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# **The Marginalization of Absolute and Relative Income Hypotheses of Consumption and the Role of Fiscal Policy**

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## **ABSTRACT**

In Keynes' consumption theory absolute income is the major determinant of consumption, and the marginal propensity to consume determines the magnitudes of fiscal multipliers. Keynes employed a largely psychological analysis of consumption, rejecting the model of utility maximizing consumer. J. Duesenberry extended and improved Keynes' approach by also emphasizing the role of psychological and social factors on consumption decisions (the relative income hypothesis). Similar conclusions regarding the role of income on consumption, and therefore support for Keynesian policies, are reached by Duesenberry's analysis. The life-cycle hypothesis by Modigliani and Brumberg (1954), and the permanent income hypothesis by Friedman (1957), emerged as the two main alternatives to Keynes' and Duesenberry's approaches. Modern orthodox consumption theories are extensions of these two theories in a rational expectations framework. By employing the concept of forward looking, optimizing agents, current or relative income plays a minimal role in the life-cycle and permanent income hypotheses, and an even lesser role in contemporary orthodox consumption theories. Consequently, fiscal policy has a negligible effect on output and employment. The paper argues that Keynes and Duesenberry's approaches were marginalized not because of their empirical or theoretical shortcomings, but because of emphasizing the psychological and social influences on consumption patterns, and because of not employing the intertemporal utility maximizing framework. The clear implication of the discussion is that the marginalization of absolute and relative income hypotheses was due to the dominance of a specific methodological framework that did not favour such approaches.

Keywords: Consumption Function, Keynes, Duesenberry, Economic Methodology

JEL codes: B20, B40, E21, E62

## **I. Introduction**

Utility maximizing, forward looking and fully informed agents who operate in an environment characterized by calculable uncertainty, is the common conceptual basis of modern mainstream consumption theories. In those theories current income plays a minimal role on the level of consumption mainly because agents engage in consumption smoothing over their expected lifetime (see for instance Woodford, 2009; Muellbauer, 2016). In this respect, modern consumption theories are in complete opposition to Keynes' absolute income hypothesis and to Duesenberry's relative income hypothesis. In Keynes's system, absolute current income is the basic determinant of consumption and the marginal propensity to consume determines the magnitudes of government expenditure, investment and tax multipliers. In addition, Keynes rejected the model of utility maximizing consumer also because it relied on the notion of calculable uncertainty (Keynes, 1936). Based on the concept of relative income, James Duesenberry (1946) extended and improved Keynes' approach to consumption function by emphasizing the role of interdependent preferences and habitual behaviour. In the same vein as Keynes, Duesenberry was also critical of the main assumptions of standard consumer demand theory.

In the first decades after WWII and in the context of explaining Simon Kuznets (1946) empirical findings of US consumption data, the first alternatives to Keynes's approach consumption functions emerged. The dominant trend was to ground the consumption function on mainstream microeconomic principles and especially on the theory of rational consumer. Irvin Fisher's work on intertemporal choice between present and future consumption provided the necessary theoretical framework (Fisher, 1930). The life-cycle

hypothesis of consumption function developed mainly by Franco Modigliani and Richard Brumberg (1954), and the permanent income hypothesis developed by Milton Friedman (1957), emerged as the two main alternatives to Keynes' and Duesenberry's approaches. One common feature of these two consumption functions was the diminished role of current income in consumption. The role of income was even further diminished with the appearance of random walk consumption theories characterized by rational expectations (Lucas, 1972; Barro, 1979). As a result and contrary to Keynes and Duesenberry who viewed fiscal policy as a key policy instrument, modern consumption theories which form the core of New Classical macroeconomics, provided the theoretical justification for the very limited role of fiscal policy to smooth out large fluctuations of produced output and employment (see also Bunting, 1989; Paley, 2010).

The displacement of those two consumption theories was not based not so much on their theoretical or empirical failure, but on their allegedly psychological and sociological nature, a characteristic which was unacceptable on methodological grounds. The criticism focused also on the lack of microeconomic foundations which basically means a particular model of human behaviour which entails perfect individual optimisation (see Stiglitz, 2018). Thus, the paper argues that the marginalization of absolute and relative income hypotheses was due to the dominance of a specific methodological and ideological milieu that did not favour such approaches.

The paper starts with a discussion of Keynes criticism of utility theory and his approach to aggregate consumption. Part three presents Duesenberry's relative income hypothesis. The next part focuses on the key mainstream alternatives which eventually became an

integral part of current orthodox macroeconomics. Section four discusses the different implications for the role of fiscal policy between the two sets of consumption theories. The following part discusses the possible methodological reasons of the displacement Keynes' and Duesenberry's approaches. The final section concludes.

