1 Consumption Function

The international depression of the early 20th century undermined the existing theory that extended departures from full employment were prevented by the natural stabilization of macroeconomic forces. In response Keynes (1936) developed a theory of equilibrium at less than full employment and in so doing, created the consumption function. As envisaged by Keynes, the function relates aggregate consumption for an economy to variables such as income and wealth. To understand the link between the consumption function and the level of employment at equilibrium, note that the dominant theory prior to Keynes stated that the interest rate would fluctuate to ensure that savings equaled the investment required to maintain full employment. By positing that consumption depended on income, Keynes was able to show that if the level of saving was not sufficient to meet investment at full employment, the level of income would fall thereby reducing consumption and increasing saving. The result would be equilibrium at less than full employment, in accord with the reality of the long-lasting depression.

The existence of a consumption function soon took root in economic theory. In basic form, consumption was posited to be an increasing function of income. The fraction of additional income consumed, termed the marginal propensity to consume, was estimated to be very close to one. With estimates of the marginal propensity to consume in hand, questions turned to the evolution of the marginal propensity as an economy matures. Some speculated that the marginal propensity to consume would fall toward zero, as economies develop. Research revealed that such was not the case, with mature economies consuming about 75 percent of income.

Empirical analyses of the consumption function multiplied over succeeding decades until Lucas (1976) observed that the interplay of consumption, income and interest rates does not yield a stable function that could be identified with consumption. In response, research shifted to studies of parameters related to functions tied more closely to consumer's attempts to maximize their utility. These studies are guided by the permanent income hypothesis developed by Friedman (1957). Under the permanent income hypothesis, individuals wish to maintain a constant relation between consumption and income (as measured by permanent factors such as expected labor income). Under the permanent income hypothesis, workers seek to smooth consumption over their lifetime. Some of the smoothing is easily undertaken by saving for retirement. Another component of smoothing is quite difficult to complete as young workers are unable to borrow against future human capital. Such workers are said to be liquidity constrained. To develop an econometric framework in which to test the hypothesis, Hall (1978) linked Friedman's permanent income hypothesis to models of intertemporal choice. Hall found that the permanent income hypothesis implies that consumption is a martingale, so that only current consumption should be useful in predicting future consumption. While the permanent income hypothesis has been challenged many times (e.g. Zeldes (1989) finds that the predictions do not hold for consumers who are liquidity constrained) the

hypothesis is widely believed to be a useful description of consumer behavior.

References

[1] Friedman, M. (1957) *A Theory of the Consumption Function*, Washington, DC.

[2] Hall, R. (1978) 'Stochastic Implications of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence', *Journal of Political Economy* 86, 971-987.

[3] Keynes, J. (1936) *General Theory of Employment, Interest and Money*, London.

[4] Lucas, R. (1976) 'Econometric Policy Evaluation: A Critique' *The Phillips Curve and Labor Markets* edited by K. Brunner and A. Meltzer. Carnegie-Rochester Conference Series on Public Policy, vol. 1.

[5] Zeldes, S. (1989) 'Consumption and Liquidity Constraints: An Empirical Investigation' *Journal of Political Economy* 97, 305-346.