Lecture 5

Consumption & Savings

Lecture 5: Consumption & Savings

1. Consumption Function

2. Saving Function

3. The Paradox of Thrift and The Keynesian Cross

Lecture 5: Consumption & Savings

Marginal Propensity to Consume – гранична схильність до споживання

Average Propensity to Consume **–** середня схильність до споживання

Marginal Propensity to Save **–** гранична схильність до заощадження

Average Propensity to Save **–** середня схильність до заощадження

The Paradox of Thrift **–** парадокс заощадження

Lecture 5: Consumption & Savings

The consumption function is a single mathematical function used to express **consumer spending**. It was developed by ***John Maynard Keynes*** and detailed most famously in his book ***The General Theory of Employment, Interest, and Money***.

It captures the fundamental psychological law put forth by Keynes that ***consumption expenditures by the household sector depend on income and than only a portion of additional income is used for consumption.*** This is explained by the fact that disposable income is divided on **consumption** and **savings** and the growth of disposable income increases consumption and savings.

$$Yd = C + S$$

Lecture 5: Consumption & Savings

The function is used to calculate the amount of total consumption in an economy. It is made up of **autonomous consumption** that is not influenced by current income and **induced consumption** that is influenced by the economy's income level.
The simple consumption function is shown as the linear function:

$$C = c^0 + mpc * Y^d$$

where:
C – total consumption,
$\mathbf{c}^0$ – autonomous consumption ($c > 0$),
mpc– the marginal propensity to consume
(ie the induced consumption) ($0 < mpc < 1$),
$\mathbf{Y}^d$ – disposable income
(income after taxes and transfer payments, or W – T).

