem as one of technological displacement. Unemployment was pictured as "the price of economic progress" which would ultimately benefit those displaced. (Meriam, p. 159) The notion that

technological change was an important factor in the unemployment of the 1930s persisted until World War II produced full employment. (Fleming)

Fascination with what would later be called automation appeared to be a hangover from the 1920s. During that period, unemployment was assumed (but not really known) to be high in the industrial sector and automation was often considered the cause._9_/ In the early 1930s, Hansen advanced a theory of how general demand deficiency could result from worker displacement by technology. Essentially, the incomes of the displaced workers were said to fall by more than the offsetting rise in the real incomes of consumers (which are increased by lower prices). But Hansen's theory tended to be regarded as mischievous. Haberler (1932) argued that since money would not be passing through the hands of the displaced workers, the resulting increase in money velocity would create the demand to re-employ them.

To the extent that wage adjustments were connected with unemployment in the literature, the analysis was typically vague. Five years before the GENERAL THEORY appeared, Keynes had argued that nominal wage cuts in the U.S. case -- despite its lesser degree of "economic rigidity" compared with Britain -- were not socially possible. (Keynes, 1931, pp. 30-31) Although his reasons for this judgment were not clear, Keynes may well have had in mind the wage/purchasing power theory which had taken root in the U.S. in the 1920s. In 1927, for example, Tugwell (p. 135) reported that business no longer considered wage reductions the appropriate response to declines in product demand. According to the wage/purchasing power theory, high wages were needed to maintain worker purchasing power and consumption. Wage cuts would therefore aggravate depressions by indirectly reducing consumption.

iii. The Wage/Purchasing Power Doctrine and Economic Analysis.

It is not surprising that labor union officials widely subscribed to the wage/purchasing power theory (and still do). But the Marxian flavor of the doctrine -- wage cuts as a contradiction in capitalism -- might not seem appealing to business executives. Indeed, with hindsight, it appears that in business circles, the high wage doctrine was confined to certain larger, more "progressive" employers. (Krooss; Collins) Wage cuts remained common in the 1920s. (Mitchell, 1985) Yet the adoption of the principle by these prominent business figures influenced public policy and eventually posed a theoretical challenge to American economists.

President Hoover in particular accepted the doctrine; at the outset of the Great Depression, he urged business to refrain from wage cutting, an exhortation which appeared to have some impact. Yet under Hoover, the wage/purchasing power theory was embodied only in statements. Later, as the doctrine became embedded in New Deal policy, however, economists were forced to consider whether pushing up wages was an appropriate remedy for unemployment.

The National Industrial Recovery Act of 1933 was the centerpiece of early New Deal economic policy. A variety of contradictory pressures shaped the Act. It promised a form of economic planning, although whether the planning would be by business or government was unclear. (Himmelberg) Firms were organized into industry cartels regulated by "codes" which covered such matters as pricing and wage rates. Substantial wage increases were promoted under the NIRA after mid 1933. Nominal wages in larger manufacturing firms rose by 18 percent during 1933 and by 8 percent during 1934. Real wages rose by 14 percent and 3 percent, respectively._10_/

NIRA codes also included language fostering the use of collective bargaining to set wages. Unionization began to grow rapidly with NIRA encouragement. When the NIRA was declared unconstitutional in 1935, Congress replaced its labor provisions with the Wagner Act, a law still on the books in modified form, which actually contains the wage/purchasing power theory in its preamble._11_/ The Fair Labor Standards Act of 1938 went still further by providing a formal federal minimum wage floor, rather than just encouraging unions to raise wages through collective bargaining.

Initial reaction to the NIRA by economists was often conditioned by the general despair felt about the state of the economy. Sumner Slichter, for example, wondered out loud whether "...we should discard this industrial system which throws millions of men out of work whenever business managers have difficulty in discovering enough new ways to make money..." (1934, p. 185) The depth of the crisis, in short, promoted an initial receptiveness to radical solutions and untried remedies.

