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## Article

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*Suggested Citation:* Davidson, Paul (1981) : A Critical Analysis of Monetarist-Rational Expectation-Supply-Side (Incentive) Economics Approach to Accumulation During a Period of Inflationary Expectations, Kredit und Kapital, ISSN 0023-4591, Duncker & Humblot, Berlin, Vol. 14, Iss. 4, pp. 496-504,  
<https://doi.org/10.3790/ccm.14.4.496>

This Version is available at:

<https://hdl.handle.net/10419/292909>

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# A Critical Analysis of Monetarist-Rational Expectation-Supply-Side (Incentive) Economics Approach to Accumulation During a Period of Inflationary Expectations

By Paul Davidson, New Brunswick

*David Laidler* has written that “Like beauty, ‘monetarism’ tends to be in the eye of the beholder“ [Laidler 1981, p. 1]. Nevertheless, *Laidler* indicates that in his view the four key characteristics of monetarism are:

- (1) a “quantity theory” approach for the demand for money and a belief that “fluctuations in the quantity of money are the *dominant* cause of fluctuations in money income” [Laidler, 1981, p. 1 italics added],
- (2) a vertical long run *Phillips* curve,
- (3) a monetary approach to the Balance of Payments, and
- (4) antipathy to any activist stabilization policy, and support for long run policy rules for the target level of some monetary aggregate rather than the level of interest rates.

Since category (1) is a *Laidler* emphasizes “the theoretical core of monetarism” [Laidler 1981, p. 1] it is important to analyze whether the “quantity theory” provides a viable theoretical nucleus, or whether it is only an empty shell. If the latter is closer to the truth, (as I believe), then monetarism is more of an ideology than a theoretical construct and any attention economists pay to it makes them more like members of the priesthood than a community of scholars.

At various places over the years, I have analyzed various theoretical deficiencies in Monetarist theory [Davidson (1972) (1974) (1978) (1980 a) (1980 b)]. Here I wish to explore a flaw in a fundamental and well-known tenet of Monetarism — namely, the belief that expectations of inflation create a meaningful *ex ante* difference between the “real” and “money” rate of interest. To *Keynes* [1936, p. 142], on the other hand, and to Post Keynesians, the concept of the interest rate (as opposed to the marginal efficiency of real goods) is always solely a monetary

phenomenon in any entrepreneurial economy which utilizes spot and forward money contracts to organize exchange and production processes.

## I. Inflation Expectations and the Quantity Theory

*Laidler* notes that in *Friedman's* celebrated essay on the quantity of money (1956), *Friedman*

...abstracted from any specific characteristics money might have because it is a financial asset; *Friedman* treated money instead 'as if' a service yielding consumer durables to which the permanent income hypothesis of consumption could be applied... *Friedman* explicitly recognized inflation as an own rate of return on money and postulated a well determined functional relationship between the expected inflation rate and the demand for money [*Laidler*, 1981, p. 3].

This particular monetarist function relating expectations of future inflation and the market rate of interest is basic to the monetarist-rational expectations-supply side theories of conservative governments such as Mrs. *Thatcher's* and President *Reagan's*. In essence, this view holds that current high market interest rates are a result of inflationary expectations and not a cause of inflation (even though interest rates are a cost of doing business in all entrepreneurial economies); ergo a lowering in the expected rate of inflation will, *ceteris paribus*, reduce the high interest rates currently plaguing Western capitalist countries. The argument asserts that potential lenders (savers?) who are currently holding money balances will not make any loans unless they are compensated for the real rate of interest (i.e., the nominal rate of interest that would prevail in the absence of any inflation) plus an inflation premium equal to the (rationally?) expected rate of inflation.

