THE IMPOSSIBILITY OF INVOLUNTARY UNEMPLOYMENT IN NEW KEYNESIAN EFFICIENCY WAGE MODELS

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INTRODUCTION

Economists of the "Classical" school believe that freely functioning markets lead to market-clearing equilibrium outcomes that are Pareto optimal. In this vein, they have attacked New Keynesian efficiency wage models for depicting involuntary unemployment resulting from the failure of the "price" in the labor market to effectively fluctuate. Keynesian economists who are not New Keynesians have also criticized these models.

The purpose of this paper is to show explicitly why New Keynesian efficiency wage models cannot depict involuntary unemployment. New Keynesians do provide intuitive rationales for the efficiency wage effect. Empirical confirmation of the efficiency wage effect offers some support for their theories [Pernecky, 1980]. New Keynesians also re-evaluate the importance of providing an explanation for the persisting social problem of involuntary unemployment. But they fail in this theoretical explanation because they adopt the New Classical goal of utilizing neoclassical microfoundations to explain macroeconomic phenomena.

Paul Davidson notes the impossibility of providing neoclassical microfoundations for involuntary unemployment. He further recognizes the need to replace wage rigidity with insufficient effective demand to explain involuntary unemployment. He also refutes the idea that rigid wages create involuntary unemployment by emphasizing the positive influence of wages on aggregate demand [Davidson, 1979, 452-5; 457]. This paper extends these ideas, utilizing New Classical criticisms of New Keynesian efficiency wage models, as well as New Keynesian responses, to identify and explain the specific reasons for the inconsistency between involuntary unemployment and neoclassical microfoundations. The New Keynesian inclusion of the Classical production function helps to create this inconsistency. Also, methodological problems exist in the New Keynesian attempt to model involuntary unemployment within a fundamentally New Classical framework.
RATIONALITY, RIGID WAGES, AND INJNOLUNTARY UNEMPLOYMENT

In both New Classical and New Keynesian models, rationality requires that a person choose the least costly method for achieving an objective. Or, conversely, the dual holds that a rational person chooses an alternative which produces the greatest utility or profits given some constraint. Theoretically, rational choices are made from an infinite number of alternatives. Information gaps concerning these alternatives are either assumed not to exist or to close quickly. Both New Classical and New Keynesian theories either assume perfect information or rational expectations [Good, 1990, 1137].

However, unlike the New Classical case, rational agents in New Keynesian efficiency wage theories choose a wage that does not respond to exogenous shocks to the labor market. As a result, involuntary unemployment develops; wages do not fluctuate to clear labor markets [Shapiro and Stiglitz, 1984, 434-8]. As a definitional matter, involuntary unemployment exists if firms’ wage offers exceed the unemployed workers’ reservation wages but there are no vacancies [Carmichael, 1985, 1213].

NEW KEYNESIAN EFFICIENCY WAGE MODELS

New Keynesians base the importance of wage rigidity, in part, on Keynes’s rejection of the “second postulate” of Classical economic theory—only labor demand, not labor supply, plays a role in determining wages [Keynes, 1936, 10-13]. They essentially accept the New Classical misinterpretation that Keynes’s theory can be summarized as “the Classical Model with rigid wages” [Sargent, 1979, 18, 46]. In keeping with the Classical Model, New Keynesians even highlight monetary shocks as the sole (or at least primary) source of aggregate demand fluctuations [Monkiew, 1985, 529-37]. However, the source of the shock tends to be ancillary in these models; the focus is on seeking rationales for, and understanding the implications of, rigid (real) wages [Gordon, 1990, 1117, 1135; Greenwald and Stiglitz, 1993, 26].

New Keynesians focus on wage rigidity in differentiating themselves from New Classicals to answer the following New Classical criticism of Keynes, as stated by Charles Plouser: “The essential flaw in the Keynesian interpretation of macroeconomic phenomena was the absence of a consistent foundation based on the choice theoretic framework of microeconomics” [1989, 51]. The efficiency wage assumption attempts to provide a microfoundation for wage rigidity in New Keynesian efficiency wage models. According to this assumption, the wage positively affects productivity. Thus, employers in a labor market do not cut wages in light of a fall in labor demand because the consequent loss in productivity would raise unit labor costs and reduce profits. More specifically, in various New Keynesian efficiency wage models, lower wages (1) increase shirking by reducing the opportunity cost of dismissal, (2) raise turnover costs, (3) adversely affect the quality of job applicants, or (4) invite a “gift” from workers of lower productivity [Gordon, 1990, 1157].