As time passed, however, disenchantment with the NIRA set in, and criticisms became more common. Some defended the wage/purchasing power theory. (Nathan) But the prevailing argument came to be that the NIRA had squeezed profits, had eventually pushed up prices as fast as wages, and had hindered recovery. (Cox) Thus, by 1936, Slichter -- who a few years before had been willing to try anything -- argued that "raising the price is not likely to increase the sales of any article and ... there is no reason to expect labor to be different in this respect..." (Quoted in Lester, pp. 56-57)

Yet the basic issue of wage cutting versus wage raising as a depression remedy was by no means closed. The Keynesian argument that general cuts in nominal wages would not alter the real wage became popular, although there was some empirical disputation of this assertion. (Dunlop; Tarshis) In partial response, eclectic proposals were developed advocating RELATIVE wage cuts in industries making capital goods to promote investment. (E.M. Bernstein)

Economists writing on wages and unemployment were not always careful to distinguish between the absolute level of wages and wage flexibility, i.e., responsiveness to the state of demand. Slichter argued that unions not only should, but eventually would, introduce profit sharing or some related form of contingency pay into their contracts to attain greater wage flexibility. Willford King went

into great detail about how profit sharing would enhance wage flexibility and the macroeconomic benefits that would thereby accrue. Harold Moulton suggested that profit sharing could bring benefits because firms base prices on costs (excluding profits). Thus, prices would be lower if a component of pay was based on a profit share.

These writing foreshadowed recent proposals for encouraging a "share economy" (discussed below). They also suggest that promising lines of economic thinking in the 1930s were later submerged by the general Keynesian proposition that wage setting played little or no role in determining the level of employment and unemployment.

iv. Alternative Views of Money and Prices.

Despite the discussion of wages in the 1930s by some economists, many did not view the wage issue as central to the fashioning of a depression remedy. Thus, those who gave a monetary interpretation to the depression were mainly interested in preventing credit contraction. The Chicago proposal put forward in 1933 for 100% reserves for bank deposits was based on this objective. (Angell) There were also schemes proposed for issuance of money whose nominal value would decrease to promote more consumption. (Watkins) And there was substantial interest in price behavior APART from its relation to wages.

Irving Fisher, for example, emphasized that deflation increased the real value of debt burdens. He proposed a "reflation" through monetary expansion until prices were back to "normal" levels. Thereafter, monetary policy should be aimed at price stability. (1932; 1933)

Fisher's work was sophisticated compared with much of the pricing literature. Other authors had a simple tendency to believe that since prices had fallen after 1929, boosting them back to 1929 levels would restore 1929-style prosperity. Distinctions were not always made between boosting prices through monetary expansion, boosting them by creating NIRA-sponsored cartels, boosting them by having government restrict farm acreage, or boosting them by pushing up wages and encouraging unions.

Raising the price of gold was advocated, apparently in the belief that money was a veil for gold and that higher gold prices would automatically translate into higher prices for everything else. Particularly associated with the price raising view -- and apparently influential in establishing the President's gold policy -- was research by Warren and Pearson. As Warren and Pearson saw it, "Inflation results in unusual business activity. Deflation stops business." (p. 428)

Contributing to the interest in the macro-economics of prices (as opposed to wages) was a growing literature on oligopolistic pricing in the U.S. These pricing studies suggested that stickiness in prices might not be a simple reflection of wage rigidity, as

Keynes assumed. Rather, it was possible that the price mechanism, not the wage mechanism, was hindering economic adjustment. (Means; Mason)

v. The Fiscal Alternative to Wage Cutting.

There were also economists in the 1930s who might be labeled proto-Keynesians. Well before the GENERAL THEORY appeared, and before such ideas acquired the Keynesian label, individuals such as Lauchlin Currie advocated use of federal deficit spending to stimulate the economy. (Sweezy) Young academics with similar views gravitated to Washington, although conservative economics departments apparently resisted granting leaves to these budding New Dealers. (Lubin, p. 216) Proto-Keynesian government economists did have some concerns about wages; they worried about wage-push emanating from the new CIO unions in 1937 and its role in the subsequent recession. But their fiscal emphasis generally shifted economic discussion in other directions.

