Bedrock in the Money Wage – Money Supply Inflation Controversy

Monetarists aver that inflation has its genesis in money supplies. Keynes, and Post Keynesians, site the upheavals as emanating in the "wage-unit", or average money wage. The conflict thus becomes a contest between ideas extracted from the Irving Fisher-type Equation of Equation (EOE) — or, for our purposes, the Cambridge Cash Balance equivalent — versus the Wage-Cost Markup (WCM) Equation.

(1) EOE: $MV = PQ$, where

M = money supply
V = the M-velocity over the time period
P = the price level of Gross Business Product (GBP)
Q = the GBP output volume.

Confining the EOE to GBP renders it as an *income* equation restricted to current business sector output. M can be reasonably identified as M-1B, so that the germane velocity is (GBP/M-1B). If M-2 is substituted for M-1B, with M-2 > M-1B, then V-2 < V-1B. (Analogous results follow from other M-aggregates.) *Computed* velocity thus depends on the inclusiveness of the M-aggregate chosen, and the income concept utilized. Monetarists argue the causality chain as flowing from $M \rightarrow P$, as in older Quantity Theory of Money (QTM) conceptions.

Inadequacy in A Continuing Economy of Reproduction

Many of us would be comfortable with the EOE inscribed in (1) if $Q = \bar{Q}$. That is, if the goods-volume was an immutable "fixed" stock, or if goods "rained down from heaven" so that conscious production was neither "art or part in the matter".[1] But if we invoke the legitimate

[1] Cf. JOHN STUART MILL's charming use of the phrase in commenting on births and population, *Principles of Political Economy,* Ashley edition 1915 reprint, Book II, Chapter 13.

Marshallian supply concept, of $Q = Q(P)$, then many of us see equation (1) as hopelessly derelict in its omission of the vital functional interdependency.[2] Friedman encountered this interaction, in a recondite way, in a late stage in the development of his ideas, and he has never resolved the issue. Subsequently, I labelled the indeterminacy as the "Friedman Puzzle".[3] Thus:

(2) $(\Delta M/M) + (\Delta V/V) = (\Delta P/P) + (\Delta Q/Q)$, (neglecting terms such as $\Delta M \Delta V$ and $\Delta P \Delta Q$)

Assuming $(\Delta V/V)$ as rather constant, as Friedman alleges, then:

(2') $m(\Delta M/M) = (\Delta P/P) + (\Delta Q/Q)$

The "puzzle" aspect follows in that Friedman is unable to say unequivocally whether with $\Delta M(t+1) > 0$ the money augmentation will increase $\Delta P(t+1)$ *or* $\Delta Q(t+1)$, or both, or watch each component of (2') travel in opposite directions.

Indeterminateness thus permeates monetarist theory at the critical juncture facing central bankers. Obviously, at any date in time, as they ponder monetary action, it makes a crucial difference whether a ΔM emission will touch off $\Delta P > 0$ or $\Delta Q > 0$. Surely, a $(\Delta Q/\Delta M) > 0$ outcome is most appealing.

The EOE Defect in A Continuing Economy

In a *continuous* economy of reproduction, where goods do not "rain down from heaven," but require continuous labor inputs, so that $Q = Q(N)$, illumination is enhanced by writing:

(3) $MV = PQ = kwN$, where

k = the average markup (or reciprocal of the wage share)
w = the average money wage
N = GBP employment = $N(Q)$

It thereupon follows:

(3') $m(\Delta M/M) = (\Delta k/k) + (\Delta w/w) + (\Delta N/N)$

[2] See my (1960, Essay 2).
[3] Cf. my (1978, Chapter 4).

If $k = \bar{k}$, so that $\Delta k = 0$, then:

(3'') $m(\Delta M/M) = (\Delta w/w) + (\Delta N/N)$

Equation (3'') states something significant about a continuing economy, one in which $Q = Q(P,N,w)$, namely, that if $M = \bar{M}$, and $m = \bar{m}$, as the monetarists allege, and if $\Delta w > 0$, then $\Delta N < 0$. In words, unemployment develops *unless* money supplies grow in ample amount to establish $m(\Delta M/M) > (\Delta w/w)$.

A money wage rise is thus capable of inflicting unemployment havoc unless the money supply is augmented sufficiently to outweigh the money wage hike.