*Keynes* specifically denied the validity of this monetarist argument [*Keynes* (1936, p. 142) (1973, p. 518)]. *Harrod* similarly held that "the occurrence of a new-found belief firmly held, that a certain rate of inflation will occur cannot affect the rate of interest" [*Harrod*, 1971, p. 62]. Thus there is a fundamental and irreconcilable conflict about the effect of expectations of inflation on interest rates between Monetarists and *Keynes* and his Post Keynesian disciples. This differences has important implications for the use of monetary policy as an anti-inflationary device.

## II. Monetarism, Inflation Hedges, and the Rate of Interest

The theoretical validity of the Post Keynesian view can be developed via the following analysis:

Suppose we compare two economies,  $\alpha$  and  $\beta$ , alike in all respects except in the  $\alpha$  economy there is no inflationary expectations, while suddenly at time  $t_0$ , in the  $\beta$  economy all lenders possess (homogeneous and rational?) expectations of say 15 percent inflation in the foreseeable future. If the nominal rate of interest (= the real rate) in the  $\alpha$  economy is 5 percent, then it is argued that lenders in  $\beta$  will not lend their money if the interest rate is less than 20 percent; 5 percent of which is a real rate and 15 percent is the inflation premium.

The rationale for this alleged Monetarist behavior in the economy originally developed by *Fisher* (1911) who argued that if \$ 100 was worth 100 apples at the *current* ( $t_0$ ) spot price, then a lender might be willing to lend at 5 percent if there was no inflationary expectations, so that at the end of a year he received purchasing power equal to 105 apples. If, however, the lender expected a year from today \$ 100 would only purchase 85 apples (15 percent expected inflation), then the lender would be willing to lend only at a 20 percent nominal rate so that one year from today the \$ 120 maturity value of the bond would be expected to buy 105 apples (and hence the *ex ante* real rate of interest would still be 5 percent).

But, what alternative to lending their money holdings do lenders with inflationary expectations in the  $\beta$  economy have at time  $t_0$ ? If they hold their money for the year, then it will be expected to lose purchasing power at a 15 percent rate; whereas if they lend it at 5 percent they can expect to lose purchasing power at only a 10 percent rate (for they could buy 90 apples a year from today with the \$ 105 maturity value of the bond). Would not lending at 5 percent still be just as preferable to holding cash, therefore, when inflationary expectations suddenly occur?

The Monetarist response to this query must be that in the  $\beta$  economy, potential lenders at time  $t_0$  would neither hold cash nor lend it at nominal rates below 20 percent. Instead, it would be claimed, these potential lenders in  $\beta$  (as opposed to those in  $\alpha$ ) would be induced by their purchases of durables commodities, (e. g., real estate, precious their new found and widely held inflationary expectations to increase

metals, etc.) as hedges against inflation. In other words, potential lenders (savers?) in  $\beta$  will increase their demand for the existing stocks of durables (vis-a-vis the demand in  $\alpha$ ) whose spot (resale) price (net of carrying costs) is expected to keep pace with the rate of inflation. This hypothesized induced additional demand (outward shift in the demand curve) for existing durables will be the result of lenders desiring to use resaleable durables as a “temporary abode of purchasing power” (to use *Friedman’s* terminology) instead of holding cash or purchasing negotiable bonds as long as the interest rate on bonds is less than use *Friedman’s* terminology) instead of holding cash or purchasing (i.e., as temporary abodes of purchasing power) however, their carrying costs must be low and they must be readily resaleable in spot markets. Any durable which cannot be resold because there is no well organized spot market for it will not be a hedge against inflation and hence will be shunned by savers in  $\beta$ .]