Despite the predilections of some of his economic advisors, Roosevelt was not particularly impressed with Keynes' ideas when the two men met, although the President apparently enjoyed the chat. For his part, Keynes became fixated on Roosevelt's hands during the conversation. (I. Bernstein, p. 18; Heilbroner, p. 253) More pointedly, the fiscal activists in the Roosevelt administration were unsuccessful in their efforts to convert the President to their viewpoint. (Stein, pp. 39-168) Nevertheless, Keynesianism and the New Deal quickly became associated in the public mind and in the economics literature._12_/

The Keynes/New Deal association and Keynes' bent toward government intervention in economic affairs meant that economists with similar predilections toward government would gravitate toward Keynes. Keynes' views on wages thus were spread along with his other ideas. The fact that Roosevelt was not a Keynesian was of no more import than the fact that Hoover wasn't a Marshallian.

vi. Summary on American Wage Analysis in the 1930s.

Commenting on Keynes critique of the classics in 1968, Blaug argued that "no single economist ever held all the ideas Keynes attributed to the 'classics'" and that the real problem was that "almost no economist after 1870 considered the type of macroeconomic problem with which Keynes was concerned." (p. 662) By the early 1930s, however, most U.S. economists WERE forced to ponder the depression. But it is difficult to find any consensus about the relation (if any) between wages and general unemployment which emerged from this contemplation. Indeed, even when taken take one by one, it is often difficult to understand the views expressed.

V. The Empirical Fog.

Modern macroeconomics has a strong empirical tilt. Thus, the relative absence of empirical work in the literature of the 1930s is

striking. Part of the difficulty in empirical work during that period was technological, as anyone who has attempted to run a multiple regression without a computer can attest! Even the preparation of simple tables can be extremely time consuming without data processing equipment. Paul Douglas, for example, complained of the 18,000 hours and 3 million computations required to produce his famous book on REAL WAGES IN THE UNITED STATES. (Wolman)

But the empirical problem went still deeper. Government collection of data on critical time series was limited in the 1920s and 1930s. Today, books are not written developing statistics about real wages because the information is readily at hand from official sources. In the 1930s, however, data availability and quality were severe limitations on empirical work, and assembling a statistical time series on an important variable was a major contribution. Lack of data hindered the analysis of wages and unemployment until economic activists, both in and out of government, pushed for the public collection of statistical series. Much of the pushing came from Keynesians and proto-Keynesians.

i. Deficiencies in Labor Market Data.

Large gaps in labor market data existed in the 1920s and 1930s. Most glaring was the absence of data on unemployment. Although unemployment was viewed as a social problem, it was measured -- if it was measured at all -- by subtracting employment estimates from previous peaks or "normalized" trends. The neat figures which appear today in historical data sources showing unemployment rates during the 1930s were computed long after the events.

While economists -- particularly those in government or those interested in social reform -- agreed on the need for direct measurement of unemployment, political roadblocks existed in the 1930s to establishing an unemployment series. Congress insisted on a one-time postcard unemployment census in 1937, but President Roosevelt reportedly resisted the idea. (Mitchell, 1937, pp. 170-177) Reasons for this resistance are not clear, but a survey which revealed substantial unemployment was potentially embarrassing to an administration elected to end the depression. It was not until 1940, with the economy clearly expanding, that the Current Population Survey -- the source of modern unemployment data -- was inaugurated.

Those estimates of unemployment based on employment trends which were made in the 1930s were widely viewed as inadequate at the time. For example, the series published by the National Industrial Conference Board (NICB) showed NEGATIVE unemployment during business booms. Labor union data on non-employment of their members was particularly unreliable and covered only a fraction of the workforce._13_/ Efforts to obtain better data from records of the U.S. Employment Service also produced unsatisfactory results. It was recognized that the establishment of unemployment insurance -- with its requirement that claimants register with the Service --

distorted the series. (Hollander and Wellemeyer; Hollander and Vinogradoff)

Wage data also were unsatisfactory. The Bureau of Labor Statistics (BLS) had developed a payroll-based establishment survey in the 1920s and continued expanding it in the 1930s. Nevertheless, the survey was heavily centered on manufacturing, with only spotty coverage elsewhere.

