sources of primary products (often in LDCs) high profits to enable the investment and a relative decline in domestic investment opportunities. Such relationships are not inconsistent with either the accelerator model or varying leads and lags in expectations. Strictly speaking, it would suffice that any such changes in the signs of the partials (or in their magnitudes) be foreseen and anticipated by changes in the thrust of the control variables. But, if the values of coefficients are transitory, there can be little hope for the model to be usefully employed in policy formulation.\textsuperscript{11}

In practice, then, the import of the criticisms of both W-D and Arndt is that models of flow equilibria of the kind put forward by Hicks and Mundell are of little value. Either the simplicity that they achieve is spurious or the schedules that they derive and on the constancy of which their analysis depends, are subject to shifts of significant magnitude during the period of policy analysis, formulation and execution. Professor Joan Robinson has already castigated the comfortableness of the post-Keynesian orthodoxy in her Richard T. Fly lecture.\textsuperscript{12} Her argument was, essentially, that orthodoxy had thrust economic theory back into an equilibrium straitjacket and had put aside the disequilibrium, short-run analysis that is the core of The General Theory. Her proposition can be extended to argue that the construction of misleadingly static analytic frames of references breeds in the mind of the analyst the idea that the real world resembles the model and makes him insufficiently alert to shifts in the schedules.

W-D have shown that when interest payments are included, the external balance schedule has a gradual movement built into it. Arndt has shown that the position of the capital account schedule is crucial to the policy formulation.\textsuperscript{11}

\textsuperscript{11}For this point, see Arndt, loc. cit., in 30 and sections II.


deduced. Further, small shifts in aggregated schedules are capable of suppressing quite important compositional variations and these variations can have important repercussions for internal balance. The demand for labor will be quite sensitive to the same external balance when the basic balance is brought about by the combination in A and in C in the above listing. Still further, the mix of the balance on goods and services can have direct implications for internal balance and may indeed have contributed to the unexpectedly slow pace of recovery in the United States in 1971 as the following data indicate.

Components of Net Exports (in billions of dollars)

\begin{center}
\begin{tabular}{lcc}
Component & 1970 & 1971 \hline
Net merchandise (exc. military) & +2.2 & -2.7 \\
Net services and military (exc. 3) & -4.8 & -4.6 & 0.2 \\
Net investment income & +6.3 & +8.0 & +1.7 \\
Net balance on goods and services & +3.6 & +0.7 & -2.9 \\
\end{tabular}
\end{center}

(Source: Survey of Current Business, June, 1972, p. 26)

If economic analyst is to facilitate improved economic policies, what is necessary is either that much more elaborate and complex empirical and analytic basis for policy formulation be created or that the policy-makers be given cruder but more flexible tools and less ambitious targets. The less constant variables and relationships over time, the smaller is the degree of reliability that can be placed upon time-series empiricism. In the absence of reliable empiricism, it seems that economic analysis must stress an awareness of the existence of short-run disturbances and the consequent need for flexibility in all economic policies. Both in goal-setting and in policy formulation, a knowledge of one's limitations is a priceless asset.

Since the publication of Keynes' General Theory\textsuperscript{1} a few substantive theories to explain the basic determinants of consumption have been put forward. During the last quarter of a century a large number of empirical studies confirming, rejecting, elaborating or commenting on the major theories also have been reported.\textsuperscript{2} Other papers have been written which have made serious attempts to extend our knowledge of the factors which affect consumer behavior.\textsuperscript{3} However, if we look at the research done in recent years, it appears that a great deal of it is concentrated on Friedman's Permanent Income Theory.\textsuperscript{4} The purpose of this paper is a modest one. No new hypothesis to explain consumer behavior is presented. Rather, the purpose is to evaluate the relative income theory as stated by James S. Duesenberry.\textsuperscript{5} At the time Duesenberry published his results, he was restricted by the availability of data, especially time series data. In the late 1940's and early 1950's, Duesenberry and Davis\textsuperscript{6}, to some extent restated the relative income hypothesis, and Fisher\textsuperscript{7} tested it using a larger set of data.