INJNOLUNTARY UNEMPLOYMENT

New Keynesians note that a worker-paid bond which workers would forfeit if caught shirking would not provide a viable alternative to involuntary unemployment as a disciplining device. A moral hazard problem would result. Employers could unjustly dismiss non-shirking workers in order to expropriate the bond [Shapiro and Stiglitz, 1984, 442].

NEW CLASSICAL CRITICISMS

New Classical economists note that the New Keynesian strategy of explaining involuntary unemployment in a fundamentally nonclassical labor market. New Classicals reject the New Keynesian usage of the neoclassical microfoundations framework because they view wages rigidly as a sign of irrational behavior. They wonder why rational people would fail to make the rational choices as associated with rigid wages. Specifically, they ask why rational workers in New Keynesian models choose a situation where the non-work decision by the unemployed is non-utility-inferior to working but employment cannot be obtained [Barro, 1979, 54]. They also question these theories for not allowing profit-maximizing employers to offer lower wages to involuntarily unemployed workers [Carmichael, 1985, 1213-4].

New Classicals have responded to New Keynesian efficiency wage theory by developing models in which higher wages enhance productivity but there is no involuntary unemployment. Any unemployment results from voluntary contracting, and therefore must be voluntary. For instance, in tournament models, higher wages stabilized for certain job slots are considered akin to “prizes” which enhance the productivities of all of the "contestants" [Lauez, 1981]. Or, as noted earlier, they can make an up-front expenditure in the form of a bond that they would forfeit if found shirking. An upward-sloping age-earnings profile represents such a bond. In it, the expected lifetime values of the wage and marginal product are equal, although the spot wage and the spot value of marginal product are not. Workers choose to post such a bond because it yields greater lifetime utility. The model includes the efficiency wage effect because the higher lifetime wages enhance lifetime productivity [Lazear, 1981, 690-11, 617-8]. New Classicals believe that the bond can negate involuntary unemployment in the shirking and turnover cost versions of efficiency wage theory, as well as in some adverse selection models [Carmichael, 1990, 277-88].

Thus, New Classicals have produced models based upon neoclassical microfoundations which include the efficiency wage effect but preclude involuntary unemployment. The theoretical possibility of a rational alternative repudiates the New Keynesian view that the efficiency wage effect, built on these foundations, yields involuntary unemployment; rational agents would choose otherwise. The empirical existence of the upward-sloping age-earnings profile lends further support to this refutation [Lazear, 1981, 606].
New Classical do have a response to the argument that the bond would result in unjust dismissals. They believe that when the firm’s fear of developing a bad reputation would prohibit this moral hazard in light of competitive pressures from rival firms (Lazear, 1985, 607–08). Thus, the ability of New Keynesians to explain involuntary unemployment with neoclassical microfoundations seems to collapse to contemplating that competition is not sufficient to keep firms from unjustly dismissing workers. Of course, if upward sloping age–earnings profiles provide empirical examples of bonds, then even this small theoretical addition becomes discredited.

The debate between New Classical and New Keynesians over these issues has left at least two members of the latter camp with doubts concerning its ability to provide adequate microfoundations for wage rigidities. George Akerlof and Janet Yellen write,

[The introduction of ... imperfections has still not provided a total rationalization of Keynesian economics when judged according to the rule that the proposed theory be fully consistent with rational optimizing behavior and the absence of unexploited gains from trade. In the end, it invariably turns out either that there is an unrealistic assumption or that some clever, complicated neoclassical contract will eliminate involuntary unemployment. For example, most versions of efficiency wage theory which are grounded in optimizing behavior suffer from the defects that there exist contracts which, while rarely observed, are feasible in principle (for example, employment bonds, job auctions, tournament contracts) and can eliminate involuntary unemployment if firms can establish reputations for trustworthy labor relations. (1987, 138)

Another New Classical strategy has been to develop models which exclude the efficiency wage effect, but where rational agents choose rigid wages. In these theories, risk-adverse workers can receive unemployment insurance so that the non-employment choice is not inferior to the employment solution for those unemployed. Thus, only voluntary unemployment occurs in the face of this wage rigidity (Gordon, 1990, 1154–5).