Published data gave total payrolls for production workers and the number of employees. Weekly earnings could be determined by dividing the former by the latter. But continuous hourly earnings data were not collected until the early 1930s. (Bowden) Even then the format in which data were published was inconvenient for users. Thus, labor market analysts often relied on hourly earnings data gathered by the private NICB. Unfortunately, the NICB surveys were biased toward larger firms and covered only manufacturing._14_/

Price data (needed to compute real wages) were available from the BLS, but there were problems of quality and frequency. The concept of using price information to set wages developed in response to the use of arbitration to settle wage disputes in a number of industrial countries early in this century. (Jacoby) Arbitration in the U.S. was fostered by the federal government during World War I as a way to avoid strikes. Although there was often confusion between use of absolute data (worker budgets) and price change data, BLS activities in gathering and publishing price information expanded.

During the 1920s, however, federal budget cutbacks reduced the frequency of publication of retail price data by BLS from quarterly to semi-annual. (Goldberg and Moye) A substantial effort to enhance the BLS price data did not come until the mid 1930s. The NICB produced a cost of living index on a monthly basis. But detailed methodological statements were not available and there may have been some reluctance to rely on a business-oriented entity for such data. (Jacoby and Mitchell)

Difficulties in obtaining reliable price data not only hindered empirical work, it also conditioned economic modeling. Keynes' view that wages were INHERENTLY set in nominal terms seems less plausible today than it did in the 1930s. At that time, even if wage indexation was desired, real questions arose as to the source of a price index and the quality of that index. After World War II, in contrast, consumer price indexes became readily available and were prepared in ways to facilitate indexing._15_/

ii. National Income Accounting.

Modern empirical work in macroeconomics makes heavy use of the national income and product accounts. But the historical data sources which trace these accounts back to 1929 are almost as misleading as those which show unemployment rates for the 1930s. Economists seeking information on consumption, investment, or other

product flows integral to the Keynesian model could not turn to the national income accounts.

Early work on national income analysis was undertaken at the National Bureau of Economic Research (NBER) in the 1920s under Simon Kuznets and others. The lack of official information on national income flows led to a Congressional push for such data in the early 1930s. (Popularity of the wage/purchasing power theory with its emphasis on payroll income contributed to this interest). As a result, the Department of Commerce and the NBER developed national income accounts for the period 1929-32, accounts which were published in 1934.

Thereafter, the effort expanded and data for subsequent years were developed. However, although the idea of product data had been suggested earlier (Kuznets), product flows were not estimated until the early 1940s. (Carson) In short, not only did the U.S. go through the Great Depression without measuring its unemployment rate, it also failed to measure real output comprehensively._16_/ Efforts at linking output and unemployment of the "Okun's Law" variety had to be deferred until well after World War Two.

iii. Summary on the Data Gap of the 1930s.

The reader should not come away with the impression that NO data were available in the 1920s and 1930s. To the contrary, the SURVEY OF CURRENT BUSINESS was filled with statistics on freight car loadings and the like. The problem was that the kinds of data most critical for analyzing the depression were missing. Without a complete set of national income and product accounts, for example, much ink was spilled on such issues as whether saving REALLY equaled investment. (Curtis; Lerner) More importantly, economists were free to theorize about the Great Depression, wages, and unemployment, without fear of empirical contradiction.

A brief look at Table 1, composed of data not available (or not readily available) at the time, illustrates this point. It is evident from the table that if one wanted to compose a theory of unemployment during the depression, the theory would be likely to include the following elements:

1) Much emphasis would be placed on investment behavior. Excluding inventories, real investment fell by 74 percent and accounted for over 40 percent of the fall in real GNP during 1929-33. Yet noninventory investment accounted for only 16 percent of GNP (in 1972 dollars) in 1929.

2) Consumption would be viewed as a relatively stable flow. It fell by less than real GNP.

3) Nominal wage cuts would be assumed to have little impact on real wages. Despite a 26 percent fall in nominal wages, real wages declined by only 3 percent.

