Hello everyone. Welcome to this

Presentation, on the topic, The Multiplier. This is.

Module #8 under the unit - Determination of National

Income-The two sector model. I'm Anna Rovina Fernandes

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Let's have a look at what we're going to cover in this module.

We will learn about the concept of the multiplier.

We will then proceed to learn the multiplier effect.

We will know how to calculate the value of the multiplier

using the multiplier formula.

We will also learn about the relationship between the

marginal propensity to consume -MPC and K. That is the

multiplier or M; also denoted by M. We will learn about the

importance of the multiplier and we will also look at some of the

limitations of the multiplier.

At the end of the Module, the students will be able to interpret the concept of

the multiplier. They'll be able to describe the working of the

multiplier, calculate the value of the multiplier, and apply the

concept of the multiplier to analyze the real world changes

in GDP.

What is the multiplier?

Let's recall the learning from module 7 about the effect of

changes in autonomous expenditure on real income.

A small upward shift in the aggregate expenditure line

due to autonomous increase in expenditure leads to a much

larger increase in equilibrium output and income

and vice versa.

A fall in aggregate autonomous expenditure will lead

to a much larger decrease in equilibrium output and income.

This increase in income or decrease in income is a

multiple of the increase or decrease in autonomous

spending.

Let's look at this graph here,which shows the effect of

changes in autonomous expenditure on equilibrium

income. As you can see, there

is a more than proportionate increase in real GDP from Yo to

Y3 as a result of a small change in autonomous

expenditure from A1 to A2.

In order to measure this changes in real income as a result of

change in autonomous expenditure, we use the concept

of the multiplier.

The multiplier is defined as the change in equilibrium

output and income caused by a change in autonomous expenditure.

If A. Is used to denote autonomous expenditure, The

multiplier is stated as Δ Y/ Δ A.
Or the ratio of change in income.

to the change in autonomous

expenditure. So the multiplier quantifies the extent of

change in income caused by change in autonomous

expenditure.

The series of induced increases in consumption that results from

an initial increase in autonomous expenditure is called

as the multiplier effect.

The multiplier effect occurs because an initial increase in

autonomous expenditure sets off a series of increases in real

GDP till the final or a new equilibrium level is reached.

Look at this table carefully.

It shows the multiplier effect.

The working of the multiplier.
Let's take an example. Let's
assume that the government decides to undertake investment-

autonomous investment in an economy amounting to 1000 crores

This investment means that factors of production, such as land, labor,

capital, and enterprise gets

employed. As one man's expenditure is another's income,this investment is income for them.

So thousand crore of investment becomes 1000 crore

of new income in the hands of the factors of production.

This factors of production are also consumers, and they buy

different varieties of goods because they experience an

increase in the income.

So on account of the induced consumption, the consumption

level in the economy goes up. Now let us assume that the

marginal propensity to consume is 4/5 of the change.

of the new income, so consumption from new income is 4/5th or 80% consumption from new i.

As the marginal propensity to consume is 0.8 or 80%. of 1000 is

800 crores so 800 crores is the

new consumption. And 200 crores the savings in the economy.

Now the people who own in the second round, the 800 crores of new

income because, as I have said,when people spend somebody earns

it is income for somebody else.So 800 crores is the consumption

expenditure which goes as income to some other people. So 800

crores in the second round is the

new income. And keeping marginal propensity to consume at 0.8 or

80% of 800 is 640, which is the additional consumption from

this 800 crores of income and160 crores are saved. In the third

round, out of the 640 crores of new income 512 crores

are consumed keeping marginal propensity the same at 80%

and in this way the process goes on in an economy- the process

of income propagation in an economy via the multiplier

effect. So if you see the total, if you add up the total of

income, we get a sum of rupees 5000 crores. The initial.

Autonomous investment was 1000.Crores the new income that has

been generated as a result of the multiplier process is 5000

Crores of income. The new autonomous investment has

resulted in a multiplier effect and the multiplier value is 5.

If you can just have a glance at how the size of the

multiplier is calculated using simple mathematics, you find

that 0.8 square and 0. 8 cube that is the marginal propensity to

consume. And the proportion of consumption depends on the

marginal propensity to consume. How much of income; of new income

people will spend depends on their propensity to consume. If

the propensity to consume is high, the value of the

 multiplier will be high.

So from this we can calculate the size of the multiplier.

Therefore, multiplier M is equal to 1/ 1 minus change in

consumption to chaAnge in income. **M** is equal to **1/1 - MPC.**

Or it can also be stated as M is equal to **1/ MPS**, which

is the marginal propensity to save. Using this formula we

can calculate the size of the multiplier.

And the final increase in income can be calculated by the formula-

$M \times \Delta A$

(ΔA is change in.Initial autonomous investment)

Now let's look at the relationship between

multiplier and the marginal propensity to consume. As I have

stated earlier, the size of the multiplier depends on the

marginal propensity to consume. Higher, the marginal

propensity to consume, the larger the size of the

multiplier.

For example, if the marginal propensity to consume is 0, the

size of the multiplier is one. That means none of the increase in

income is spent.

As the value of the of the marginal propensity

to consume goes up, the size of the multiplier

goes up in an economy..

The multiplier can operate in reverse as well, like as is

happening in the current times when there is global recession,

there is pessimism all around,and then we find.

substantial fall in income

and rising unemployment. And it is having a terrible effect on

economies around the world; that is the multiplier

operating in reverse.

Other examples we could take- at the time of demonetization in

2016, there was fall out on GDP levels as the GDP levels dropped

substantially on account of drop in autonomous incomes.

The multiplier concept is very important to highlight the role

of government spending to compensate for a fall in private

sector spending. It also helps in the study of business cycles

to explain the booms and the recession phases of an economy.

And this concept is also useful in understanding the role of

fiscal policy, the role of government expenditure and

taxation policy in stabilizing

the economy. However, there are certain leakages in the working

of the multiplier. Leakages are those amounts that leak out of

the circular flow in an economy.

Saving for example. So when people save more it is.

 a limitation to the multiplier process, whereas

expenditure or more spending is a virtue.

Net imports similarly. If the Imports are more than

exports,. It's a leakage to the working of

the multiplier. Similarly,the rate of taxes go up, or

if the price level goes up ,it is a leakage in the

working of the multiplier it lowers the level of income

in an economy.

To sum up. The multiplier is defined as the change in

equilibrium real GDP caused by a change in autonomous

expenditure. The larger the MPC,the larger the size of the

multiplier. The multiplier effect occurs both when

autonomous expenditure increases and when it decreases.

Here's a small exercise for you to test your understanding on

the concept.

If autonomous expenditure amounts to 20,000

Crores, calculate the size of multiplier with marginal

propensity to consume of 0.6.

Also, what will be the size of the multiplier with MPC of 0.4?

Do workout this and find your

answers. You could also have a look at the Glossary.

And the references.

Thank you.