## **II. Keynes' Approach to Consumption**

### Keynes' criticism of utility theory

Modern mainstream consumption theories are grounded on the model of economic rationality.<sup>1</sup> The first formulations of this model are to be found in the Marginalist school and especially in the works of Jevons, Edgeworth and Fisher. The philosophy of Bentham's utilitarianism-hedonism is the conceptual basis of the model of economic rationality (Lewin, 1996). Thus, it is important to emphasize Keynes' strong objections to this approach. There are a number of places in Keynes' work where he explicitly attacks Bentham, the psychology and the philosophy of hedonism, and the Benthamite calculus of pleasure and pain in general. For instance, in his *My Early Beliefs* (1939), he writes:

How disappointing are the fruits, now that we have them, of the bright idea of reducing Economics to a mathematical application of the hedonistic calculus of Bentham (Keynes, 1972a (X), p. 184n).

Keynes also attacks Edgeworth for not having considered "how far the initial assumptions of the marginal theory stand or fall with the utilitarian ethics and the utilitarian

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<sup>1</sup> In order to avoid confusion, the term *mainstream economics* is used here to include the Neoclassical synthesis, Monetarism and New Classical macroeconomics. This is not an unusual practice (see for instance Galbacs, 2015).

psychology” (Keynes, 1978a (X), p. 260). In the same framework, Keynes criticizes the orthodox treatment of expectations. In an article published in 1937 in the *Quarterly Journal of Economics*, Keynes gives a brief summary of the works of Ricardo, Marshall, Edgeworth and Pigou in relation to their theories of long-run equilibrium. Keynes observes that these writers assumed expectations to be given “in a definite and calculable form”, and also that risks were assumed to be capable of an exact actuarial computation.” (Keynes, 1972b (XIV), p. 112). He was openly against the reduction of 'uncertainty to the same calculable status as that of certainty itself; just as in the Benthamite calculus of pains and pleasures' (Keynes, 1972b (XIV), pp. 113-115).

Keynes's revolutionary conception of probability and uncertainty is another important point which puts him at odds with what nowadays is the expected utility theory. In his view, a probability concept based on frequency is “a wrong philosophical interpretation of probability” (Keynes, 1972c (VIII), p. 342). In Keynes’s approach probabilities are either numerically indeterminate or undefinable (Keynes, 1972c (VIII), pp. 8-9; see also Lawson, 1988, pp. 42-44). This is in sharp contrast with the subsequent mainstream expected utility approach which views probability as based on frequency and as numerically measurable (e.g. Savage, 1962; Radner, 1968). Consequently, his conception of uncertainty corresponds to a situation of numerically immeasurable probability. Keynes believed that uncertainty cannot be reduced, mainly because a numerical probability distribution is not known (events are not replicable).<sup>2</sup> Keynesian uncertainty is therefore radically different from the reducible and calculable uncertainty which is used

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<sup>2</sup> Many authors have emphasized Keynes’ conception of uncertainty and its crucial role in his economic thought. Indicative works are: Minsky, 1975, p.57; Dow, 1985, p. 156; Lawson, 1988, pp. 46-52; Davidson, 1994; Lavoie, 1994; Ferrari-Filho and Conceição, 2005.

in the expected utility model. The critique towards the expected utility approach continues in the *General Theory*:

[It is a] characteristic of human nature that a large proportion of our purposive activities depend on spontaneous optimism rather than on mathematical expectation, whether moral or hedonistic or economic (Keynes, 1936, p. 161).

In place of utility maximization, Keynes assigned extreme importance to psychological processes, which have nothing to do with economic calculus (see Dow and Hillard, 1995). The term *animal spirits* is used by Keynes to describe these psychological processes (Keynes, 1936, pp. 161–2; see also Dow and Dow, 2012).<sup>3</sup>

#### Consumption in Keynes' economic thought

Keynes's serious reservations concerning the utility maximizing model leads him to a formulation of consumption analysis which has nothing to do with intertemporal analysis. He argues that consumption depends on a) objective and b) subjective factors, and states the following subjective factors which he calls motives: Enjoyment, Short-sightedness, Generosity, Miscalculation, Ostentation and Extravagance. The corresponding list for savings behaviour is: Precaution, Foresight, Calculation, Improvement, Independence, Enterprise, Pride and Avarice (Keynes, 1936, p. 108). Keynes gives equal weight to these motives, something which is incompatible with the utility maximizing model.

In his discussion of the propensity to consume where he states his well-known psychological law (that as income increases consumption increases but not as much as

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<sup>3</sup> Recently, the notion of animal spirits has regained popularity even among non-heterodox economists. (see for instance, Akerlof and Shiller, 2009).

the increase of income), Keynes supplies the reason behind this statement. In particular, he asserts that in the short run the importance of habits is great:

For a man's habitual standard of life usually has the first claim on his income, and he is apt to save the difference which discovers itself between his actual income and the expense of his habitual standard; or, if he does adjust his expenditure to changes in his income, he will over short periods do so imperfectly. (Keynes, 1936, pp. 97).

In general, Keynes approached the consumption decision from an entirely different angle than mainstream economists before him. His approach is essentially a psychological approach emphasizing also the sociological dimension of consumption pattern (Drakopoulos, 1992; D'Orlando and Sanfilippo, 2010).

