ON HUMAN WEALTH AND THE DEMAND FOR MONEY

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MR. SYRING (1967) suggests that I relied on assertion rather than evidence or proof to support my statement that "little bias results from the exclusion of human wealth from the measure of wealth used to test the [demand-for-money] hypothesis" (Meltzer, 1963, p. 234). Further, he finds nothing in the empirical evidence to support my assumption that the ratio (d) of income from human wealth (y_h) to the stock of human wealth (w_h) is constant in the long run, although he recognizes that the assumption may be correct. In this note I will show that the estimated elasticities of real money balances with respect to real income and real non-human wealth are quite consistent with my assumption that d is constant in the long run. I will then discuss the more general problem that he raises, namely, whether it is possible to distinguish empirically between income and wealth as constraints on the demand for money.

IMPLICATIONS OF THE COMPUTED ELASTICITIES

Several studies (Courchene and Shapiro, 1964; Chow, 1966) have replicated my finding that the estimated elasticities of real money balances with respect to real income and real non-human wealth are both unity when some measure of long-term interest rates is held constant. I will denote the elasticities of money balances by $E(m, y)$

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and $E(m, w_n)$, respectively, and define real income as

$$y = rw_n + dw_h,$$

where r and d are appropriately weighted averages of the rate per unit time at which non-human wealth (w_n) and human wealth (w_h) yield income. $E(m, y)$ may be expressed as:

$$\begin{aligned} \frac{1}{E(m, y)} &= \frac{m}{\partial m} \left[\frac{\partial rw_n + \partial w_n r + \partial dw_h + \partial w_h d}{y} \right] \\ \frac{E(m, w_n) - E(m, y)}{E(m, y)} &= \frac{(\partial rw_n + \partial dw_h + \partial w d)w_n - dw_h \partial w_n}{\partial w_n y} = 0. \end{aligned}$$

Since $dw_h = y_h$, dividing by y_h/y and rearranging terms give

$$\frac{w_n}{y_h} \left(\frac{\partial rw_n}{\partial w_n} \right) + E(d, w_n) + E(w_h, w_n) = 1,$$

or

$$\frac{y_n}{y_h} E(r, w_n) + E(d, w_n) + E(w_h, w_n) = 1. \quad (1)$$

Equation (1) does not say that d is constant in the long run. However, the fact that the distribution of real income between income from human and from non-human wealth (y_n/y_h) remains relatively constant suggests this as a likely explanation. The reason is that equation (1) implies that

$$\frac{\partial w_n}{w_n} = \frac{y_n}{y_h} \frac{\partial r}{r} + \frac{\partial d}{d} + \frac{\partial w_h}{w_h}. \quad (2)$$

Unless there are substantial differences in the percentage growth rates of human and non-human wealth, that is, in the real value of the stocks of "labor" and "capital," over long periods of time, r and d may be treated as constants. Any discrepancy between the long-term percentage growth rates of w_h and w_n must be matched by even greater discrepancies in the long-term growth rates of r and d , since y_n/y_h is a proper fraction and is assumed to be relatively constant. The few rates that we observe—a small part of the many rates included in r —do not show a persistent "trend" over long periods.

Finally, it is worth noting that the empirical finding of an elasticity of money balances with respect to w_n approximately equal to unity means that the long-term percentage growth rates of real balances and real non-human wealth are approximately equal. On my interpretation of equation (2), therefore, real balances and real wealth (human plus non-human) grow at approximately the same rate over long periods of time, so there is no reason to believe that error was introduced in my estimates of $E(m, w_n)$ by the assumption that d is constant in the long run.

SEPARATING THE EFFECTS OF HUMAN AND NON-HUMAN WEALTH

Neither my original argument based on the long-term estimates nor the present discussion permits any firm conclusion to be drawn about the relative merits of the de-

mand functions $m = L(r, y)$ and $m = g(r, w)$. Syring (1967) correctly reaches this conclusion at the end of his comment. If this were the only evidence available, very little more could be said. Or, to put the same point in another way, we must look for other evidence if we are to distinguish between the two demand functions.

Estimates for shorter periods provide some evidence. First, there is the finding that the interest elasticity of the demand for money computed from $m = L(r, y)$ is approximately zero when computed from data for the period 1900–1929. This is not true of the demand function that takes w_n as a constraint, as noted elsewhere (Meltzer, 1963, pp. 232–33; 1964). Second, Karl Brunner and I attempted to separate the short-term effects on the demand for money of changes in income and wealth (Brunner and Meltzer, 1963). The results discriminated between the two hypotheses and supported the wealth-adjustment hypothesis and, in particular, suggested that short-term changes in y_h (given other variables) reduce the demand for money.

The findings above—and other evidence that we have examined—are consistent with the constancy of d over long periods of time and the short-term variability of d resulting from a discrepancy between expected and actual income from human wealth. I am grateful to Syring (1967) for pointing out a possible misinterpretation of my earlier statements and suggesting the need for this clarification.

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