Table 1

OUTPUT, EMPLOYMENT, WAGES, AND MONEY,
1929-1933

	Percent Change, 1929-33	Change as Percent of Change in Real GNP, 1929-33
Real GNP_a_/	-30%	100%
Consumption	-21	48
Investment_b_/	-74	41
Nonresidential	-65	26
Residential	-80	12
Government_c_/	+5	-2
Federal	+56	-4
Private Employment (Full-Time Equivalent)	-27%	-
Private Wage_d_/		
Nominal	-27	-
Real_e_/	-3	-
Monetary Base_f_/		
Nominal	+12%	-
Real_e_/	+49	-
Money Supply_g_/		
Nominal	-34	-
Real_e_/	-13	-

_a_/ Real GNP and components are based on 1972 dollars. Includes net exports and inventory investment not shown separately.
_b_/ Excludes inventories not shown separately.
_c_/ Includes state and local government not shown separately.
_d_/ Total compensation per full-time equivalent employee.
_e_/ Deflated by personal consumption deflator.
_f_/ "High powered money" as defined in Friedman and Schwartz as of June.
_g_/ Currency plus commercial bank time and demand deposits as of June.

Source: GNP, wage, and employment data from U.S. Bureau of Economic Analysis (pp. 6, 238, 253, 318). Monetary data from Friedman and Schwartz (pp. 712-714, 803-804).

4) Monetary policy would be pictured as relatively ineffective. The monetary base ("high powered money" defined by Friedman and Schwartz [p. 50]) rose by 12 percent in nominal terms and 49 percent in real terms. Yet the nominal money supply fell and real GNP collapsed.

As the data of Table 1 became available in the 1940s and later, it is hardly surprising that Keynesian ideas became commonplace. Samuelson, for example, in the first edition (1948) of his Keynesian textbook, took note of the vast increase in available data and made extensive use of the new series. (preface, p. v) The contrast between the postwar Samuelson text and textbooks available in the 1930s makes clear the impact of the data revolution on economic thought. The latter often had little empirical information and certainly had no set of accounts that could be used throughout much of the text to illustrate economic relationships.

VI. Developments After World War II.

The Employment Act of 1946 is generally viewed as the first piece of American legislation heavily influenced by Keynesian thinking. It is often erroneously cited as the FULL Employment Act, an earlier, more interventionist version of the bill which did not pass. Yet although the Act was more limited in scope than Keynesian activists had hoped, it did solidify government collection of labor market and other data which had been absent or available only in rudimentary form in the 1930s. And it also created new clients for such data in the form of the Council of Economic Advisors and the Joint Economic Committee. (Baily)

Apart from the vast outpouring of empirical work made possible by the new statistics, the mere availability of these figures changed the nature of economic discussion. Most notably, the old debate over whether unemployment was voluntary or involuntary -- a point Keynes was so keen to address with his distinction between real and nominal wages -- is rarely found in modern literature. Or, at least, it is not found using the older terminology with its implication that a widely perceived socio-economic problem does not exist.

Today, unemployment is tracked statistically using well known definitions and methodology. Debate may occur over the precise form the definitions should take, on whether demographic and social trends have altered the meaning of a given level of unemployment, or about the degree to which social welfare programs contribute to measured unemployment. But the data are available in sufficient richness to permit these issues to be explored by private researchers and official commissions.

Apart from its impact on data production, Keynesian thinking about wages and unemployment had impacts on public policy towards -- and the empirical and theoretical analysis of -- wage setting. In the public policy arena, the Keynesian approach gave rise to the use of government-imposed guidelines and mandatory controls to influence

wage inflation. A closely related, ad hoc empirical literature on the form and implications of the Phillips curve eventually gave rise to theories of wage stickiness which are still being developed. Initially, however, the Keynesian view of wage setting had the unfortunate effect of diverting economic analysis away from the "whys" of wage stickiness and away from theories suggesting that the nature of the wage setting process might have some important bearing on unemployment.

i. Wage Intervention and Wage Analysis.

During the 1950s and 1960s, Keynesians were largely content to believe that nominal wages were sticky and that the labor market was simply a funny place. Wage determination should be explored statistically to determine its regularities. Perhaps Keynes' conjecture that wage inflation would arise before full employment was achieved could be confirmed empirically, using using recently developed econometric and computer techniques. And if wage inflation were a problem, some type of government intervention might alleviate it.