The nature of consumption decisions was an important component of Keynes's system and also a substantial point of difference from the classical approach. In the general view held by most economists before Keynes, the economy was always naturally tending towards full-employment equilibrium, and this means that the short run income does not vary since its level is established at its full-employment level. Given constant income, variations in consumption and saving depend on the rate of interest. This is the basic argument in I. Fisher's analysis of the interest rate as the major determinant of the allocation of income between intertemporal consumption and savings (Fisher, 1930). By rejecting the idea that the economy tends towards full employment, Keynes pointed out the differences between the actual level of income and the full-employment level. In Keynes's view, the level of aggregate demand determines equilibrium income, and since consumption is a major part of aggregate demand, it was necessary to provide a theory of the behaviour of consumption expenditures.



In the *General Theory*, current disposable income is the main determinant of consumption expenditures (absolute income hypothesis). In the Keynesian consumption function, the marginal propensity to consume (MPC) is positive but less than one, and that the average propensity to consume (APC) falls as income rises. In Keynes's words:

The fundamental psychological law, upon which we are entitled to depend with great confidence both *a priori* and from our knowledge of human nature and from the detailed facts of experience, is that men are disposed, as a rule and on the average, to increase their consumption, as their income increases, but not by as much as the increase in their income. (Keynes, 1936, p. 96)

This implies that households with higher income will consume more (given that  $MPC > 0$ ), will save more (given that  $MPC < 1$ ), and that APC will be falling as income increases. How the APC varies as income changes depends on autonomous consumption ( $a$ ). In the normal case ( $a > 0$ ),  $MPC < APC$  and households spend a decreasing share of their incomes as incomes rise. If  $a = 0$ ,  $MPC = APC$  and spending is a constant proportion  $b$  of income. These become clearer if we note that:

$$MPC = \frac{\partial C}{\partial Y_d} = b \text{ and } APC = \frac{C}{Y_d} = \frac{a}{Y_d} + b \quad (1)$$

The economic policy implications of Keynes's approach are fairly well known. The magnitude of the MPC determines the magnitude of government expenditures and tax multipliers and thus the effectiveness of fiscal policy to maintain or restore full employment. In other words, the larger the MPC, the larger the multiplier. It also implies that as households spend a decreasing share of their incomes as society becomes richer, a greater proportion of investment will be required to maintain full-employment income levels. In addition and given that  $MPC < APC$ , a transfer of income from high-income groups to low-income consumers will raise the level of aggregate demand. This is also

because the high-income groups have a lower MPC than low-income groups, given that MPC declines as income increases. The case for progressive taxation as an instrument of income redistribution is also justified from this argument (see also Bunting, 1989, Krueger, 2012).

### **III. The relative-income hypothesis**

Soon after the spread of Keynes' ideas, there were the first empirical estimations of the absolute income hypothesis. Initially and by using aggregate US time series data, the value of MPC was estimated to be around 0.75. (Ackley, 1960, p. 225). Other early studies of cross-sectional consumption confirmed the previous theoretical results that the MPC was less than the APC. They also pointed to a positive value of autonomous consumption. (Venieris and Sebold, 1977, pp. 363-365). In the mid-1940s, Simon Kuznets studied the characteristics of the consumption function based on his detailed reconstruction of US historical data on economic aggregates. Kuznets's (1946) findings suggested the long-run behaviour of the consumers might differ from their short-run consumption patterns. More specifically, if  $MPC < APC$  as the OLS estimates of the linear consumption function suggested, then the share of income consumed should have declined as income increased, something that it was not shown by the long-run data. Thus, short-run econometric studies found  $MPC < APC$  while long-run data showed that  $MPC = APC$ . In essence, Kuznets's results suggested a consumption function of the form:

$$C = kY \quad (2)$$

Equation (2) implies that  $MPC = APC = k$ . Further, the value of the MPC is much higher in Kuznets's function compared to Keynes's (see also Koçkesen, 2008; Paley, 2010).

The apparently conflicting empirical evidence was the main reason for subsequent attempts towards a consumption theory that would provide reconciliation between the two sets of findings (Hynes, 1998). The very first attempt at providing a theoretical justification for the discrepancy between Kuznets's short-run and the long-run empirical findings on consumption was made by James Duesenberry (1949). The relative income hypothesis was suggested as the main theory underlying the consumption function. The hypothesis introduces psychological and sociological factors such as social interdependencies and habit formation to the study of consumer behaviour.<sup>4</sup> Duesenberry, however, was the first to apply the concept of social comparisons to the study of consumption in a systematic manner. Further, the common point of Duesenberry's and Keynes's approaches is the idea of social comparisons or relative standing: Duesenberry put emphasis on relative consumption, while Keynes emphasized relative wage. Although Keynes recognized the importance of social influences on consumption decisions, he did not develop them further in his *General Theory*, arguing that they were stable, at least in the short run (see Keynes, 1936; Mason, 2000).

