

Explaining Keynes’ Theory of Consumption, and Assessing its Strengths and Weaknesses.

The concept of consumption is one that varies between the academic community, governments, and between individuals. Before exploring the various theories on consumption determination, therefore, it must be explained what consumption entails.

Consumption is, or shall be defined to be, the total quantity of goods and services that people in the economy wish to purchase for the purpose of immediate consumption. As such, it is one of the main determinants of an economy’s aggregate demand (that is, the sum of all planned expenditures in the economy). Other determinants of aggregate demand include investment and government expenditure (with net trade taken into account for open markets), which are also defined in terms of desired rather than actual expenditure. This distinction is an important one, as will be seen later; by looking at desired expenditure it is possible to calculate actual expenditure, and derive formulae to discover how variations in external conditions will affect this.

Taking the case of a closed economy (it is possible to look at this case and add trade later; the same conclusions would be drawn), we can therefore define aggregate demand (y^d) as the sum of consumption, investment, and government expenditures:

$$y^d = c + i + g$$

and, by looking at actual figures for the individual elements, it is quite obvious that consumption is the most important influence here. This may sound surprising, especially as the media constantly emphasises how government spending is ‘currently at 46% of national income’, but it must be realised that the vast majority of government expenditure is on items such as social security payments, which, while not counted on the above model (g above is defined to be the expenditure on goods and services alone), would be counted as consumption expenditure when the benefit receivers bought goods within the economy.

A large amount of material has therefore been written regarding the consumption function; many macroeconomic policies rely on an ability to influence the aggregate

demand in an economy without directly increasing government expenditure. The most famous (and, perhaps, therefore the most studied) paper is J M Keynes’ *General Theory of Employment, Interest and Money*, published in 1936, during the Great Depression. Although the work covered many areas of economic theory, the most relevant idea here was that the major (and perhaps only) influence on personal consumption was an individual’s income. Keynes’ theories centre on the equation:

$$c = a + by,$$

which shows that the consumption level is influenced by an autonomous figure (a), and a constant fraction of income (by). Keynes theorised that the autonomous figure would always be positive, and the multiple of income would lie between one and zero, varying according to the individuals in the economy.

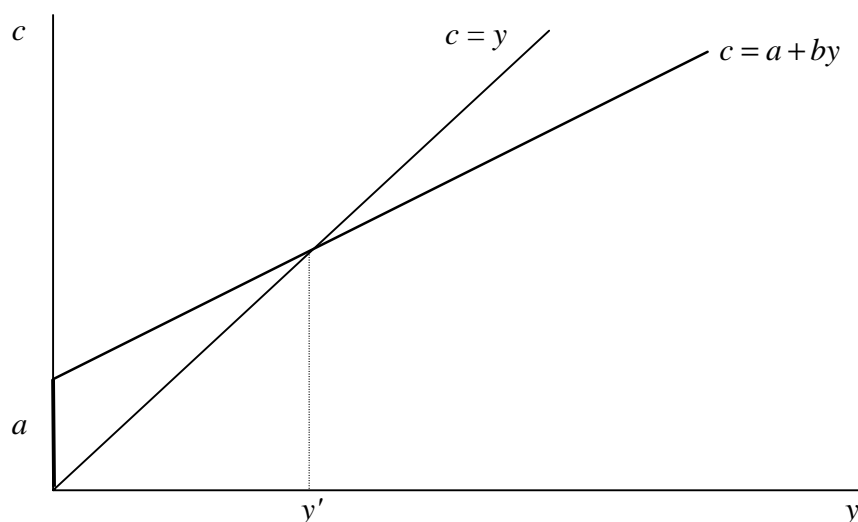
This factor of income was named the marginal propensity to consume (the MPC), and was included because “... men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income”¹. This may seem obvious; it is impossible for an individual to continually spend more than they earn, which would be implied if the MPC were to be greater than one. It must be recognised, however, that previous theories had, in general, assumed that consumption was either not linked to income, or that any rise in income would lead to an equal rise in consumption; this latter theory was the one generally adopted by classical economists.

One key idea to be raised from this theory was that of saving. By definition, all money not spent on consumption in a two-sector economy (that is, without government) will be saved by an individual. In a three- or four- sector economy this assumption still holds, but must be examined more closely; money not spent may be either saved or given as tax, and this tax may be either spent as government expenditure, spent as consumption (via benefits), or saved. In a three- or four-sector economy, however, we may link tax into the consumption equation, to give:

$$c = a + b(y - t),$$

where t is the amount of tax paid (not the tax rate).