What will be the effect of this increased demand for existing durables when this hypothesized demand increase is due to widely held expectations of inflation originating at time  $t_0$  in the  $\beta$  economy? The increase in demand for goods that are hedges against inflation [which will be concentrated on nonreadily reproducible durables such as land, gold, old Masters, etc.] implies that the spot (Marshallian market) price of these items at  $t_0$  will instantaneously be higher than the equivalent spot prices in  $\alpha$ . These higher spot prices in  $\beta$  are a reflection of the fully (and rationally) anticipated inflation expected by the entire  $\beta$  community including those who possessed legal title to these pre-existing durables in  $\beta$  at the moment before  $t_0$ . Thus, the original holders of the existing durables have a potential capital gain (as compared to the original holders in  $\alpha$ ); any lender in  $\beta$  who decides to buy a durable rather than a 5 percent bond will discover that the spot “prices of existing goods will be forthwith so adjusted that the advantages of holding money and of holding goods are again equalized, and it will be too late for holders of money to gain or to suffer a change in the rate of interest which will offset the prospective change during the period of the loan of the money lent” [*Keynes*, 1936, p. 142]. In other words, the original holders of durables will receive a windfall increase in the capital value of their holding. If inflationary expectations “fully anticipate” the future, the potential lenders in  $\beta$  will find that when the spot market of all durables opens on the morning of  $t_0$ , the opening offer prices already reflect the rational expectations of inflation of the economic agents in  $\beta$ .

In any Monetarist model, as *Laidler* and *Parkin* explained in their famous Survey of Inflation article [1975]:(a) expectations “are usually treated as if held with certainty, or it is assumed that any variance in expectations does not influence behavior” (p. 795); while (b) Monetarist concepts such as the natural rate of unemployment require the assumption of a “fully anticipated” future rate of inflation — while the future “can only be perfectly anticipated if all people hold the same expectations since otherwise some expectations are bound to be wrong” (p. 743). Thus, the Monetarist theory of real vs. nominal interest rates is mired in its own logical mudhole. If the expectations of inflation in  $\beta$  which create the difference between the money and real interest rates do “fully anticipate” the future and are widely held (or at least any variance in expectations about future rates of inflation do not affect behavior given the rational expected rate of price increase) as Monetarist doctrine claims, then existing durables can never be a better hedge against inflation than bonds and/or money! The original holders of existing durables form the same expectations (at least on average) as do lenders and the rest of the public at the same moment in  $t_0$ . Consequently, the original holders of durables in the  $\beta$  economy will increase their reservation demand price (i.e., they will become as bearish on holding money as a store of value) at the exact same instant in  $t_0$  as the hypothetical original lenders do. Thus, the holding of money vs. bonds vs. other durables will again be equalized in the  $\beta$  economy as in the  $\alpha$  economy without even a single transaction having to occur as all spot (offer) price adjust simultaneously. It will therefore be too late for competitive lenders of money in  $\beta$  to demand an inflation premium on loans when they suddenly form inflationary expectations. The holders of money at  $t_0$  in the  $\beta$  economy will have no better alternative but to continue to lend the money out over time at the same rate as in  $\alpha$  as long as the Monetary Authority in  $\beta$  increased the nominal supply *pari passu* with any increase demand in nominal transactions balances (for normal purchases) as the money prices of goods actually purchased rise over time.

In sum, a newly-formed expectation of inflation in a Monetarist world of rational expectational formation cannot affect the rate of interest. Of course, in the real world any sudden growth of uncertainty (non-predictability) about what the future rate of inflation is can affect the nominal rate of interest. The interest rate in  $\beta$  can be higher than in  $\alpha$  at  $t_0$ , if new expectations of inflation in  $\beta$  create a growth of uncertainty about the future and its many economic imponderables: uncertainty

as to the rate of change in prices; uncertainty as to when governments, under Monetarists' pressure, will restrict nominal money supply's growth and change government spending and tax policy; and, in an open economy, uncertainties as to when speculative flows by others among various currencies will affect exchange rates. In  $\beta$  where the uncertainties about the future are multiplied compared to  $\alpha$ , then there can be a growth in the desire of the public to stay more liquid (than in  $\alpha$ ); for he who hesitates in the face of greater uncertainty is saved to make a binding (not recontractable) commitment another day. Thus the public in  $\beta$  may demand, *ceteris paribus*, a greater liquidity premium for giving up money because of greater uncertainty about the future, even if everyone in  $\beta$  is convinced that holding money over time results in a negative return on money (compared to a zero return on holding money in  $\alpha$ ) as the  $\beta$  price level is expected to rise.