The Money Wage Markup Equation (WCM)

While (3'') thus illuminates an unemployment *crisis*, its explanatory powers are limited by its exclusion of the price level. To amend this gap, by invoking $PQ = kwN$, and by substituting $A = Q/N$, the WCM equation follows:

(4) WCM: $P = kw/A$, where $A = Q/N$ = average product of labor.
w/A = unit labor costs

The Bedrock Inflation Controversy

The ultimate price level controversy thus revolves about the validity and content of equations (1) and (4). Deferring to (1), the policy injunction is plain: exercise vigilance over money supplies to control the price path. From (4), the vital control lever is shifted to the *average* money wage, w. Interestingly, in (4) money supplies do *not* enter at all as a price level determinant: the price level is not a monetary saga flowing from money excesses. Instead, according to (3') or (3''), money supplies bite into N, or affect the employment or afflict the unemployment aggregate, and implicitly, entail recessionary or expansory consequences on Q.

Narrowing the Controversy

The profound controversy, with enormous real world implications, can be spot-lighted by rewriting (1). Thus, after dividing through by N we have:

(5) $M'V = PA$ where $M' = (M/N)$ = money supply per employee

Putting (4) and (5) in juxtaposition we have:

(6) $P = kw/A = M'V/A$

(7) $\therefore kw = M'V$

Equation (6) is most informative: it reveals that the EOE entails that we know *something* about M' and V. In (4), we must have evidence on w and k. In *each* formulation, A must be predictable; it enters into price level theory in the same way on either an EOE or WCM version.

Predictions from EOE and WCM

Consider the predictive possibilities emanating from (1 *or* 6) and from (4 *or* 6). From the WCM, based on copious GBP evidence, it is not unreasonable to aver $k = \bar{k}$.[4] Too, in any period (t), if t = 1 year, we generally have a pretty good notion of what w(t +1) and w(t + 2) will be, for wage contracts are generally written, for a large segment of the economy, to extend for two or three years. Thus, in the first half of 1981 we *know*, with high plausibility, what the average wage will be for the full year 1981. Likewise, we can make a reasonable estimate of w(1982), with a more vague guess about w(1983).

Thus, "plugging in" the A-estimate, the price level prediction — or projection, as the econometricians term it in order to avoid being charged with errors that they commit — follows routinely, with the forecast accuracy diminishing as the time span lengthens, because of incomplete information on future money wage phenomena.

Consider the requisites of $(M'V/A) = P$. There is obviously the same A term as in the WCM theory. But $V \neq \bar{V}$, or $(\Delta V/V) \neq 0$, as a

[4] WEINTRAUB, (1978), Chapter 3.

rule; $(\Delta k/k) = 0$ is undoubtedly, ordinarily, a sharper projection. Likewise, to *predict* M' involves not only a "projection" of central bank, say Federal Reserve, policy, but an entire chain of relations involving a theory of employment, namely, associating M to N to form M'. The forecasting intricacies involved in M' far outweigh those implicit in foreshadowing w. To a large extent w is *known* in advance, at least for short periods; a forecaster in period t is able to *nearly* "know" w(t + 1); a forecaster is not entirely ignorant, within close bounds, even of w(t + 2), where t = one year.

Price level prediction, if this is the acid test of propositions in economics — as Friedman assures us (1953) — would thus be better served by the WCM equation (4) instead of the EOE equation (1).

The Interminable Conflict

We now return to (7), involving $kw = M'V$. Obviously this can be rewritten as:

(8) $k = M'V/w$

The implications of (8) are far-reaching for distribution insight for it declares that the average markup (k) is contingent on *M'V outlay per employee, divided by the average money wage per employee.* If outlays (per employee) rise relatively to the average wage, then the markup will rise. Inversely, as $(1/k) = \omega$, where ω denotes the wage share, this implies:

(9) $\omega = w/M'V$

According to (9), *the wage share depends on the size of the money wage relative to the current aggregate spending outlays (emanating from all sources) per wage earner.*

The Employment Indeterminacy

Consider now:

(10) $w = M'V/k$, or $W = MV/k$, where $W = wN$

Monetarists generally argue money supplies "determine" not only the prices of the *produced* goods, but that MV also determines the "prices" of the "factors of production". Thus they argue that, with a given M, and if V = a "structural" constant, then the "money wage", *and* the wage bill, are "determined". Instances of this "Walrasian"-type reasoning abound.