It is possible to express the concept of saving using a Keynesian Cross (or 45 degree) diagram:



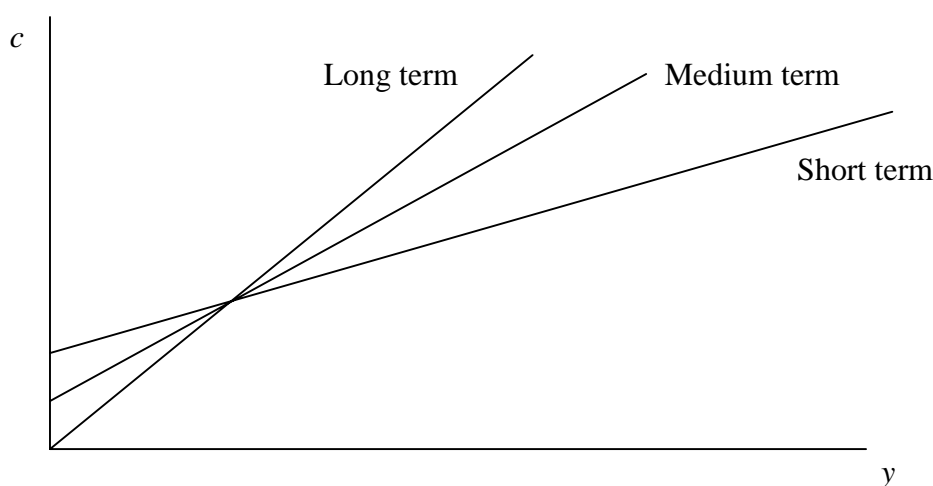
Keynes reasoned that there is a certain level of consumption that is necessary for an individual to stay alive; this would typically consist of expenditure on food, heat, and shelter, although in certain cases it could contain other items. This amount, the autonomous element a , can be seen above as the intercept with the y axis. At this point, and, indeed, at any point to the left of y' (the break-even income), consumption is above income, and individuals must use money from savings (that is, they must dissave) to pay for the deficit. At y' consumption exactly equals income, and there is no saving or dissaving, while above this level of income (to the right) the individual will save any surplus income not consumed.

Using this diagram it is quite easy to see why the MPC cannot be greater (or even equal to) one – if this was the case, and the autonomous level of consumption was strictly greater than zero, the two lines would never cross and the individual would be in a permanent state of dissaving.

¹ Keynes (1936)

It was further theorised that, as this analysis concerned independent individuals, it would be followed by an entire economy, which consists of such individuals. Although the MPC would be different for each person, the average figure would still be constant. This enabled Keynes to predict how an economy would react to changes in national income, and how this may be beneficial in policy making.

Following the publication of Keynes’ *General Theory*, a great deal of work was carried out to either prove or disprove the ideas contained within it. The data used for the analysis did indeed roughly follow Keynes’ theories, but it was noted that the long term data (averages over five years) gave different results to those concerning only short periods of time. It was noted that, as the data became more long term, the autonomous constant tended to zero, and the MPC tended to one:



However, it was reasoned there would be an explanation for this phenomenon which would not contradict the rest of Keynes’ work, and the inclusion of various factors other than income may have compensated. Further factors influencing consumption were put forward, including levels of wealth (a rise in wealth would lead to an increase in consumption), expectations (optimism would be likely to shift the consumption function upwards, but this previously could be included in autonomous consumption if optimism was constant), and interest rates (if rates are too high, an individual will not necessarily be able to dissave, and so the consumption function

would shift downwards), and the distribution of income, although this last factor does contradict Keynes’ assertion that the MPC should be constant at all levels of income.

It was this assumption that was broken down in the main consumption theories following Keynes’. There are two main theories which are recognised as significantly building on Keynes’ work: the first, Permanent Income Hypothesis, was developed by Professor Milton Friedman; the second, the Life-Cycle Hypothesis, by Professors Franco Modigliani and Albert Ando. Although similar in many ways, these two theories should be examined individually.

Permanent Income Hypothesis

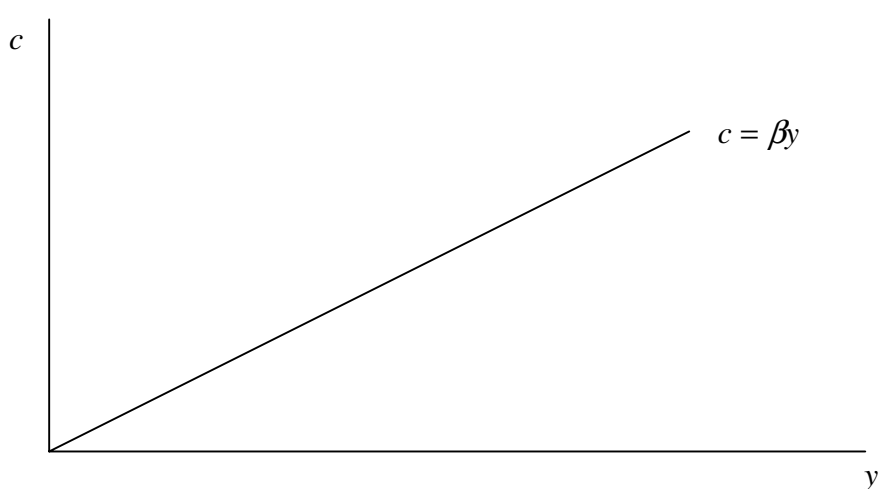
The main assumption behind Permanent Income Hypothesis is that people prefer their consumption to be smooth rather than volatile; that is, they prefer to buy a similar quantity of goods from week to week, from month to month, and so on. If, at the same time, it is assumed that individuals are rational and sensible problem solvers (a common assumption), it can be gathered that, because consumers aim to smooth their consumption, they will cut links between consumption and any volatile variable, including income. In order to do this, people will instead look to their long-term income prospects, which is known (slightly misleadingly) as their permanent income, and adjust consumption to this rather than actual income.