The idea of manipulating the Phillips curve through wage guidelines or controls may seem paradoxical in the Keynesian context. After all, the thrust of Keynes' GENERAL THEORY had been that wage manipulation was NOT the key to reducing unemployment. However, postwar Keynesians looked at the wage/unemployment issue politically, not economically.

In the Keynesian viewpoint, government could achieve full employment through demand policy alone. But if the public -- for some reason -- disliked the inflation which resulted, policy makers might be prevented from lowering the unemployment rate sufficiently. Reducing the wage inflation associated with a given unemployment rate would eliminate the political roadblock to full employment.

Of course, the public was worried about PRICE inflation, not wage inflation. But the Keynesian view of wage guidelines or controls implicitly assumed that reduction of wage inflation would automatically be passed into reduced price inflation. Or, if the pass through turned out to be less than automatic, it was assumed the Presidential "jawboning" or some form of controls could remedy the situation. To be sure, not all Keynesian-oriented economists held these views. But there was sufficient consensus so that some form of guidelines or controls was implemented in each of the Kennedy, Johnson, Nixon, and Carter administrations._17_/

Meltzer has pointed out (p. 50, footnote 26) that Keynes' GENERAL THEORY does not provide explicit support for government-imposed wage guidelines and controls. And, of course, the Phillips curve -- as a stable trade off between wage inflation and unemployment -- is not found in Keynes. Yet there is a stronger Keynesian paternity to both ideas than these observations suggest.

The Phillips curve -- at least in its early forms -- embodies the notion of money illusion on the part of wage setters, a proposition which IS found in the GENERAL THEORY. Since money illusion implies a certain "irrationality," imposing wage guidelines is unlikely to be inefficient. Forcing people who behave irrationally to conform to other rules of behavior cannot be assumed to distort the labor market. The market is already distorted.

Finally, Keynes did express a preference for gradually rising nominal wages (to give workers "psychological encouragement") with stable prices. This preference is clearly represented in the rule that nominal wages should rise with productivity, the basis of the 3.2% Kennedy/Johnson wage guidepost. There was, in short, considerable congeniality between Keynesian ideas, the Phillips curve, and the use of wage guidelines and controls.

ii. Research into Micro Foundations of Wage Setting.

The instability of the Phillips curve relationship, particularly the observation that it seemed to shift up in the late 1960s as price inflation accelerated, suggested that the kind of wage stickiness proposed by Keynes was untenable. Wage setters DID seem to react to real wage erosion by price inflation. By the late 1960s, this observation led to the Friedman critique of the Phillips curve trade off and to the development of notions of a "natural rate" of unemployment.

Yet, even with the Friedman critique, wage setting seemed far removed from an auction process. Stagflation in the 1970s led to the development of theories of implicit contracting in the labor market. (Rosen; Mitchell, forthcoming {b}) Although various versions of these theories exist (Rosen), many have their roots in institutional work on labor markets linked with structural unemployment (Doeringer and Piore), and in data sets revealing long term employer/worker attachments. (Hall) The growing critique of Keynesian notions about wage setting and anti-inflation policies in the 1970s led to a rebirth in micro-level research on wage setting.

Not all of this research is equally promising. But what is promising is the renewed interest in understanding the non-auction properties of labor market adjustment. Economists seem to have discovered a middle ground between assertions that the labor market should be assumed to be perfectly competitive in the textbook sense and the alternative view that its institutions are so peculiar that only ad hoc empiricism is worthwhile.

VII. New Directions in Macroeconomic Wage Analysis.

It is possible to take the reaction against Keynesian notions about wage determination too far. One proposition that needs questioning is the central idea of Keynes that wage setting doesn't matter very much in the determination of unemployment. His assumption that wage setting takes place only in nominal terms must also be abandoned, in an era of good price data and escalation. On

the other hand, Keynes' admonition that fallacies of composition with regard to wage setting should be avoided is still valid. The macroeconomics of wage setting are not well represented by drawing intersections of labor demand and supply curves taken uncritically from microeconomic labor market theory. There is much more to the story.

i. Modern Fallacies of Composition: An Illustration.