Duesenberry starts by arguing two "fundamental assumptions" of demand theory are "invalid". These assumptions are "(1) that every individual's consumption behaviour is independent of that of every other individual, and (2) that consumption relations are reversible in time" (Duesenberry, 1949, p. 1). In his view, the assumption of independent preferences has "no empirical basis" and that "there are strong psychological and

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<sup>4</sup> The emphasis on the social dimension of consumption was not a new idea. The idea that people compare their income, consumption or wealth with other people's income, consumption or wealth can be found in many major economists such as Adam Smith, Karl Marx, John Stuart Mill, Thorstein Veblen, and Arthur Cecil Pigou (see Drakopoulos, 2016). In particular, Duesenberry's work can be viewed as a continuation of Veblen's ideas, given that there are many common points concerning income and consumption comparisons, and also concerning the role of the demonstration effect (Mason, 2000).

sociological reasons for supposing that preferences are in fact interdependent.” (Duesenberry 1949, p. 3). Consumers are influenced by the behaviour of other consumers: “any particular consumer will be influenced by consumption of people with whom he has social contacts” (Duesenberry 1949, p. 48). Consequently, he maintained that a household’s consumption would depend not just on its own current level of income, but on its income relative to those in the subgroup of the population with which it identifies itself (*the demonstration effect*). It follows that households with lower income within the group will consume a larger share of their income to “keep up with the Joneses,” while households with high incomes relative to the group will save more and consume less. As he writes:

We can maintain then that the frequency and strength of impulses to increase expenditure depends on frequency of contact with goods superior to those habitually consumed. (Duesenberry, 1949, pp. 27–8)

When consumers come frequently in contact with superior goods, they are constantly reminded of their low social status, and the result will be “an increase in expenditure at the expense of saving” (Duesenberry, 1949, p. 27). More specifically, within a distribution of income, the APC falls as we move from low to high income families. This feature is consistent with both the Keynesian absolute income hypothesis and Duesenberry’s relative income hypothesis. If we assume that all families receive proportional increases in income in the next period, the distribution of income remains the same. In terms of the absolute income hypothesis, this would mean a movement along consumption schedule. In terms of relative income, this would mean that there will be a shift of the consumption schedule. After the proportional increase in all incomes, the family will maintain its position in the income distribution by earning higher income, thus

its APC will remain unchanged resulting in a higher level of consumption (Venieris and Sebolt, 1977, pp. 366-371). As the consumption schedule shifts over long periods of time and with unchanged income distribution, the long-run time series will indicate a proportional relationship between aggregate consumption and aggregate income:

$$C_t = kY_t, \text{ with } APC = \frac{C_t}{Y_t} = k \quad (3)$$

In other words, the APC is constant in the long run, in accordance with Kuznets's findings (see also Venieris and Sebolt, 1977, pp. 366-371).

The second basic component of the relative income hypothesis is that "consumption relations are not reversible in time" (Duesenberry, 1949, p. 1). The main difference from the demonstration effect is that instead of comparing their income to those of other households, each household is assumed to consider its current income relative to its own past income levels. A household that has in the past achieved income levels higher than its present levels would attempt to maintain the high consumption levels that it achieved earlier (*ratchet effect*). Thus, when incomes fall, consumption would not fall in proportion. The implication is that in the long run APC will be constant, but as the economy moves through the business cycle, the ratio of current to previous peak income will vary and thus APC will also follow the cyclical fluctuations (see also Hagen, 1955). Furthermore, in a framework where consumption is also related to previous peak income, it can be shown that  $MPC < APC$ , which is in agreement with Keynes's views (see also Kosobud, 1998).

Duesenberry's theoretical approach was able to reconcile the discrepancy between the empirical cross-section studies and the long-run findings. The main theoretical

implication, that the APC will be greater than the MPC, lies solidly in the Keynesian tradition (Kosobud, 1998, p. 135). Further, Duesenberry's theory suggests that fiscal changes may have an asymmetrical effect. Tax reductions may well stimulate consumption spending. However, tax increases may not have a significant effect in curbing demand in the short run, as consumers strive to maintain consumption levels (for a detailed discussion of tax policies when consumption is interdependent, see Duesenberry, 1949, pp.96-102; Kosicki, 1990).

#### **IV. The Mainstream Reaction**

Kuznets's empirical findings provided the initial stimulus for theoretical research on aggregate consumption patterns. The first theories to appear were the life-cycle hypothesis and the permanent-income hypothesis. These two theories started by employing Fisher's intertemporal choice as the microeconomic foundation of aggregate consumption, thus rejecting Keynes's psychological-based approach to consumption. This was part of the drive to provide microfoundations to macroeconomic modelling, given that mainstream microeconomics was perceived as an established and scientific branch which was free of subjective (i.e. psychological) elements (see Rizvi, 1994).<sup>5</sup>

##### The Life-cycle hypothesis

The life-cycle hypothesis of consumption function was developed mainly by Franco Modigliani and Richard Brumberg in 1954 (Modigliani and Brumberg, 1954). Its