It should be noted that Keynes’ theory had included a form of permanent income, in that it was assumed that workers would not spend all their allocated money on the day they were paid; rather they would spread consumption over the month (or however long between salaries).

Friedman’s theory, however, looks at a much longer timescale, and includes two different types of income; permanent and transitory. The permanent income component, as described above, is the amount of income a worker can expect to get every so often over a long period (such as a decade), and will vary proportionately with the actual level of income. The transitory income, however, will fluctuate,

according to how fortunate the individual is every period. As the number of time periods examined increases, the transitory income will tend to zero (good and bad spells will average out). It should be noted that transitory income can be either positive or negative, according to whether actual income is above or below permanent income.

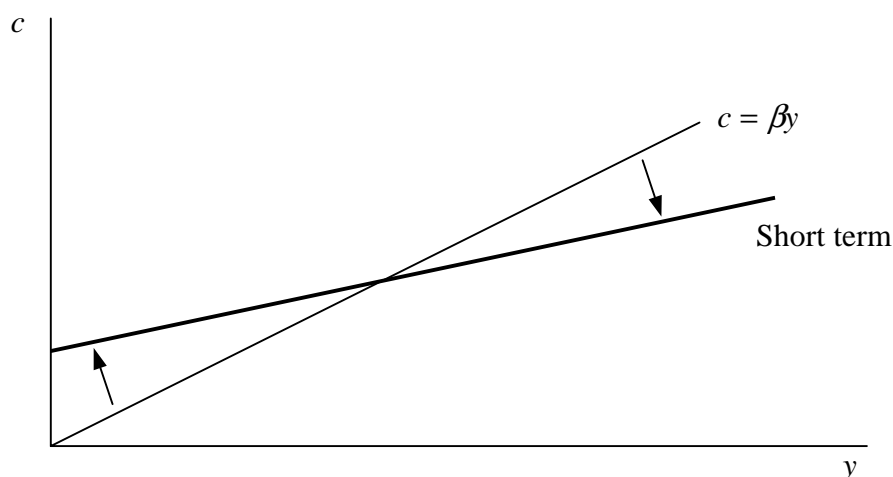
Looking at a long period, it can therefore be assumed that transitory income will be negligible, and it is possible to obtain a graph for consumption against income thus:



where β is the MPC, which, over long periods, naturally tends to one (as people attempt to spend all their income). It should be noted again that in the above graph, the transitory element is approximately zero; the effect of a non-zero transitory element (and thus over a short time period) is as follows.

It can be assumed that the average level of income will be very close to the average level of permanent income, if not equal to it. Looking at a level of income higher than this, it can be stated that this temporary high income is either due to a higher level of permanent income or a high transitory income. The latter is more likely, so transitory income is positive. Permanent income is thus lower than actual income, but, because people will consume at their permanent income, consumption will be at a point lower than the long run curve.

The opposite can be said of a level of income below the average; this will lead to an unusually high level of consumption. Looking at how this affects a graph, we can see a Keynesian graph for short term data, with an explanation for why Keynesian graphs shift and rotate when the lengths of time periods change:



While this hypothesis does explain quite adequately all that was uncertain about Keynes’ model, it was noted that long term graphs (those taken over decades) drifted upwards and to the right. It is therefore theorised that permanent income is slowly increasing, due to (and causing) higher living standards.

Life-Cycle Hypothesis

The Life-Cycle Hypothesis is very similar to the Permanent Income Hypothesis, but it assumes that permanent incomes are calculated over individuals’ entire life spans. This leads to the transitory element being decided, not by luck, but by the occupation and status of the individual. To start with, income is lower than can be expected, and individuals will borrow; then, as their salary increases with promotions, they will start paying this borrowing off, and then finally saving for when they retire. It should be noted that the amounts saved and dissaved over this time will not necessarily be equal, as interest on borrowing will diminish the savings considerably. It should further be noted that permanent income in this case is entirely constant, *ceteris paribus*.

This hypothesis is also heavily influenced by wealth other than income. If life starts with a certain amount of money, this money will be spent over the lifetime, thus increasing the level of permanent income, and the amount of saving and dissaving will alter accordingly; net saving will decrease.

In conclusion, it can be seen that while Keynes’ theory of the consumption function contains many valid ideas, there are areas on which it could be improved. The basic premise of consumption depending almost entirely on income is obviously very strong, but the use of actual income rather than that expected partially invalidates the theory. As shown by Milton Friedman, the assumption that the marginal propensity to consume remains constant is false, and, while this is compensated for around Keynes’ original model, it does mean that a purely Keynesian view of consumption is unable to explain many of the phenomena in this area satisfactorily.

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Tim Miller, December 1996.