To recapitulate, widely held, rational expectations of a positive rate of inflation, even if they fully and efficiently anticipate the future, cannot, in themselves, increase the rate of interest compared to an expectational state of zero percent price level change. Of course, as *Harrod* noted, "Uncertainty about whether they [prices] will rise and by how much can send up the rate of interest by making a larger number of people want to remain liquid in respect of a large proportion of their assets for the time being" [*Harrod*, 1971, p. 63].

### III. Inflationary Expectations, Reproducible Assets and the Marginal Efficiency of Capital Goods

Let us extend the comparison of  $\alpha$  and  $\beta$  economies further to the analysis of the demand for readily reproducible durables such as investment goods. The creation of inflationary expectations at time  $t_0$  in the  $\beta$  economy can have the *ceteris paribus* effect of stimulating the rate of investment in  $\beta$  compared to  $\alpha$ .

The investment evaluating equation in each economy will be:

$$\begin{aligned}
 (1) \quad & \text{in the } \alpha \text{ economy:} \quad S.P. t_0 = \frac{A_1}{(1+r_\alpha)} + \frac{A_2}{(1+r_\alpha)^2} + \dots + \frac{A_n}{(1+r_\alpha)^n} \\
 (2) \quad & \text{in the } \beta \text{ economy:} \quad S.P. t_0 = \frac{\lambda_1 A_1}{(1+r_\beta)} + \frac{\lambda_2 A_2}{(1+r_\beta)^2} + \dots + \frac{\lambda_n A_n}{(1+r_\beta)^n}
 \end{aligned}$$

where S.P. is to the supply price or cost of production of plant and

equipment (assumed the same for any investment flow in  $\alpha$  and  $\beta$ ) at time  $t_0$

- $A_1, A_2$  — expected difference between total revenue and total operating cost on new equipment in period 1, 2... in the  $\alpha$  economy
- $\lambda_1, \lambda_2$  — expected (change in) price level in  $\beta$  economy in period 1, 2...
- $\lambda_1 A_1, \lambda_2 A_2$  — expected difference between money revenues and operating expenses on new equipment in period 1, 2... in  $\beta$  economy
- $r_\alpha$  — marginal efficiency of new capital goods in  $\alpha$  economy at  $t_0$
- $r_\beta$  — marginal efficiency of new capital goods in  $\beta$  economy at  $t_0$

By the usual arguments, investment at  $t_0$  will be carried out to the point where:

$$i = r_\alpha \text{ in the } \alpha \text{ economy, and}$$

$$i = r_\beta \text{ in the } \beta \text{ economy}$$

where  $i$  is equal to the nominal rate of interest at time  $t_0$ . It follows from comparing equations (1) and (2) that to the extent expectations of inflation at  $t_0$  increase the expected net money income stream in the future in  $\beta$  (compared to  $\alpha$ ), given (by assumption) the same costs of producing capital goods at  $t_0$  in both economies, and the same nominal interest rate, then investment and output will be stimulated in  $\beta$  as compared to  $\alpha$ .

If the rate of interest were to rise *pari passu* with the marginal efficiency of capital there would be no stimulating effect from the expectation of rising prices... Indeed Professor Fisher's theory could be best rewritten in terms of a "real rate of interest" defined as being the [nominal] rate which would have to rule, consequently on a change in the state of expectations as to the future value of money, in order that this change should have no effect on current output" (Keynes, 1936, p. 143).

