connection is somewhat spotty, but is consistent with the above hypothesis. Workers under vested plans with the right to withdraw accumulated sums upon termination almost always do so when they change jobs. Further, claims to future pension payments are apparently not very substitutable for other forms of saving. The first observation suggests that households have a higher rate of time preference than the rate which relates present contributions to future benefits, or that they attach some probability less than one to actually collecting the benefits, or both. The second observation suggests that households with pension coverage who save as much as or more than noncovered households (comparable in other respects) do not really value pension claims as highly as other financial claims; otherwise, they would be more highly substitutable.[7]

Before leaving these somewhat fanciful concepts of pension claims, we should note that measuring them on the basis discussed would profoundly alter the apparent financial structure of the U.S. economy. Private household wealth would be greatly increased, while government sector and business sector liabilities would also increase considerably. The Federal Government would show a large negative net worth, and business firms would show net assets considerably smaller than that implied by their books, or by the market value of their outstanding shares.

Since there are some conceptual and computational difficulties in measuring pension claims on a present value basis, most compilers of aggregate data simply measure funded claims and ignore the rest.[8] This practice will be followed in the remainder of this paper; when we speak of pension funds and household pension equities we shall be referring only to claims already funded. This concept alone yields large and rapidly growing aggregates, as the following pages will make clear.

II. Some Macroeconomic Analyses

The role of retirement parameters in determining important macroeconomic variables such as saving, investment, income, consumption, and the capital-output ratio, can be illustrated by means of some simple models of the economy. No economies are actually that simple, of course, but the influences described do carry over into real economies.

First, consider a static model in a position of longrun equilibrium. Population, output, technology, and the stock of capital are constant through time. Further assume that people save only for retirement, through pension funds, with given and constant ages of beginning and ending work, and a constant life expectancy at retirement. Then all capital, indeed all nonhuman wealth, is owned by the pension funds. It can be shown, in such an economy, that output, the capital-output ratio, and the share in consumption by retired persons depend on the length of working life and life expectancy at retirement as well as on

[7] The authoritative study in this regard is that of Phillip Cagan, *The Effect of Pension Plans on Aggregate Saving*, Occasional Paper 95, National Bureau of Economic Research, New York, 1965. Cagan's findings that pension savers apparently do not save less in other forms than comparable nonpension households is consistent with an alternative hypothesis that pension saving has a kind of "demonstration effect" which encourages saving of all kinds. His findings, however, are not inconsistent with the hypothesis stated in the text.

[8] Flow-of-funds data prepared by the Federal Reserve Board, for example, treat only funded pension claims as household assets. The national income and product accounts concept is even narrower; only contributions to and investment income of private pension funds are treated, in effect, as personal saving.