Other theoretical alternatives to involuntary unemployment in a fundamentally neoclassical labor market also exist. For instance, the unemployed could become self-employed. Indeed, some New Keynesians completely blur the line between employer and employee. Models which base labor supply decisions upon specific versus general price changes, or real business cycle models in which there are dynamic labor supply decisions, both provide examples where the worker/capitalist is a single agent who determines output (Lucas, 1973, 326–30; Plosser, 1989, 52–5). Still, even if employers and workers are depicted as having distinct roles, when adequate information and an absence of barriers to entry are assumed, anyone can be an employer, an employer, or both.

Furthermore, if unemployed workers could not rent start-up capital individually, they could pool their savings and form a worker-owned enterprise. Or, new firm entrants who are able to exploit a more profitable wage–effort bargain could hire the unemployed [Mason, 1993, 434–5]. Involuntary unemployment need not occur.

METHODOLOGICAL ISSUES IN ADDRESSING INVOLUNTARY UNEMPLOYMENT

Theorists do not exist in a vacuum. They are influenced by, and in turn affect, a methodology. Theories and methodologies are also intertwined with certain ultimate goals (Laudon, 1984, 62–3). One such goal for New Classical is to demonstrate that activist government intervention is ineffective and unnecessary. As noted earlier, they also seek to provide theoretical consistency between macroeconomics and neoclassical microeconomics (Davidson, 1992, 451). In terms of the methodology, New Classical espouse instrumentalism; theories are to be judged solely by their predictive power, not by their realism (Friedman, 1953). In practice, New Classical tend to rely on deduction from neoclassical principles rather than inductively utilizing more realistic concepts. These espoused and practiced methodologies mutually reinforce the reduced importance given to realism. When combined with New Classical goals, they allow for the theoretical dismissal of such realistic ideas as the inability of markets to clear continuously (for institutional or other reasons which may be rational), (2) the crucial distinction between the roles of employers and employees, (3) the non-neutrality of money, and (4) the existence of involuntary unemployment. As to the last idea, New Classical believe that an unemployed worker can always find some job, even if it is one he/she would be extremely over-qualified for, and which pays substantially less than his/her previous job (Lucas, 1981, 242–3). Thus, for example, a laid-off accountant who refuses to work as a migrant farm worker, if that is his/her best alternative, must still be considered voluntarily unemployed.4

New Keynesians, on the other hand, find involuntary unemployment to be prevalent, empirically.

To us, involuntary unemployment is a real and important phenomenon with grave social consequences that needs to be explained and understood. No single, simple model will provide the explanation. But simple models can provide us insights into its various aspects and facets. The efficiency wage models (either the incentive version, as we presented it, the quality version, or the turnover version) provide us with a simple, basic insight: firms may not lower wages when doing so lowers workers’ net productivity. [Shapiro and Stiglitz, 1985, 1217]

To summarize so far, New Keynesians attempt to include the realistic ideas of the efficiency wage effect, wage rigidity, and involuntary unemployment within a fundamentally New Classical framework. Their most basic problem in explaining involun-
government intervention to reduce involuntary unemployment because they cannot adequately model involuntary unemployment.

