Introduction to Consumption: The Kuznets Consumption Puzzle

Consumption is the economic term for people spending money on goods and services. Normal people are referred to as households in economics.

Why?

Just to confuse you.

Speaking of confusion, here is a problem that bugged economists for far longer than it should have, given how simple the answer is.

The Kuznets Consumption Puzzle

Kuznets – yep, that’s actually a real name – observed that consumption increases proportionately with national income over time, meaning that when the economy is £100 richer, consumption also increases by £100. However, if you tracked a particular individual, his consumption would increase by less and less as the economy grew richer. Therefore, each individual is spending less as the economy grows, but overall the economy is spending the same amount. This posed a conundrum, and the winner would receive a Noble Prize.
Keyes rose to the challenge and created the Keynesian Consumption Function to model how people spend their money, and what happens to Consumption when Income increases.

**Keynesian Consumption Function: \( C = a + bY \)**

**Glossary:**
- **C** Aggregate Consumption, the amount that a household spends
- **Y** National Income, the total value of all income in the economy, and therefore the total value of the economy, or GDP
- **a** an unimportant mathematical constant, except that it is greater than one
- **b** another unimportant constant, except it is between 0 and 1, meaning that people consume some fraction of their income.

The Keynesian Consumption Function just tells us that the total level of consumption in the economy is some constant plus a fraction of the total income of the economy.

The **Average Propensity to Consume** is an important concept that tells us how much of the economy's total income will be spent on consumption.

\[
APC = \frac{C}{Y}
\]

Substituting in the Keynesian Consumption Function:

\[
APC = \frac{a}{Y} + b
\]
Looking at our equations so far, we can see that as Y increases, so should C because the economy is richer and has more to spend. However, as Y increases, our APC should fall because a and b are both positive constants.

The Average Propensity to Save is whatever we don’t consume and so

\[ APS = 1 - APC \]

So as our national income increases, our APC falls causing our APS to increase. Problem Solved, said Keynes, and left some number crunchers to prove him right.

But wait!

What’s this?!?!?!?

The numbers did not come back as he expected.

When studying any individual household over time, the results were as he proposed; falling APC. However, when studying the entire economy, APC was constant, and unaffected by rising income.
Two Theories: Same Answers

1) Franco Modigliani's Life-Cycle Theory of Consumption

Key Premise: Income varies systematically over the phases of a consumer's "life cycle" so consumers make plans to smooth lifetime consumption. As a consumer grows older they save more of their income for retirement.

Consumption depends on life-time wealth and savings are used to smooth consumption. Temporary changes in current income have little effect on lifetime income and so little affect on consumption.

Life Cycle Pattern:

![Income vs. Time Graph]

Modigliani's Solution:

\[ APC = \frac{C}{Y} = \frac{\alpha W}{Y} \]

Glossary:
- \( W \): lifetime wealth
- \( \alpha \): the fraction of our wealth that we spend rather than save

Why Household APC is falling: Over short periods of time (like a single consumer's lifetime) when \( Y \) increases, wealth does not because the consumer is likely to be saving as they grow older. Therefore APC is falling.

Why Aggregate APC is constant: Over long periods of time (like a few hundred years), \( Y \) and \( W \) rise together. Therefore APC is constant.

2) Milton Friedman's Permanent Income Theory

Key Premise: Current Income is the sum of Permanent Income + Transitory Income and Consumption is only affected by changes in Permanent Income.

Glossary:
- Permanent Income: Long Run Income such as a stable salary.
- Transitory Income: Short Run Income such as a bonus, shares or unemployment benefits.
If changes in current income are mainly transitory - such as losing a job and so income decreases for a few weeks until finding a new one - then they have little affect on permanent income, and so little affect on consumption because they transitory effects mainly affect savings (increased savings if we get a raise, decreased savings if we crash our car)

Friedman's Solution:

\[ APC = \frac{C}{Y} = \frac{\alpha Y^T}{Y^T + Y^P} \]

Glossary:
- \( Y^T \) Transitory Income
- \( Y^P \) Permanent Income
- \( Y^T + Y^P \) Lifetime Income
- \( \alpha \) the fraction of our temporary income that we spend rather than save

By making the distinction between permanent (life-time) income and transitory income we can better understand what affects aggregate consumption and what affects household consumption. Saving are borrowing are used to smooth consumption when we have changes in transitory income, and each household tends to be saving more as they become richer. Across the whole economy however, these transitory effects cancel each other out and we see that as permanent income increases, aggregate consumption increases with it. Thus, household APC falls, but economy-wide APC is constant.

Bottom Line

Consumption depends mainly upon lifetime wealth and permanent changes to our income. Short run and transitory affects have only a small effect on our current consumption, because we save/borrow most of these changes.

Problem Solved!

Seriously? This won two Noble Prizes? I’ve done harder puzzles on Christmas Day with my grandma, and she’s blind. Bless her.