

Keynes' Labor Market: A Reply

By Allan H. Meltzer

Professor Tuchscherer (1984) offers a number of comments on my interpretation of Keynes' labor market, but the main points of his criticism concern three issues. First is the labor supply function. Second is the meaning of involuntary unemployment. Third is the determination of money wages. If differences on these three points can be reduced, other comments loosely scattered through his text and footnotes will not be major barriers to understanding, so I shall confine my response to these issues.

Unlike Tuchscherer, I do not see all of these issues as resolvable within the labor sub-system, so I reproduce the principal equations used in my interpretation of Keynes' general equilibrium theory. The output market and money market equations are summarized in two equilibrium relations, the IS and LM equations. These equations are, as I have said, as close to conventional as I can make them.

$$\text{IS: } \frac{Y}{W} = A(r, \frac{Y}{W}, E) \quad (1)$$

$$\text{LM: } \frac{Y}{W} = B(r, r^e, \frac{M}{W}) \quad (2)$$

The variables Y , W , r , E , M and r^e are respectively the level of nominal income, the money wage, the rate of interest, expected output, the stock of money and the expected rate of interest.¹

The production and labor market sub-system in Meltzer (1983) has five equations.² Since Tuchscherer criticizes the labor supply equation, it may be helpful to reproduce the subsystem and see the relation of the labor supply function to the labor market - output equilibrium curve.

¹The derivation of these equilibrium equations from the asset and output market equations is in Meltzer (1981, pp. 52-4).

²The change from Meltzer (1981) is discussed in (1983, p. 74). The interested reader is referred there.

$$\frac{Y}{W} = F(N, K) \quad (3)$$

$$N^d = f\left(\frac{W}{P}; K\right) \quad (4)$$

$$N^s = g(W, P) \text{ or } g(W) \quad (5)$$

$$N = N^d = N^s \quad (6)$$

$$N \leq N^* \quad (7)$$

N , K and P are labor, the stock of capital and the price level respectively; d and s denote quantities demand and supplied; the asterisk denotes the full employment level of labor. Solving these equations for the equilibrium relation between output (Y/W), prices and money wages reproduces the SS curve of my earlier papers.

$$\text{SS: } \frac{Y}{W} = F[K, N(W, P)] \quad (8)$$

Labor Supply

Tuchscherer describes my equation (5) as "inchoate", but he makes no effort to say what he thinks is missing. His only claim that I can find is that I have neglected Keynes' (1936) statement rejecting the second classical postulate. This claim is false.

Keynes (1936, p. 5) states that the second classical postulate implies that the real wage is just sufficient "to induce the volume of labor actually employed to be forthcoming...". Keynes then lists a number of qualifications that careful economists make and that we can ignore here. It is clear from his text that he intended to reject the postulate. My equation (5) does that, in the usual way, by making the quantity of labor supplied depend on money wages – $g(W)$ – or on money wages and prices $g(W, P)$ without imposing homogeneity of first degree in prices on the supply function. Contrary to Tuchscherer's statement, equation (5) appears without change in Meltzer (1981, p. 53) and (1983, p. 74). And contrary to his claim, I did not write "or $g(W/P)$ " as part of my equation (5), as Tuchscherer does. Instead, I followed Keynes (1939). In this later piece, Keynes discusses the constancy of both real and money wages during cycles and considers the implication of constancy for his theory of underemployment equilibrium. There is no need to speculate on his reasons for doing so. He is explicit and, indeed, at pains to show that main conclusions of his

theory do not depend on cyclical changes in real wages implied by the proposition that real wages fall during cyclical expansions and rise during contractions. Further, I noted that "the dynamic path by which the economy departs from, and returns to, the equilibrium values ... differs in the two cases." (1983, p. 75) Tuchscherer neglects this difference, and ignores my explicit statement that I regard the supply function with

$$N^S = g(W, P)$$

"as the more accurate statement of his [Keynes'] view." (Idem.)