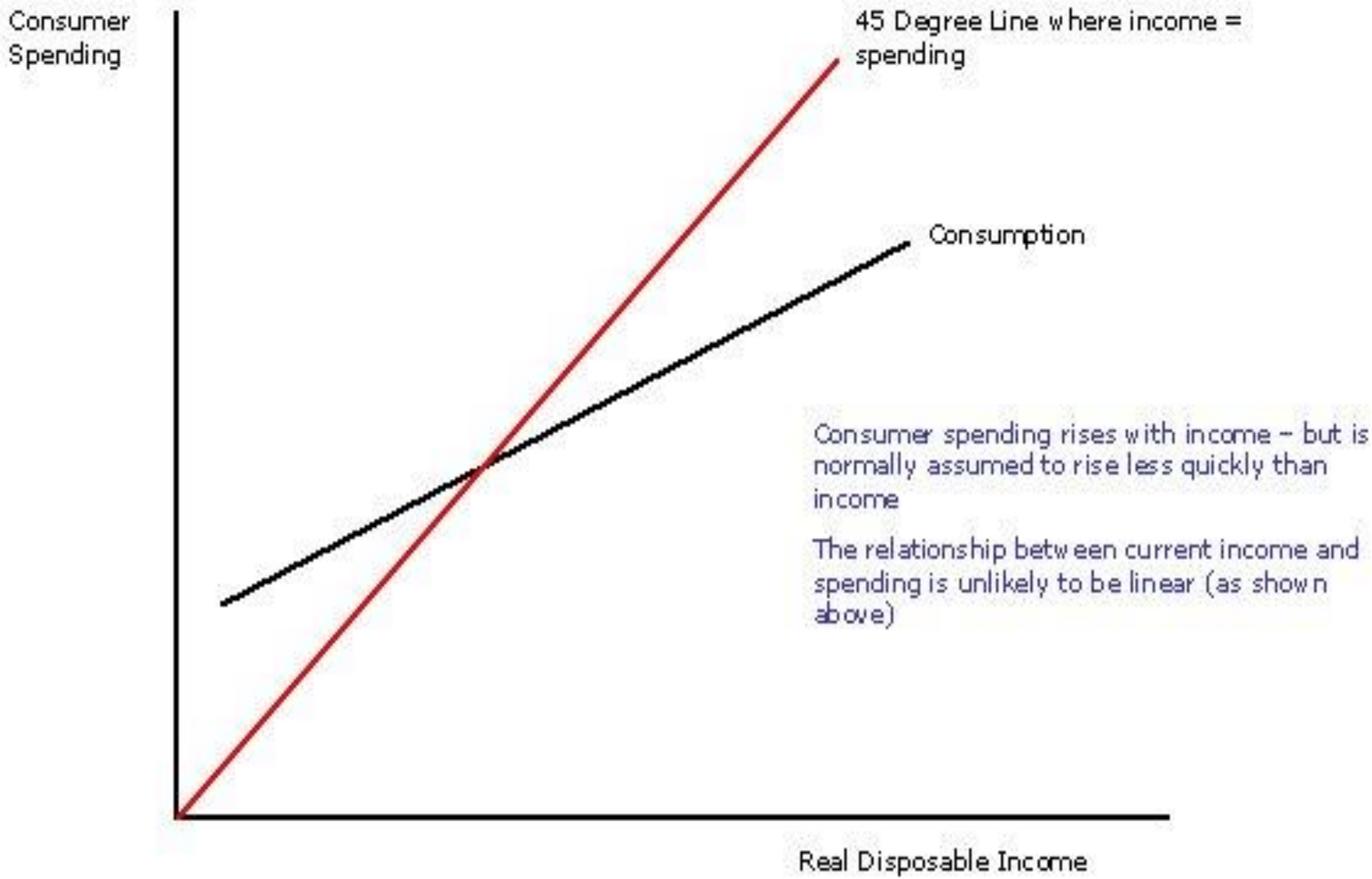
Lecture 5: Consumption & Savings

Autonomous consumption (also ***exogenous consumption***) is a term used to describe **consumption expenditure** that occurs when **income levels are zero**. Such consumption is considered autonomous of income only when expenditure on these consumables does not vary with changes in income. If income levels are actually zero, this consumption counts as dissaving, because it is financed by **borrowing** or **using up savings.**

Induced consumption describes consumption expenditure by households on goods and services which **varies with income**. Such consumption is considered induced by income when expenditure on these consumables varies as income changes.

