The Classics, Keynes, and Friedman

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In this chapter we survey the early theoretical literature on the macroeconomic demand for money. We begin with the classical version of the quantity theory of money, which remains considerably relevant even today. Then we move on to the Keynesian liquidity preference theory and we end with Milton Friedman’s modern quantity theory.

A central question in this literature, crucial to how we view money’s effects on aggregate economic activity, is whether and to what extent the demand for money is affected by changes in the interest rate. If the demand for money is insensitive to interest rates, the velocity of money is constant and the quantity of money is the primary determinant of nominal aggregate spending. If, however, the demand for money is affected by changes in interest rates, then velocity is not constant and money is not the primary determinant of aggregate spending.

For discussing these theories of the demand for money, the equation of exchange is a useful point of departure.
Chapter 7. The Classics, Keynes, and Friedman

7.1 The Equation of Exchange

We begin with the transactions version of the equation of exchange, introduced by Irving Fisher in his 1911 book, *The Purchasing Power of Money*,

\[ M^s V = PT, \]

where \( M^s \) is the actual stock of money, \( V \) its transactions velocity of circulation (or more simply velocity — the average number of times per period that the stock of money changes hands to finance transactions), \( P \) is the price level, and \( T \) is the volume of transactions. The equation of exchange states that the quantity of money multiplied by the average number of times that it changes hands per period in making transactions (which equals the number of purchases) must equal the number of transactions conducted over the period multiplied by the average price at which they take place (which equals the value of sales).

In the literature one finds a second presentation of the equation of exchange, known as the income version of the equation of exchange,

\[ M^s V = PY, \] (7.1)

where instead of the volume of transactions, \( T \), real output, \( Y \), appears in the equation and the income velocity (the rate of circulation of money relative to the rate of production of real income) replaces the transactions velocity. Underlying this substitution is the assumption that real income and the volume of transactions are proportionately related. In what follows, we adopt the convention of working with the income version of the equation of exchange.

7.2 The Quantity Theory of Money

Although equation (7.1) is nothing more than an identity, it can be used to develop a theory by postulating certain things about the determinants of the equation of exchange variables. In particular, assuming (as Fisher did) that real activity and money are exogenously determined, that velocity has a constant equilibrium long-run value, and that, within the monetary sector, the price level is the only endogenous variable, the equation of exchange (7.1) can be transformed into a version of the quantity theory of money, which can be written as

\[ \overline{M} \overline{V} = \overline{PY}, \] (7.2)