In other words, from a Post Keynesian view the Monetarist argument that nominal rates rose sufficiently to provide the "correct" inflation premium to keep the real rate of interest the same in  $\alpha$  and  $\beta$  would be a theory of how much nominal rates would have to rise, *ceteris paribus*, so that there was no stimulus to the expansion of the capital stock due to inflationary expectations vis-a-vis a noninflationary expectations situation. Thus, for those Monetarists who advocate supply side (or "incentive") economic policies to encourage more rapid capital accumulation (and therefore eliminate stagnation tendencies), to be logically correct they should be encouraging expectations of even greater rates of inflation in the future while simultaneously recommending lower nominal interest rates today. We will be living in interesting times when we find Monetarist economists abandoning their



current ideology which requires constraining the growth in some (any) monetary aggregate, and ignoring the level of market interest rates, and following the logical results of their inflation expectation analysis as developed herein!

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### Zusammenfassung

**Eine kritische Analyse der monetaristischen These  
der rationalen Erwartungen der Angebotsseite, dem Ansatz  
(Anreiz) zur Kapitalbildung während einer Periode  
der inflationären Erwartung**

Dieser Beitrag zeigt, daß die These der monetaristischen Theorie der rationalen Erwartungen, eine plötzliche allgemeine Zunahme der der Inflationserwartung würde — *ceteris paribus* — zu einem entsprechenden Wachstum des Nominalzinssatzes führen, wobei der reale Zinssatz konstant bliebe (vergleichbar mit einer Null-Inflationserwartung), logisch widersprüchlich ist. Darüber hinaus wird nachgewiesen, daß bei einer plötzlich weitverbreiteten Zunahme der Inflationserwartung — *ceteris paribus* — die Grenzleistungsfähigkeit des Kapitals steigt.

Folglich sollten „supply-side“ und monetaristische Ökonomen, die nach einer logisch haltbaren Politik zur Stimulierung der Investitionstätigkeit und der Ersparnis suchen, eher die Erwartungen auf größere Inflationsraten stützen und gleichzeitig die Notenbank bewegen, über Offenmarktgeschäfte die Wertpapierkurse (Nominalzinssätze) zu senken.

### Summary

#### **A Critical Analysis of Monetarist-Rational-Expectations-Supply-Side (Incentive) Economics Approach to Accumulation during a Period of Inflationary Expectations**

This article demonstrates that the Monetarist-rational-expectations view that a sudden widespread increase in inflationary expectations leads to, *ceteris paribus*, a proportionate increase in the nominal rate of interest, so that the real rate of interest is unaltered (compared to a state of zero inflationary expectations) is logically false. Moreover, it is shown that if there is a sudden widespread increase in inflationary expectations, *ceteris paribus*, the marginal efficiency of capital is raised. Thus supply-side and Monetarist economists who are searching for *logical* policies to stimulate investment and savings should be encouraging expectations of even greater rates of inflation and simultaneously urging Central Banks to lower bond prices (nominal interest rates) via open market operations.

### Résumé

#### **Analyse critique de la thèse monétariste des attentes rationnelles du côté de l'offre, de la cause (incitation) de la formation de capital pendant une période d'inflation escomptée**

Cette contribution montre que la thèse de la théorie monétariste des attentes rationnelles, qu'une augmentation soudaine générale de l'attente de l'inflation entraînerait — toutes autres conditions restant égales — un accroissement correspondant du taux d'intérêt nominal, le taux d'intérêt réel restant constant (comparable à une attente d'inflation nulle), est logiquement contradictoire. On démontre en outre que lors d'un accroissement soudain général de l'attente d'inflation — toutes autres conditions restant égales — le rendement de la dernière tranche de capital investi augmente.

Par conséquent le “supply-side” et les économistes monétaristes, qui recherchent une politique logiquement soutenable de stimulation de l'activité d'investissement et d'épargne, devraient plutôt appuyer les attentes de taux d'inflation plus élevés et simultanément engager la Banque centrale à diminuer les cours des titres (taux d'intérêt nominaux) au moyen d'opérations d'open market.