Lecture 5: Consumption & Savings

The Keynesian Consumption Function

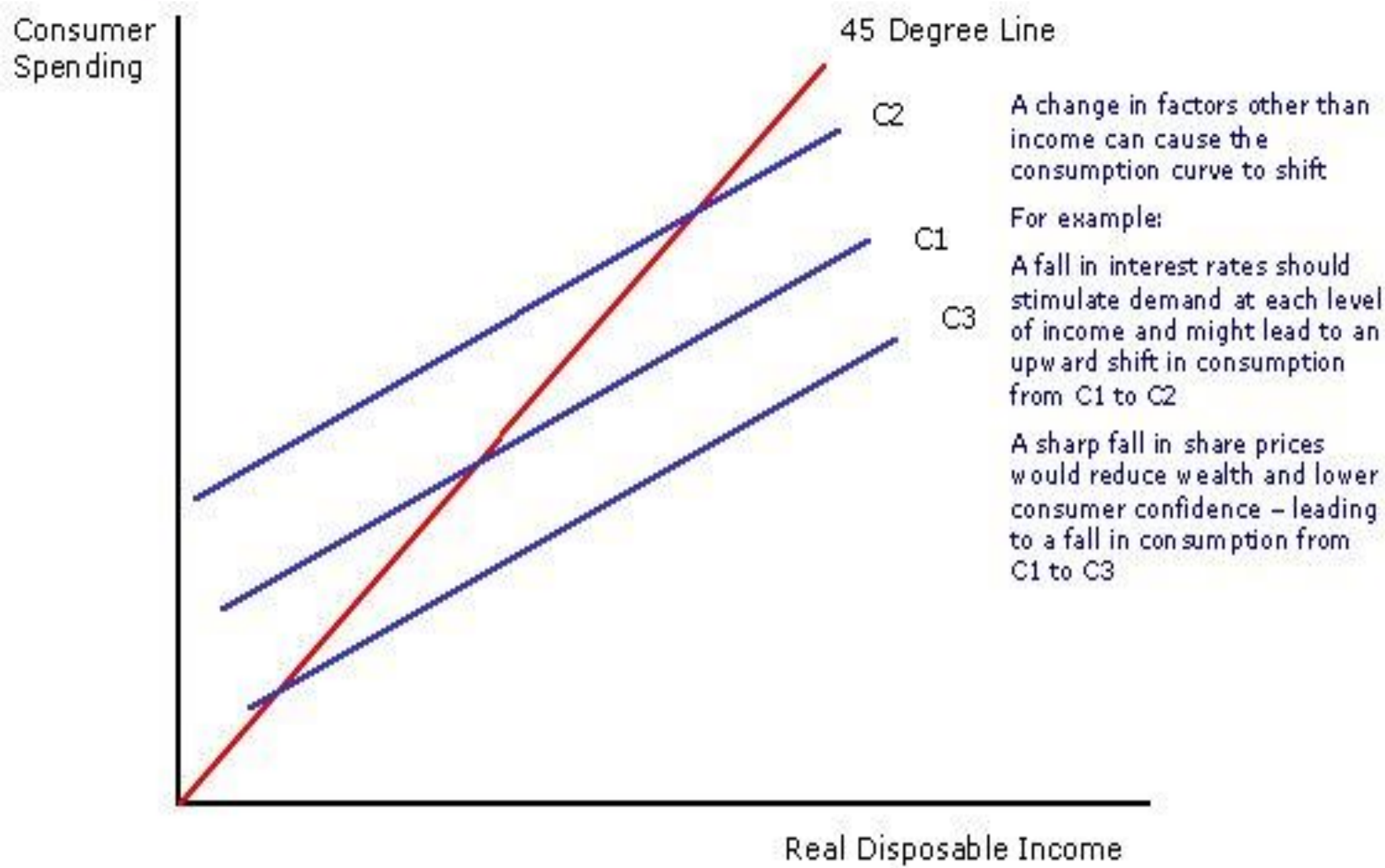


A Shift in the Consumption Function

The consumption-income relationship changes when other factors than income change - for example a rise in interest rates or a fall in consumer confidence might lead to a fall in consumption spending at each level of income.

A rise in household wealth or a rise in consumer's expectations might lead to an increased level of consumer demand at each income level (an upward shift in the consumption curve).

Lecture 5: Consumption & Savings



A change in factors other than income can cause the consumption curve to shift

For example:

A fall in interest rates should stimulate demand at each level of income and might lead to an upward shift in consumption from C1 to C2

A sharp fall in share prices would reduce wealth and lower consumer confidence – leading to a fall in consumption from C1 to C3

Lecture 5: Consumption & Savings

The marginal propensity to consume (MPC) is an empirical metric that quantifies induced consumption, the concept that the increase in personal consumer spending (consumption) that occurs with an increase in disposable income (income after taxes and transfers).

$$MPC = \frac{\Delta C}{\Delta Y}$$

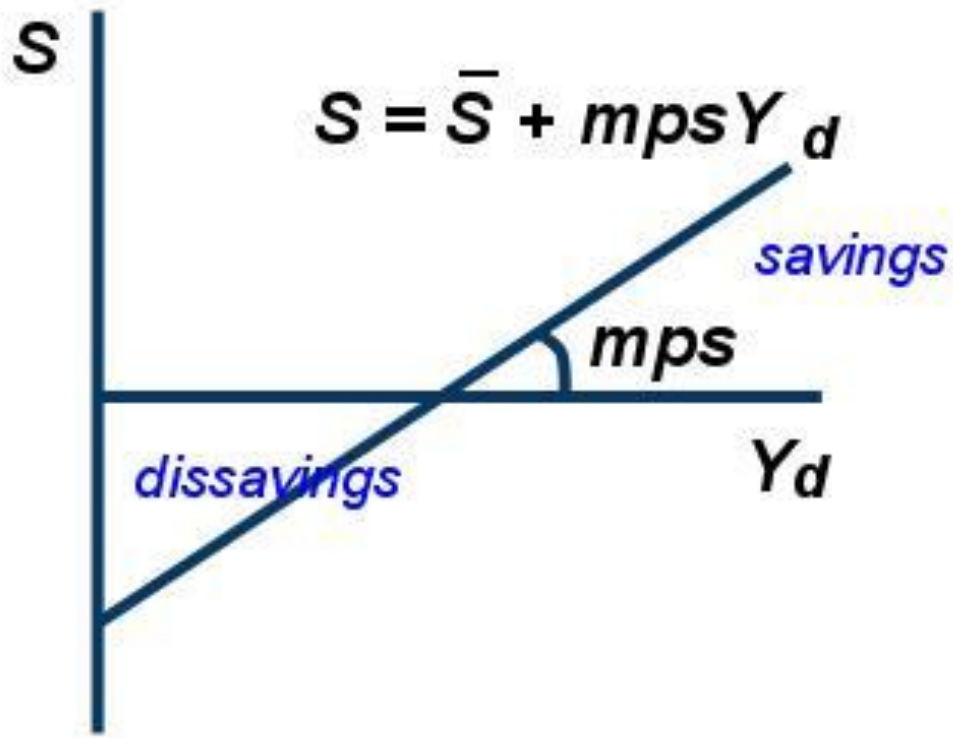
where:
ΔC is the change in consumption,
ΔY is the change in disposable income that produced the consumption.