If Keynes' principal concern was the adjustment process in the labor market or cyclical changes in unemployment, he could not be indifferent to the choice between constant real or money wages in the labor supply function. Yet, we know that he wrote:

"[S]hort period changes in real wages are usually so small compared to changes in other factors that we shall not go far wrong if we treat real wages as substantially constant in the short period." (1939, pp. 42-43)

Even more striking is his statement:

"If it proves right to adopt the contrary generalization [constant real wages], it would be possible to simplify considerably the more complicated version of my fundamental explanation..." (1939, p. 40)³

It is difficult to see how one can conclude from this material that Keynes developed his labor supply function (or labor market) mainly to provide a theory of cyclical fluctuation.

But, there is no reason to speculate. Again, Keynes is explicit. He opens Chapter 22 on the trade cycle with the statement that the earlier material (most of the book) is not about cyclical fluctuations. He then defines cyclical movements, suggesting that he is discussing material not previously introduced. I do not know how Tuchscherer and others interpret this material; I interpret it as consistent with my claim that Keynes' underemployment equilibrium is not introduced to explain cyclical levels of unemployment.

Underemployment Equilibrium

Tuchscherer's uses the demand and supply curves for labor in his Figure 1 to show ~~who~~ he concludes that my theory fails to meet Keynes' test for underemployment equilibrium. He repeats one of Keynes'

³Keynes' reasoning is discussed in greater detail in Meltzer (1981, pp. 49-52). Tuchscherer and other interested readers are referred there.

two definitions of involuntary unemployment that, to paraphrase, states that a small rise in the price level (P) holding money wages (W) constant, raises the aggregate supply and aggregate demand for labor above the existing level of employment. He then shows that, with a positively sloped labor supply curve and a negatively sloped labor demand curve, a rise in P holding W fixed reduces real wages and creates an excess demand for labor. Since the quantity of labor supplied falls as the real wage falls, the experiment does not produce Keynes' result.

The fault lies with the experiment. Keynes' proposition and my interpretation are not about an experiment around the equilibrium in the labor market. They are statements about the effect on the equilibrium position of a system containing the three equilibrium relations taken from Meltzer (1981 and 1983) and reproduced here as equations (1), (2) and (8). If we plot these relations, in Figure A, we see that the model produces the result Keynes claimed. [Insert Figure A here]

Start from the underemployment equilibrium position shown as $\frac{Y_0}{W_0}$. At this equilibrium, the price level is P_0 , and the level of employment is the amount (call it N_0) required to produce $\frac{Y_0}{W_0}$ with a fixed capital stock, as specified in equation (3). Next, let aggregate demand increase. The increase, shown by the shift from IS_0 to IS_1 , raises the price level and the level of real output from $P_0, \frac{Y_0}{W_0}$. If money wages (and capital) are constant, we move along the SS curve to the higher price level P_1 . At this price level, $\frac{Y}{W}$ is higher so $N > N_0$. The quantity of labor demanded and supplied has increased. In Keynes' words:

"[T]he aggregate supply of labor willing to work for the current money-wage and the aggregate demand for it at that wage would be greater than the existing volume of employment." (1936, p. 15)

My general equilibrium system is not open to Tuchscherer's criticism.

Keynes offered more than one definition of full employment and underemployment equilibrium. The second is introduced with these words:

"In the previous chapter we have given a definition of full employment in terms of the behaviour of labour. An alternative, though equivalent criterion is... a situation in which aggregate employment is inelastic in response to an increase in the effective demand for its output." (1936, p. 26)

The point of full employment, which I call maximum employment following Keynes (1936, p. 12), is given by $\frac{Y^*}{W^*}$ in my Figure A or by N^* in Tuchscherer's Figure 1. Any point of equilibrium to the left of $\frac{Y^*}{W^*}$, such as NN^* in Tuchscherer's Figure 1 is an underemployment equilibrium – an equilibrium at less than full (maximum) employment. Hence, my definition is consistent with both of Keynes' definitions, as it must be since he regarded the two as equivalent.⁴ Those who dismiss my interpretation should explain how their models interpret this second definition.