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<sup>5</sup> Orthodox microeconomic theory and especially consumer theory, claimed to have freed itself entirely from psychology. This went in tandem with the methodological position of isolating economics from other social disciplines such as psychology, a position which is still discernable today (Bruni and Sugden, 2007; Goodwin, 2016; Drakopoulos and Katselidis, 2019).

underlying conceptual basis is that individuals maximize their utility of consumption over their life cycle.<sup>6</sup> The utility function can be written as:

$$U_j = U_j (C_t, C_{t+1}, C_{t+2}, \dots, C_L) \quad (4)$$

Where  $U_j$  is the utility of individual  $j$ ,  $C_t$  is present consumption,  $C_{t+1}$  is next year's consumption and so on, until the end of lifetime  $C_L$ . The individual's utility function is maximized subject to the present value or worth of total resources, current and future, which will accumulate over the individual's working life or up to his/her retirement. This setting implies that the individual will be able to maintain a stable pattern of consumption throughout his/her lifetime and that income from employment will behave in a fairly predictable manner (Modigliani and Brumberg, 1954). The consumption function is of the general form:

$$C_t = KV_t \quad (5)$$

Where  $C_t$  is the current consumption by an individual,  $V_t$  is the present value of the total resources accruing to the individual over the rest of his/her life and  $K$  is the factor of proportionality. The conceptual basis of the theory is acknowledged in a subsequent review of the theory in which Modigliani explicitly mentions that the foundation of the life-cycle hypothesis was "the received theory of consumer choice over time à la Fisher". (Modigliani, 1975, p.5).

Apart from assuming utility maximizing and forward looking consumers, the life-cycle consumption theory also assumes that individuals are indifferent to the form in which resources accrue. Consequently, a temporary change in income is spread out over the

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<sup>6</sup> It is worth mentioning that many decades later, Angus Deaton states that "the consistency of the life-cycle hypothesis with the received theory of consumer choice not only guaranteed its internal consistency, but also provided it with a generality that accounts for much of its durability." (Deaton, 2005, p.94)

entire lifetime so that the immediate change in consumption is small. On the other hand, a permanent change in income, results in a larger change in current consumption. These imply that the MPC for an expected temporary change in income will be much smaller than that for an expected permanent change in income (see also Jappelli and Pistaferri, 2014). It is clear that the income (absolute or relative) plays a much smaller role in consumption decisions than in Keynes and Duesenberry's theories.

### Permanent-income hypothesis

The main attempt to criticize Keynes's approach to consumption was made by Milton Friedman with his permanent-income hypothesis (Friedman, 1957), where permanent income is an individual's income over his/her lifetime. In the process of defining the consumption function, Friedman (1957) rejects Keynes's use of current income as the determinant of consumption expenditure, based on the assumption of forward-looking consumers. Friedman argued that Fisher's model of individual consumption behavior is the "pure theory of consumer behavior" and that it makes the wealth approach a sounder account than Keynes's (Friedman, 1957, p.6). In fact, the permanent income hypothesis is a special case of an intertemporal optimization model of consumer behaviour, where agents maximize the sum of their expected utility subject to a life-time budget constraint (Meghir, 2004). Consumers use their savings (or borrow) in an attempt to smooth consumption between good and bad years. These imply that current income differs from permanent income:

$$Y_t = Y^P + Y^T \quad (6)$$

Where  $Y$  is current income at time  $t$ ,  $Y^P$  is permanent income projected at time  $t$  and  $Y^T$  is transitory (or unexpected changes in) income. The transitory component has an



expected value of zero reflecting the notion that over time transitory gains are offset by future transitory losses and vice versa. Thus, in the long run observed levels of income (Y) are equal to permanent income ( $Y^P$ ) (Friedman, 1957; see also Meghir, 2004).

An important part of Friedman's theory was his assumption that permanent income is an average of income over the last several years. This implies that if there is a sudden rise in current income, there would be only a small increase in permanent income. This is in sharp contrast to Keynes's theory. Income would have to increase for several years continuously before people would expect permanent income to increase. In other words and assuming adaptive expectations, consumers correct their previous estimates of permanent income by the amount of deviation of current income from previous period estimated permanent income (Friedman, 1957; see also Chao, 2003).

In the same way as income, consumption (C) is divided into permanent consumption,  $C^P$ , and transitory consumption,  $C^T$ . Thus:

$$C_t = C^P + C^T \quad (7)$$

Just like transitory income, transitory consumption is regarded as temporary. Friedman assumes permanent consumption is a constant proportion of permanent income, while permanent and transitory consumption may be interpreted as planned and "unplanned" consumption respectively. Based on Friedman's assumption that  $Y^T$  is uncorrelated with C, any unforeseen increment in income does not result in unplanned consumption. Friedman justifies this premise by pointing out that even if income is other than expected, the consumer would tend to stick to his/her consumption plan, but adjust his/her asset

holdings. The key point is that the consumption plan does not depend on the transitory components (for a detailed discussion, see Chao, 2003 and Meghir, 2004).