The usual assumption, that each individual's preferences are independent of the behavior of other individuals, is essential to the aggregate consumer demand theory. However, Duesenberry shows that in any argument involving the passage of time, the assumption of independent preferences and the empirical basis for it does not exist. Secondly, he shows that consumption relationship are not reversible in time. Based on these propositions, Duesenberry concludes that (a) the saving-income ratio is dependent on the ratio of current income to previous peak income; and (b) during periods of steadily rising income, the aggregate saving ratio is independent of income. Duesenberry also concludes that the secular relation between income and saving is one of proportionality, and the effect of other variables like the rate of interest, expectations with regard to income, distribution of income, economic growth, rate distribution of population, to mention a few, is negligible.


\textsuperscript{2}For a partial, though a fairly representative, list see Robert J. Gordon, "Consumer Economics, A Survey," Journal of Economic Literature, December 1973, pp. 1017-42.


Duesenberg, therefore, fits the following relationship:

$$S_t/Y_t = a(Y_t/Y_0) + b$$

where $S_t$ is current real per capita saving; $Y_t$ is current real per capita disposable income; and $Y_0$ is previous peak level of real per capita disposable income. Using time series data for the period 1929-40, he finds that the value of $a = 0.25$ and $b = -0.096$.

In the following analysis, Duesenberg’s conclusions (3) and (5) are tested using the United States time series data for the period 1929-72. In addition, the stability of the basic equation is tested by the degree of its accuracy to predict savings for 1973. In estimating the equation, war years, 1942 to 1945, were excluded because the saving-income relationship was greatly distorted, due to restrictions on consumer spending.

The results are given in Table 1.

I. With regard to the conclusion that the saving-income ratio is dependent on the ratio of current income to previous peak income, equation (1) states that $S_t/Y_t = 0.27$ and $Y_t/Y_0 = 0.19$. The value of the coefficient is very close to those reported by Duesenberg (equation (3)). It indicates the remarkable degree of stability of the saving-income relationship for both the pre-war and post-war periods. Thomas Mayer\(^9\) makes an interesting observation when he states that Duesenberg’s formulation may not be useful for the post-war period because of the mildness of cycles in disposable income. One may add that the period covered in equation (1) also includes periods of relatively high inflation and governmental control. In spite of all these factors, it appears that the underlying behavior of the consumers is adequately explained by equation (1), indicating that consumers do not take into account their prior peak income in making saving or consumption decisions.\(^{10}\) In other words, the consumers do get conditioned by their tastes and habits acquired over a long period of time. Habits once formed are hard to give up. The basis of the relative income theory lies in the consumer behavior with regard to habit formation.\(^{11}\) The degree of the severity or mildness of business cycles, inflation, unemployment, or wage-price controls, may not be sufficient to swing away the consumers from their acquired habits. To that extent, the results presented in equation (1) strongly support the basic Duesenberg hypothesis.

II. With regard to the conclusion that saving-income ratio is independent of the level of income, one can see from equation (1), that if $Y_t$ is added as an additional argument, the coefficient of $Y_t$ is not significant.

As Duesenberg\(^3\) points out, the value of the coefficient of correlation is not an adequate test of the stability of a relationship. The real success of the test should depend on how closely the average propensity to save is predicted by equation (1). Using equation (1), the 1973 value of the real per capita saving is computed. The predicted amount is $265 and the actual amount of per capita real saving is $257. The degree of accuracy with which equation (1) predicts saving is remarkable and a good tool for prediction, even for a year which was marred by a lot of economic confusion.

In conclusion, it may be stated that in spite of the great labor which economists have put into the determination of the consumption function, much additional work needs to be done. However, it does not imply that old theories lose value when newer and somewhat more exciting ones are presented. One has to agree with Mayer that “Old results do not die, nor do they fade away; they are just buried in an outpouring of new research.”\(^{12}\)

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\(^{10}\) For a similar statement, see Furber: “The Accuracy of Aggregate Savings Functions in the Post-War Years,” op. cit., p. 136.

\(^{11}\) Note: $a$ values are those of respective regression coefficients. $\bar{R}^2$ is the adjusted coefficient of determination. $S_e$ is the standard error of the regression equation.

\(^{12}\) Thomas Mayer, op. cit., p. 6.