In his footnote 5, Tuchscherer claims there is an inconsistency between the decline in real wages just discussed and my statement (1983, p. 76) that "real wages rise when K increases to its optimum." There is no inconsistency. The statement about falling real wages concerns a movement along the SS curve, with wages and the capital stock fixed. The price level (P) rises, and real wages fall, as aggregate demand, $\frac{Y}{W}$ and employment increase. The statement about rising real wages discusses the shift in the SS curve induced by an increase in the capital stock. The increased capital stock raises productivity per man hour and raises real wages, so the real wage can rise with employment in this case.⁵

In footnote 3, Tuchscherer asks: "[I]s not cyclical unemployment precisely the sort that the whole of the General Theory was concerned with?" The answer is no. Underemployment equilibrium is not the same as cyclical unemployment. Tuchscherer and others would do well to start with his footnote 8, (and other similar passages from Keynes) where the emphasis is (properly) given to maximum employment.

Determination of the Money Wage

The notion that money wages adjust more slowly than prices is very old. Keynes made no claim that he discovered the proposition or was the first to state it. On the contrary, he described it as the conventional view that he had learned from Marshall. Keynes (1939). If he had read more widely in classical economics, he could have gone farther back, but that is clearly of minor importance.

Tuchscherer reminds us that Keynes wrote that "it is certain other forces which determine the general level of real wages" (1936, p. 3). He has in mind aggregate demand. With money wages and capital fixed, aggregate demand (or IS and LM) determine the price level and the real wage, as shown in Figure A above.

⁴In correspondence with Hicks, Keynes expressed a preference for the second definition JMK, (14, p. 71) Then he added: "I regard his [a man's] employment as involuntary so long as the reward he could earn... remains greater than his minimum terms." JMK (14, p. 71). In other words, real wages can fall toward their minimum as employment moves toward its maximum.

⁵It should be clear from this discussion why the real wage does not equal the marginal disutility of labor in Keynes' model.

What determines the money wage? Tuchscherer argues that it is a given. He neglects the important issue about the level at which it is given. It is a disservice to suggest that Keynes believed that the money wage was forever constant.

The answer in my papers is so explicit that I cannot understand how he could ignore it. After developing the system of three equilibrium equations, shown here as IS, LM and SS, I analyzed the system and concluded that actual money wages are equal to expected money wages only when $\frac{Y}{W}$ equals $\frac{Y_0}{W_0}$. I described this portion and noted that "W₀ is the wage expected to be paid on average." (1981, p. 55) This conclusion holds for given capital stock, tastes, conditions of production and money stock.

On my interpretation, the system is in an underemployment equilibrium with $W = W_0$. Everyone expects output to fluctuate around $\frac{Y_0}{W_0}$. Hence everyone expects money wages to fluctuate around W_0 . If, like Keynes, people believe that money wages change very little cyclically, they can treat them as fixed. Or, they can believe that changes are stochastic. Any hypothesis that fixes the expected money wage at a level conditional on the position of underemployment equilibrium, $\frac{Y_0}{W_0}$, will do.

Conclusion

There are many small asides and comments in Tuchscherer's paper to which I have not responded in the interest of space and time. For example, he makes several claims about Davidson's labor demand function, but he does not develop any of these points in a way that sheds light on the point that he is trying to make. I do not find any propositions that Keynes made that require us to reject marginal productivity theory.

Just as puzzling is Tuchscherer's neglect of the many passages that I quote from Keynes showing that he regarded his theory as theory of equilibrium at less than full employment. I refer particularly, but not exclusively, to the early sections in Meltzer (1983, p. 66-7) where I quote Keynes statement about the main reasons for his rejection of classical theory. Nothing in his statement bears the slightest relation to the interpretation that Tuchscherer (and others) try to find.⁶

⁶In view of the emphasis given to Chapter 2 in the title of his comment and in the comment itself, Tuchscherer should take note of Keynes' statement (1939, p. 40 n. 2) referring to Chapter 2 is "the portion of my book that most needs to be revised."

Bibliography

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