CONCLUSIONS

New Keynesians do utilize Keynes’s own insights into rational microeconomic reasons for wage rigidities based on relative wage concerns, while adding a number of important new ones [Keynes, 1936, 14; Summers, 1988, 383-6]. Unfortunately, they do not focus on Keynes’s message that involuntary unemployment results from insufficient effective demand, not rigid wages, and that cutting wages would probably increase involuntary unemployment. Nor have they heeded Keynes’s warnings that the Classical model could not be used to explain involuntary unemployment. Specifically, a rigid wage would be based on the recalcitrance of workers if introduced into the Classical framework, and thus unemployment would still be considered voluntary. Keynes wrote,

The classical school [states that] while the demand for labour at the existing money-wage may be satisfied before everyone willing to work at this wage is employed, this situation is due to an open or tacit agreement amongst workers not to work for less, and that if labour as a whole would agree to a reduction of money-wages more employment would be forthcoming. If this is the case, such unemployment, though apparently involuntary, is not strictly so, and ought to be included under the above category of ‘voluntary’ unemployment due to the effects of collective bargaining, etc. [1936, 7-8]

Keynes’s assessment of this Classical approach could cogently apply to the real wage, as well as the money-wage.

As Thomas Kuhn notes, concepts within alternative paradigms are often misunderstood [Kuhn, 1970, 397-77]. The inclusion of the “foreign” idea of a rigid wage, when introduced into the New Classical paradigm, not surprisingly seems ad hoc to New Classical. Because the goals, the methodology, and the theory need to be consistent, it is also not surprising that this New Keynesian strategy has not succeeded.

Still, even with those fundamental problems, the current macroeconomic debate centers around “New Classical versus New Keynesian” economics. The following words of Keynes, unfortunately, are as insightful today as they were almost sixty years ago.

Obviously, however, if the classical theory is only applicable to the case of full employment, it is fallacious to apply it to the problems of involuntary unemployment — if there be such a thing (and who will deny it?). The classical theorist resemble Euclidean geometers in a non-Euclidean world who, discovering that in experience straight lines apparently parallel often meet, rebel the lines for not keeping
NOTES

1. Robert Gordon notes that, "The development of New Keynesian economics in the past decade has primarily involved the search for rigorous and convincing models of wages and/or price stickiness based on maximizing behavior and rational expectations. [1990, 1137]"

In the words of two New Keynesians, [our] approach seeks to adapt microtheory to macroeconomics. For the want of a better term, one can refer to it as the New Keynesian Economics. The phenomena of unemployment, credit rationing and business cycles are inconsistent with standard microeconomic theory. New Keynesian Economics aims to develop a microtheory that can account for them. [Greenwald and Stiglitz, 1987, 136]"

"New Keynesian responses to the criticisms concerning the bond as a theoretical alternative to involuntary unemployment include: (1) the lack of wealth held by workers to purchase a bond, (2) the instability of financial assets due to imperfect capital markets, and (3) the moral hazard problem that would result if employers would unjustly dismiss workers in order to jeopardize the bond. [Esping and Stiglitz, 1985, 1238]. New Keynesians admit that capital markets are an insufficient weapon as long as the unemployed worker swears some capital. However, they maintain that the moral hazard consideration combined with the efficiency wage effects provide good reasons for the inadequacy of a bond. They doubt that firms are concerned enough about developing a bad reputation to sufficiently reduce the moral hazard problem. [Esping and Stiglitz, 1987, 106]."

The fact that these particular arguments — imperfect capital markets and risk aversion — cannot explain involuntary unemployment does not in, any way, reduce the force of our earlier arguments based on efficiency wages and moral hazard considerations for why jobs are not typically purchased, and for why, even when they are, the market for jobs does not clear. [1985, 1236]"

3. Robert Lucas writes, "In effect, someone works at every time only a few can find some job at once, and a few can always fill a vacancy instantaneously. That neither does so by choice is not difficult to understand given the quality of the jobs and the employees which are offered to find. Thus, there is an involuntary element in all unemployment in the sense that no one chooses to look over good; there is also a voluntary element in all unemployment, in the sense that however miserable one’s current work options, one can always choose to accept them. [1982, 324]

Lucas also dismisses involuntary unemployment by pointing out that, "Involuntary unemployment is not a fact or a phenomenon which it is the task of theorists to explain. It is, on the contrary, a theoretical construct which Keynesians introduced in the hope that it would be helpful in discovering a correct explanation for a genuine phenomenon: large-scale fluctuations in measured, total unemployment. [1983, 36]."