Given the above, Friedman's permanent consumption function is:

$$C^P = k(r, z) Y^P \quad (8)$$

where  $k(r, z)$  is the average (or marginal) propensity to consume out of permanent income which depends on the rate of interest and on taste shifter variables  $z$ . Friedman's reconciliation of the empirical findings on consumption was based on the differences in consumption behaviour of different income groups. Over the long run, income variation is due mainly if not solely to variation in permanent income, which apart from equality between APC and MPC, implies a stable and less than 1 APC (see also Chao, 2003 and Meghir, 2004).

#### Random-walk theory of consumption and rational expectations

The introduction of utility maximizers, forward looking agents by both life cycle and permanent income hypothesis into consumption theory, gave them increasing acceptance in mainstream economic theory (see also Laidler, 2010). In this respect, the drive to provide neoclassical micro-foundations to consumption function, intensified. Subsequent formulations of consumption were essentially extensions of the life-cycle and of the permanent income theories. Given the rise of rational expectations theory, Friedman's assumption of adaptive expectations did not fit the emerging conceptual framework (Lucas, 1972; Galbacs, 2015).

One indicative example of such theories is Robert Hall's (1978) "random walk theory of consumption". The basic argument was that if expectations concerning income are fully rational, in the sense of taking into account all available information about the future, then consumption should not depend on a weighted average of past income but will, instead, follow a random walk (Hall, 1978). This implied that a change in income or wealth that was anticipated has already been factored into expected permanent income, so that it will not change consumption. Consequently, only unanticipated changes in income or wealth that change expected permanent income will change consumption (see also Foster, 2018). In the rational expectations framework, agents anticipate the future and therefore make all the required adjustments in the current period. The equation for future consumption is:

$$C_{t+1} = C_t + Q_{t+1} \quad (9)$$

In equation (9),  $Q_{t+1}$  is a rational expectations error that cannot be predicted with any information known at time  $t$ . All future information is reflected in current consumption,  $C_t$ . The random-walk characteristic of consumption is seen by writing:

$$C_{t+1} - C_t = Q_{t+1}. \quad (10)$$

Consumption is a random walk, as changes over time are unforeseeable (for a detailed discussion, see Carroll, 2001). Contemporary consumption functions as found in the New Classical economics employ the same apparatus plus Friedman's notion of permanent income. One such example is the rational expectations permanent income consumption function which is in the hard core of contemporary general equilibrium macroeconomic models. The Dynamic Stochastic General Equilibrium" (DSGE) and the Federal Reserve's FRB US are the dominant models used by Central Banks (for a detailed discussion, see Woodford, 2009; Muellbauer, 2016).

## **V. Implications for Fiscal Policy**

In comparison to Keynes and Duesenberry, the permanent and life-cycle income hypotheses have very different consequences for fiscal policy prescriptions. In Friedman's framework of permanent and transitory components, a much larger part of current consumption is considered as autonomous, and a much smaller part as dependent on current income. Since the marginal propensity to consume from transitory income is zero, increases in income arising from increases in government spending and/or falling taxes will have negligible effects on the economy. Further, it introduces a distinction between permanent and temporary tax cuts, with only the former having a significant impact on consumption since only permanent tax cuts significantly change permanent income (Friedman, 1968). In addition, in Friedman's approach all households have the same MPC and this undermined the Keynesian demand stimulus argument for progressive taxation. The fiscal multipliers (assuming the change is viewed as temporary) will be very small or even zero. Given the relationship between current consumption and the magnitude of the fiscal multipliers, Friedman's theory implied smaller fiscal multipliers and thus a largely ineffective fiscal policy. It also implied an inherently more stable economic system (see also Bunting, 1989; Paley, 2010).

Similar observations hold for the lifetime cycle hypothesis. Although the theory takes into consideration the role of current income, it places much greater emphasis on the role of expected income and wealth on consumption decisions than Keynes' approach. For instance, changes in current income arising from fiscal policy will have a strong effect on current consumption only if they affect expected lifetime income (Jappelli and Pistaferri, 2014). The important policy implication here is that the framework of life-cycle

hypothesis provides much less theoretical support for active fiscal policy in comparison to the absolute and relative income hypotheses (see also Foster, 2018).

The policy implications of the original formulation of the random walk theory of consumption, were that traditional Keynesian demand management mainly through fiscal policy, will have virtually no effect on real consumption and stabilization policies cannot be applied in any systematic way. Contemporary mainstream macroeconomic models, such as the DSGE, reach similar conclusions. In these models, the role of economic policy is also very limited, given that policy changes will affect consumption only if they are not anticipated (see Galbacs, 2015). This view is further reinforced by the introduction of *Ricardian equivalence* where perfectly rational households fully anticipate changes in Government's actions (i.e. shifts between debt and tax finance for a given amount of public expenditure), and adjust their behaviour accordingly (Barro, 1979). This implies that fiscal policy is completely ineffective in raising aggregate demand and output.