In recent years, particularly in Western Europe and elsewhere abroad, there has been a tendency to explain persistently high unemployment rates since the mid 1970s by too-high wages._18_/ It is argued that OPEC oil price increases (or some other factor) caused wages to increase faster than domestic prices, thus causing "classical" (rather than Keynesian) unemployment. Unions have pushed up the demand curve, causing an excessive supply of workers to develop.

The difficulty with this type of analysis is its incompleteness and its failure to distinguish macro from micro. At the micro level, the demand for labor has a downward slope stemming from two factors: the downward slope of the firm's product market demand curve and the potential for factor substitution, e.g., capital for labor. At the macro level, however, the former effect drops out (since interfirm and interindustry competition has been aggregated away), and what is left is factor substitution. But in the short run, the scope for factor substitution is quite limited and labor input is geared to output in a quasi-fixed coefficient relationship. The short term, macro-level demand for labor is close to vertical and the classical explanation of a real wage overhang is not very helpful.

Firms set their prices with regard to costs. Most of these costs are for interfirm purchases. But at the macro level, these purchases net out (neglecting the foreign trade element). In effect, firms end up setting a markup of prices over wages (P/W). If wage setters set REAL wages (contrary to Keynes), they are effectively marking up wages over prices (W/P). And if the wage setters' target W/P is not the inverse of the firms' target P/W, there cannot be equilibrium.

In particular, if monetary authorities wish to avert inflation, they must avoid real income, output, and employment levels at which the W/P target of wage setters exceeds the W/P target established by price setters. It may require a level of economic activity well below full employment to achieve this "harmony" of targets. Lower levels of unemployment will produce an accelerating rate of inflation, as happens in real wage models when actual unemployment falls below the natural rate.

The model sketched out above is Keynesian in that real income and output form the adjustment mechanism, and in that low level "equilibria" are possible. It is modern in that it does not assume money illusion of wage setters and in that it takes explicit account

of active monetary authorities. Most importantly, it illustrates that the alternative to the old Keynesian model is not a simple reversion to the confused wage analysis of the 1930s. The lessons of Keynes' macro and micro distinctions in wage analysis should not be forgotten!

ii. Modern Views of Wage Flexibility.

Keynes asserted that the problem of the labor market (unemployment) could not be solved in the labor market (by wage manipulations). Recent work by Martin Weitzman asserts the opposite: The problem in the labor market, according to Weitzman, DOES have its solution in the labor market. However, the key to full employment is in adjusting the form of the wage contract rather than maniputing wages themselves. Weitzman thus raises issues which have become the focus of the implicit contracting literature. (Weitzman 1983, 1984, 1985) If the form of the wage contract reflects "rational" determinants, to what degree can that form be modified?

The Weitzman proposal is that the prevailing wage contract should be changed -- and can be changed -- from a guaranteed hourly wage rate to a share arrangement, such as profit sharing. He argues that such a plan would create incentives for firms to absorb more workers -- a form of permanent labor shortage -- and to hang on to workers during recessions. Decreases in aggregate demand thus take the form of nominal, rather than real, fluctuations.

Weitzman's call for more profit sharing is reminiscent of the profit sharing proposals from the 1930s of Slichter, King, and Moulton, cited earlier. Just as other aspects of wage research were submerged by the Keynesian insistence that wages didn't matter, so, too, were those proposals related to share arrangements. And just as stagflation in the 1970s led to the revival of micro-level wage analysis in other spheres, so, too, did it lead to a revival of interest in share contracts.

VIII. The View from Fifty Years Hence.

Viewed from the 1980s, the wage and unemployment literature of the 1930s appears confused and inconsistent. Undoubtedly, an economist looking back at the literature of the 1980s fifty years from now will find similar fallacies and confusions. Keynes contribution to the literature of the 1930s was to ask the right questions, especially about wage setting. However, his macro shortcuts led to neglect of micro foundations of labor market analysis. Is it too much to hope that the economists of the future will look back at the 1980s as the period when -- after a long delay -- understanding of the micro foundations of wage determination was significantly advanced?