4. Alan Blinder sums up many of the methodological differences between New Classical economists and Keynesian economists who are not New Keynesians. He writes, "Lapses from which Lucas called "the only sigmas for the discovery of truth" are one of the chief grounds on which Keynesianism is branded unsoundable... The issues in which relatively we must adhere to timeless neoclassical polishing principles until that clears day arrives. Once the advantages of American economics distinguishes us from our colleagues in other lands. But which attitude leads to better science? Is it better to start deductively from axioms or inductively from facts? When the time comes to choose between internal consistency and consistency with observations, which side should we take? Must we be restricted to microfoundations that provide the classical market failures that created neoclassicism as a subdiscipline?"

Here followers of Keynes and followers of Lucas often part company. Like Keynes, modern Keynesians are inclined to begin by taking things as they are; rigorous optimizing explanations for what they observe (such as nominal wage contracts) can come later. The important thing is to make sure our models are congruent with the facts. Lucasians, it seems to me, revolves the sequence. They want to begin with fully articulated, tractable models and worry later about realism and descriptive accuracy. [1987, 136]"

George Alchior and Janet Yellen, who have worked in New Keynesian economics, also perceive some of these methodological issues. They note, "Keynesian analysis violates the commonly regarded paradigm of good economic theory — a microeconomic foundation based on perfectly rational, maximizing behavior... This association between "eggs" assumptions and realistic abandon has had the ill effect of confusing the ethical task of economics — which is to provide clear logic for analyzing economic phenomena — with the agenda of economics — which is to explain the economic events of the real world. Keynesian theory, with its partial reliance on psychological, sociological, and rule-following behavior to derive departures from full employment andPause optimality, is the worst casualty of this failure to distinguish ethical from agenda. If agents really behave according to incentives assumptions, it is not likely that the best models to fulfill the agenda will mirror that behavior" [137]."

5. "Keynes notes that money serves as a store of value with two properties: zero substitutability of both production and substitution. The latter means that an increased demand for money guarantees no greater employment to produce it. "Zero substitutability" means that an increase in the price of money due to a money demand increase creates as substitution away from money toward employment generating goods production (in the production of goods which do not have "zero substitutability of production") [Keynes, 1930, 65]. Davidson extends these arguments to demonstrate that zero elasticity in production and substitution in both money and other assets which serve as stores of value guarantees involuntary unemployment based on insufficient effective demand [Davidson, 1978, 163, 219, 223]."

REFERENCES


INTRODUCTION

A bedrock position of the IS-LM model is that the LM curve slopes upward. This is obtained by assuming either that the central bank controls the monetary base and the money multiplier is constant or simply that the central bank directly controls the money supply. While the base is exogenous, the multiplier is largely determined by the portfolio decisions of banks and the public. That the base is exogenous and the multiplier is endogenous has long been recognized (Raseh and Johannes, 1987) but there has been little effort to incorporate this into a mainstream framework like the IS-LM model. We incorporate an endogenous multiplier into such a model and demonstrate that the slope of the LM curve can plausibly take any sign.

The traditional IS-LM model’s assumption of a constant money multiplier made changes in the money supply solely a function of changes in the monetary base. Prior to 1980 this was an acceptable assumption since changes in the base did primarily determine the month-to-month changes in the money supply (Gauger and Black, 1991; Meltzer, 1969). However, since that time the multiplier has been the main source of money supply fluctuations (Gauger and Black, 1991; Moore, 1988). Gauger and Black state that from 1981 to 1988, “across all definitions of money, the main source of variation in the money stock is from the multiplier, not the base.” This implies that actions of the public, rather than the monetary authorities were mainly responsible for the volatility of the money stock” (1991, 688). Today, a plausible micro-model must take into account the roles played by both the multiplier and the base.

With the multiplier now playing a strategic role, two of its empirical characteristics that were of secondary interest before the 1980s become critical. First, the value of the multiplier depends predominantly on the public’s behavior via the currency to checkable deposit ratio (hereafter, the currency ratio) (Garfinkel and Thornton, 1991). Second, the money multiplier is procyclical: empirical studies have shown that the currency ratio is counter-cyclical implying a procyclical money multiplier (Foster...