The marginal propensity to consume is measured as the ratio of the change in consumption to the change in income, thus giving us a figure **between 0 and 1**. The MPC can be more than one if the subject borrowed money to finance expenditures higher than their income.

Average propensity to consume (APC) is the percentage of income spent. To find the percentage of income spent, one needs to divide consumption by income, or

$$APC = \frac{C}{Y}$$

Lecture 5: Consumption & Savings



The saving function is the starting point of the Keynesian economics analysis of equilibrium output determination using the injections-leakages model. It captures the relation between **saving** by the household sector and **income**. Because income is used for either consumption or saving, the saving function is a complement of the consumption function.

Lecture 5: Consumption & Savings

The **saving function** can be specified as:

$$\mathbf{S= -c^{0} +(1-mpc)*Y} \text{ or } \mathbf{- c^{0} +mps*Y}$$

The marginal propensity to save (MPS) refers to the increase in saving (non-purchase of current goods and services) that results from an increase in income.

$$MPS=\frac{\Delta S}{\Delta Y}$$

In other words, the marginal propensity to save is measured as the **ratio** of the change in saving to the change in income, also giving us a figure **between 0 and 1**. It is the opposite of the marginal propensity to consume (MPC). In a two sector closed economy

MPS = 1 — MPC

Lecture 5: Consumption & Savings

The average propensity to save (APS), also known as the savings ratio, is an economics term that refers to the proportion of income which is saved, usually expressed for household savings as a percentage of total household disposable income. The ratio differs considerably over time and between countries.

$$APS = \frac{S}{Y}$$

The savings ratio can be affected by (for example): the proportion of older people, as they have less motivation and capability to save; the rate of inflation, as expectations of rising prices encourage can encourage people to spend now rather than later.

The inverse is the average propensity to consume (APC). Thus

APS + APC = 1

Lecture 5: Consumption & Savings

Because spending and saving are two sides of the same decision, saving is affected by the **same determinants that affect consumption**. Here are a few of the more important ones:

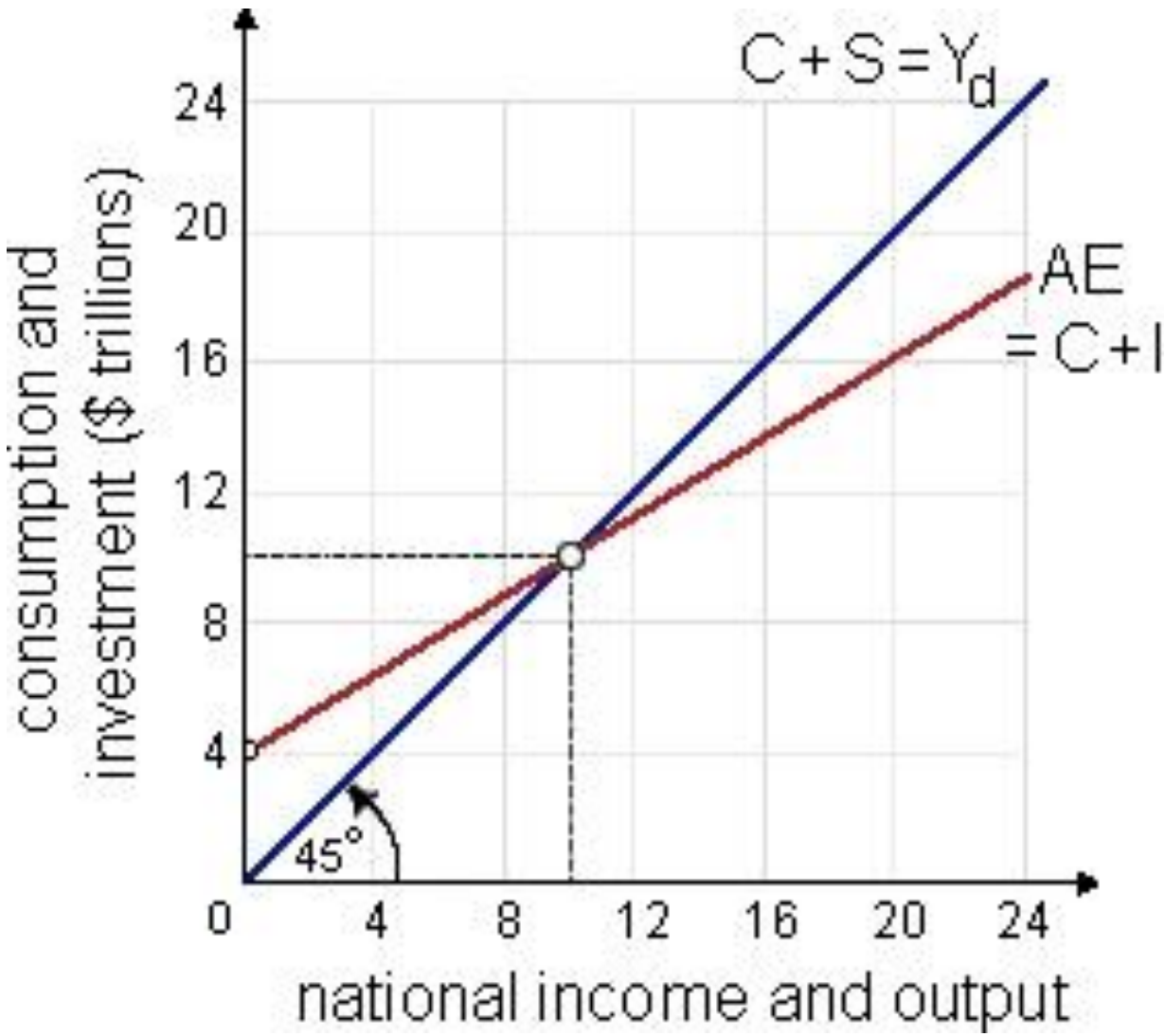
- Interest Rates
- Consumer Confidence
- Physical Wealth
- Financial Wealth
- Inflationary Expectations

Lecture 5: Consumption & Savings

The paradox of thrift (or **paradox of saving**) is a paradox of economics, popularized by John Maynard Keynes. The paradox states that if everyone **tries to save more money** during times of recession, then **aggregate demand will fall** and will in turn lower total savings in the population because of the decrease in consumption and economic growth.

This paradox can be explained by analyzing the place, and impact, of increased savings in an economy. If a population saves more money (that is the marginal propensity to save increases across all income levels), then total revenues for companies will decline. This decrease in economic growth means fewer salary increases and perhaps downsizing. Eventually the population's total savings will have remained the same or even declined because of lower incomes and a weaker economy. This paradox is based on the proposition, put forth in Keynesian economics, that many economic downturns are **demand based**.

Lecture 5: Consumption & Savings



In the **Keynesian cross** diagram (or 45-degree line diagram), a desired total spending (or **aggregate expenditure**, or "aggregate demand") curve is drawn as a rising line since consumers will have a larger demand with a rise in disposable income, which increases with total national output. This increase is due to the positive relationship between consumption and consumers disposable income in the consumption function.

Finally.