FOOTNOTES

1. See Leihonhufvud (1968); Leijonhufvud (1983), including the comments by Paul Samuelson on pp. 212-217.

2. Keynes (1936), pp. 7-9.

3. Keynes (1936), pp. 12-15. It is interesting to note that Pigou put forward the notion that the decentralized nature of wage bargaining led to wage rigidity several years before Keynes. (1929, pp. 192-203). In Pigou's version, workers were said to be reluctant to cut wages because in any given firm wages were a small element of costs and, hence, the demand for labor was inelastic. Only if all workers could cut wages together would the effective demand curve be sufficiently elastic to permit a substantial increase in employment. Of course, Pigou -- in contrast to Keynes -- was referring to the REAL wage.

4. Keynes (1936), pp. 262-269.

5. Keynes (1936), ibid.

6. Keynes (1936), p. 262.

7. Keynes (1936), p. 271.

8. The fraction of U.S. nonfarm employment organized in 1929 was about 12 percent. Unionization peaked during World War I under federal government protection. However, during the 1920s, an "open shop" drive by employers led to a significant decline in union membership. This trend did not reverse until 1933, when the government again adopted policies which encouraged unionization. See U.S. Bureau of the Census (1975), pp. 137, 177.

9. See Dennison, pp. 514-517.

10. These figures are based on indexes of hourly wages and the cost of living published monthly by the National Industrial Conference Board. About one fifth of manufacturing workers were estimated to be covered by the earnings series in 1936. See U.S. Bureau of the Census, (1975), Part 1, p. 154. Details on the methodology underlying the price data are not available. The figures cited are on a December-to-December basis.

11. The National Labor Relations Act of 1935 (Wagner Act) states in its preamble: "The inequality of bargaining power between employees ... and employers burdens and affects the flow of commerce, and tends to aggravate recurrent business depressions, by depressing wage rates and the purchasing power of wage earners..." 49 Stat. 449 (1935), Section 1. Discussion of this legislation and the wage/purchasing power theory may be found in Mitchell (forthcoming [a]).

12. In reviewing Pigou's THEORY OF UNEMPLOYMENT, S.E. Harris described the book as taking "what might be termed an anti-Keynes and anti-Roosevelt administration position." (p. 314) Thus, even before Keynes' GENERAL THEORY was formally published a linkage was seen between Keynes and New Deal policies.

13. Union data on the portion of members employed appeared regularly in the SURVEY OF CURRENT BUSINESS. Only some unions produced such data. And, of course, non-employment on a union job is not the same as unemployment.

14. The NICB was initially identified with the "open shop" movement of the 1920s. See Jacoby and Mitchell. See also footnote 10, above.

15. The Bureau of Labor Statistics tries to avoid the need for revisions of the Consumer Price Index because of the difficulty such revisions pose to the use of escalator clauses. If the index were regularly revised, retroactive wage adjustments (up or down) might be required. Before World War II, however, such indexes were subject to revision.

16. When national income estimates began to be produced, descriptive articles appeared periodically in the SURVEY OF CURRENT BUSINESS. Attempts were sometimes made to convert to real terms by comparing the national income figures with available price data. Thus, for example, the change in national income from 1929 to 1933 was compared with the NICB cost-of-living index. See Martin. The fact that the author chose the NICB index, rather than the BLS index, suggests doubts about the quality of BLS data at the time.

17. Details of these programs are too complex to review here. For references, see Goodwin; Sheahan; Weber and Mitchell. There is a distinction to be drawn between the wage controls implemented during World War II and the Korean War and the subsequent programs. The later programs were viewed as part of the government's macroeconomic strategy. Even the Nixon program, though it was developed during the Vietnam War, was not viewed as a wartime effort.

18. See Casson, pp. 225-229. In Australia, for example, a substantial debate on what was termed the "real wage overhang" developed in the late 1970s and early 1980s. Attempts were made to estimate the aggregate elasticity of demand for labor along classical lines. See Mitchell (1984), pp. 146-154.

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