The rational consumer based consumption functions can also be seen as a reaction against the Keynesian emphasis on fiscal policy. The crucial step was the so-called Monetarist counterrevolution against Keynesian aggregate demand policies which started gaining momentum in the 1970's, also assisted by the rise of conservative ideologies (Tobin, 1981). Monetarism was largely based on Friedman's consumption function and also on his quantity theory of money (Friedman, 1956). Apart from the inefficiency of fiscal policy in raising output in the long run, the basic policy message of Monetarism was the central role of monetary policy (through central banks) in controlling inflation. The perception of a largely ineffective fiscal policy dominated mainstream macroeconomic

thinking for many decades. It also became the common feature of what is now termed “New Classical macroeconomics” (see Muellbauer, 2016; Eichengreen, 2020). One can also connect this belief to an ideological bias towards market fundamentalism, attributing considerable real-world efficacy to the self-regulatory mechanism of ‘perfect markets’. (Heise, 2019; see also Lawson, 2012; Romer, 2015)

The fiscal policy inefficiency conviction has started to be undermined after the emergence of the financial crisis of 2008. The inadequacy (or even failure) of the dominant New Classical macroeconomic models “to foresee the timing, extent and severity of the global financial crisis and also to head it off”, cast doubts on their theoretical and empirical credibility (Besley and Hennessy, 2009). Some influential economists have gone further calling the rational expectations of agents assumption “particularly disturbing” (Stiglitz, 2009, p.294), or the DSGE theory “as an intellectually enterprise that has been bankrupted by the crisis.” (Leijonhufvud, 2009, p.755). It is also revealing that even leading macroeconomics theorists have criticized contemporary general equilibrium macroeconomic models in terms of “unrealistic micro-foundations for the behavior of households embodied in the ‘rational expectations permanent income’ model of consumption” (Muellbauer, 2016, p. 2) or “assumptions profoundly at odds with what we know about consumers and firms.” (Blanchard, 2016, p.1). More importantly, post-crisis research provided strong indications that fiscal multipliers were not just positive but even larger than previously assumed (e.g. Blanchard and Leigh, 2013). In other words, active fiscal policy started to be taken seriously again. As Barry Eichengreen asserts:

The depth of the downturn pointed to the value of not just automatic stabilizers but also discretionary fiscal policy as tools of macroeconomic management.

Keynesian models and not their New Classical challengers provided the practical analytical framework for policy design (Eichengreen, 2020, p.32).

Further, more recent empirical research concerning the effects of the financial crisis indicates the relevance of Keynesian theoretical framework (see Eichengreen, 2020 and references therein).

## **VI. Psychological Elements, Optimizing Agents and Consumption**

Keynes's influence on post-war economic thought, including his theory of consumption is well-known (for a review, see Cate, 2012). Apart from Keynes, Duesenberry's work on consumption was acknowledged as a very important contribution by many leading economists of the period. Soon after the publication of his main work, Kenneth Arrow's book review in the *American Economic Review* was very positive describing it as "one of the most significant contributions of the post-war period to our understanding of economic behaviour...[and] in the best tradition of economic thought" (Arrow, 1950, p.906). Similar positive views were expressed by G.L.S. Shackle who saw Duesenberry's work as an attempt to broaden the theoretical economist's horizon, and by A.C. Pigou who also recognized the potential significance of the work (Shackle, 1951; Pigou, 1951).

However and a few years after the initial sympathetic reaction, there was a rising trend to downplay and to diminish the significance of the relative income hypothesis. For instance, Robert Clower argued that the hypothesis was innocuous to the established doctrines and that it differs but little from ordinary consumption theory (Clower, 1951, p.178). Gradually, consumption theorists focused on attacking the hypothesis on methodological

grounds, and more specifically on the issue of incorporating psychological and sociological elements into economics. Although Modigliani (1949) reported that analysis of aggregate data on consumption tended to support arguments in favor of relative income, he was much more critical later on arguing that it contained unnecessary social and psychological elements. Instead, they claimed that their (Modigliani and Brumberg's) new interpretation of consumption theory was sounder and much simpler (Modigliani and Brumberg, 1954, p.424; Mason, 2000).

A few years later, Milton Friedman attacked Duesenberry's formulations by claiming that permanent income rather than relative income was the basis of consumer behaviour. Although Friedman acknowledged some merit in Duesenberry's concept of relative income, he argued that it was basically only a biased index of relative permanent income status. More importantly, Friedman believed that his approach was superior, since it owed nothing to sociology or to psychology in contrast to Duesenberry's which was full of subjective elements (Friedman, 1957; Mason, 2000). Friedman's assertion was crucial because as Roger Mason states: "Friedman's 1957 work, and the subsequent support for his permanent income hypothesis, effectively marginalized Duesenberry's attempt to introduce social and psychological elements into current economic debates on consumer demand formation." (Mason, 2000, p.561). Almost two decades later since the publication of Friedman's work, Robert Pollak makes the same observation by pointing out that "the lead provided by James Duesenberry was never systematically explored." (Pollak, 1976, p.310). Robert Frank's observation that "Duesenberry's relative income hypothesis has been relegated to a historical footnote in most modern textbooks", confirms the