Yet equation (10) attests to its spurious origin. For to validate the argument it is necessary to prescribe $N = \bar{N}$. Of course, if the monetarists *assume* full employment — thereby "solving" the N-employment problem by *assumption* — they have latched on to the "solution" by begging the question. Clearly, even with $N = \bar{N}$ there is some *implicit* assumption about k that is tucked in to their "answer".

Manifestly, equation (10) is one equation in 4 unknowns, or 5 unknowns if we include variability in N. One equation, that of $M = \bar{M}$, literally descends to us from "outer space", for monetarists suppose it to be an "exogenous" phenomenon imparted by the central bank. But then there is still the matter of V, whose analysis has preoccupied Friedman in his concern with the demand for money. Also, there is k, an element that has *eluded* monetarist inspection and attention.

Suppose we view equation (10) from a WCM perspective. In this context $w = \bar{w}$, where w is attributed to be an "exogenous" variable.

Likewise, empirically, $k = \bar{k}$ is practically the fact from extended empirical observation in GBP in the United States over a lengthy period of time. On this basis, therefore, WCM proponents aver that if the money wage is settled, say, through Incomes Policy, thereafter ΔM can be augmented until $M' = M'_f$, so that full employment (N_f) prevails; the growth in money supplies can be relaxed in order to realize $M'_f = M/N_f$. Thereafter, with the price level stabilized by money wages growing in alignment with productivity, so that $(\frac{A\Delta w}{w\Delta A}) = 1$, the money supply growth can be coordinated with the path of $(\Delta Q/Q)$.[5]

To WCM theorists, w *and* M are "exogenous", in the sense of being amenable to public policy control, or essential policy influence. With $k = \bar{k}$, it should be possible, regardless of $\hat{V}$-variations, to achieve full employment through monetary policy. If V is "truly" a constant, as $V = \bar{V}$, or to take the less rigid position, if $\Delta V/V$ is reasonably stable,

[5] Thus at N_f, and $P = \bar{P}$ through Incomes Policy, the Friedman 2-4 percent money-growth "Rule" would be *nearly* correct -- except in liquidity crises.

the definite outlines of a monetary policy for full employment are luminous and discernible.

Conclusions

Those who lean to a WCM judgment of the price level sequence see full employment as within grasp through appropriate monetary policy, with the facts on money velocity capable of either facilitating, or complicating, the policy task. Likewise, a stable price level is attainable by an Incomes Policy which involves gearing of w and A in order to stabilize the (w/A) ratio of unit labor costs.

Too often, in their zeal to wield a one-edged weapon, the adamant monetarists are inclined to omit the money wage as a crucial price level variable; when their attention is directed to it they usually, and naively, affirm that it, too, is decided by money supply aggregates. But this conception, as shown by equation (10), either: (1) *assumes* full employment, or (2) a definite and determinate association between M and N; (3) a definite velocity function V, and (4) a *decided* and settled k. Thus, on the monetarist perception w can literally wander all over the map, and nonetheless a stable P, and the unalloyed N_f, can emerge. Undoubtedly, peculiar implicit hypotheses on V and k are also entailed.

As noted from equation (4), full employment and a stable price level can *never* be assured unless monetarists, by happenstance, hit on the *right* combination of M, w and N (which implies Q, and thereby A). Incomes policy, if monetarists would only heed equation (6), would *assist* and supplement their stabilization dream.

According to equation (10), when assessed in conjunction with (4), the monetarists have set themselves a herculean, and impossible, task in trying to achieve simultaneous full employment *and* price level stability through operating on M, or monetary policy alone. Our stagflation experience of escalating prices and excessive unemployment, accompanied by extravagant interest rates, attests to the ongoing monetarist futility and failure, and accounts for the modern economic plight. Ineluctably, to realize the stable era WCM theorists must persevere and press for a monetary policy robust enough to achieve N_f and an Incomes Policy taut enough to align $(\Delta w/w)$ to $(\Delta A/A)$, over time, to secure the economic virtues of an inflation-free economy.

The dawn of the Stable Price-Optimal Production-Full Employment Age requires the combined juxtaposition and synchronization of Monetary *and* Incomes Policy.[6] Growth can thereafter also be assured by encouraging investment and technological progress by an assortment of well-devised tax, research, and job incentive programs.

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[6] My own candidate for an Incomes Policy compatible with the enterprise economy is TIP, the tax-based flexible program usually referred to as the Wallich-Weintraub TIP. It can be supplemented in a variety of ways. See (1981).