continuation of the negative attitude of mainstream economics (Frank, 1985, p.157).<sup>7</sup> The neglect of the relative income hypothesis was not due to its empirical failure (see also Frank, 2005). In fact, there are recent indications of its empirical relevance (e.g. Alvarez-Cuadrado and Long, 2011). It has to be noted that the methodological critique against Duesenberry's theory was also implicitly applied to Keynes' consumption function, given that Keynes explicitly based consumption on the "fundamental psychological law". The fact that many of Keynes's psychological ideas became hidden from view as the IS-LM model became dominant in macroeconomics in the 1940s and 1950s, reinforces the above (Backhouse and Laidler, 2004).

Another related methodological reason for the marginalization of absolute and relative income hypotheses was the assumption of rational, utility maximizing agents which lies in the hard core of Neoclassical economics (see also Frank, 1985; Bowels and Gintis, 2000). Keynes' disregard for the concept and his psychology-based approach to consumption patterns was very difficult to fit into the mainstream formulations of consumption. Costas Meghir statement concerning Keynes' consumption function is indicative:

There have been many models of consumption. An influential example is the Keynesian consumption function (Keynes, 1935) based as Keynes put it on a "basic psychological law". However his consumption function lacks any microeconomic foundations based on individual optimisation. (Meghir, 2004, p.297)

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<sup>7</sup> Another important reason for the lack of acceptance of Duesenberry's ideas was the serious problems that they posed for the conventional demand theory which assumes that individual consumption behaviour was independent of the consumption of others (for a discussion, see Pollak, 1976; Drakopoulos, 2016)

The same attitude is expressed in contemporary DSGE models: the standard Keynesian model is “theoretically unacceptable because its underlying equations are not microfounded.” (Stiglitz, 2018, p.73). The usual meaning of the term *microfoundations* in this literature, is a particular model of human behaviour assuming perfectly rational individuals with perfect information who operate in competitive markets. In fact, one of the main criticism of the contemporary New Classical macroeconomic models are focused on their microeconomic foundations and especially on the assumption that agents have full information and an excellent computational ability to be able to optimise (e.g. Laidler, 2010; Muellbauer, 2016; Stiglitz, 2018).<sup>8</sup> It has to be stressed that the rational maximizing norm is not confined to consumption theory, but it characterizes the whole structure of New Classical macroeconomics (see, Laidler, 2010). Furthermore, the notion of certainty equivalence assumes that behaviour in an environment of uncertain income and health, and so forth, can be closely approximated by behaviour for which uncertainty does not matter (Muellbauer, 2016, pp.4-5). This is undoubtedly at great odds with Keynes’s emphasis on the role of irreducible and non-calculable uncertainty.

## **VII. Concluding Remarks**

In Keynes’s and Duesenberry’s consumption theories, consumption decisions are influenced by psychological and social factors. In these theories, current or relative income is a major determinant of consumption, and changes in income will bring significant changes in consumption. These changes will be large and occur within a short

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<sup>8</sup> Of course, there are many other criticisms focused mainly on switching of assets, liquidity constraints and the notion of expected income. Switching of assets is not a costless transaction and imperfections in capital markets impose a limit on the ability of households to transfer resources across time periods. Finally, expected income is not directly observable and its value has to be forecast, something that poses difficulties for the empirical testing of the theories (see Deaton, 1992; Lusardi, and Mitchell, 2011; Aron et al. 2012).

time span, and this means that fiscal policy can be used as a major instrument in order to curb unemployment and economic recessions. Both of these theories were marginalized with the appearance and eventual dominance of mainstream consumption theories. By employing the concept of forward looking, optimizing agents, current or relative income plays a minimal role in the life-cycle and permanent income hypotheses, and an even lesser role in contemporary orthodox rational expectations based consumption theories. As a result, changes in consumption cannot be affected by fiscal policy changes and fiscal policy is largely ineffective.

Keynes and Duesenberry's approaches were marginalized not because of their empirical shortcomings, but because of emphasizing the psychological and social influences on consumption patterns, and because of not employing the intertemporal utility maximizing framework. The aversion towards incorporating concepts and findings from other social sciences, is still a strong component of mainstream economic methodology. The same holds true for the model of optimizing agents operating in social isolation in an environment of calculable uncertainty. The inadequacies of mainstream consumption functions to predict and deal with the recent financial crisis, has drawn attention to these characteristics even by leading economists who can hardly be characterized as "dissident" or "heterodox".

Finally, the marginalization of Keynes' and Duesenberry's approaches combined with their economic policy implications might be viewed in the context of the issue of ideological bias of contemporary mainstream theories. It seems that an ideological belief to attribute great emphasis to the self-regulatory mechanism of 'perfect markets', and

view any government intervention as virtually damaging and useless, has also to be taken into account in any examination of the history and the current state of consumption theories.

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