International Economics

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Lecture No. # 03

Good afternoon. In today's lecture, we will talk about how expenditures affect the national income and the current account balance of the countries. So, I will write down the equations which will tell us how expenditures of a country are related to the national income of a country, and how expenditures affect the current account balance of the country. And then, we will introduce interdependence in the model. And then at the end, we will try to figure out, whether a deficit or a surplus, which is generated by the changes in expenditures or they sustained or are they negated in the interdependent model. So, the equations are the following.

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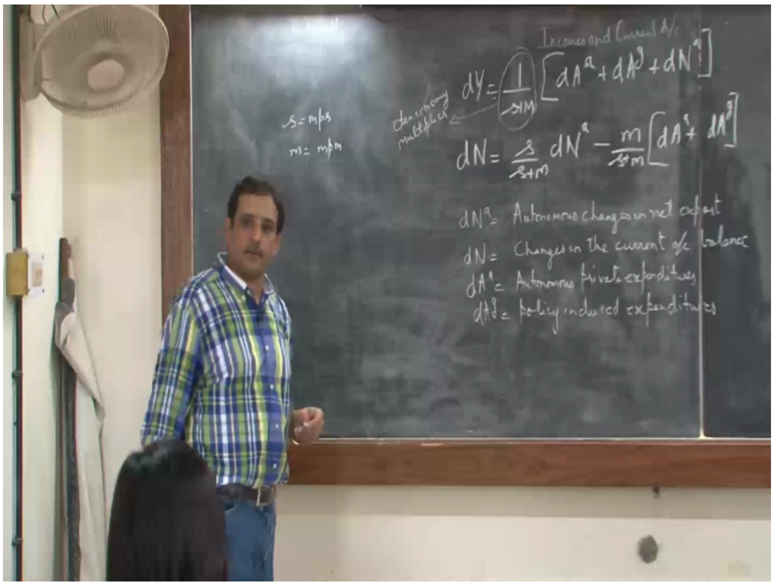

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These two equations, tell us, about the impact of the expenditures on the changes in the income and in on the current account balance. So, if you see the first equation if there are, if there is a change in the expenditures. Be it the autonomous private expenditures or policy induced expenditures or the autonomous changes in net exports, it tends to have an impact on the incomes. This one upon s plus m is the open economy multiplier, where in s is the marginal propensity to save, and m is the marginal propensity to import of the country.

The second equation tells us that if there is change in the autonomous private expenditures or policy induced expenditures. It tends to deteriorate your current account balance reason being that, if you increase the autonomous private expenditures and policy induced expenditures, they tends to have an impact on the incomes as the incomes rises the imports go up. So, there is a deterioration in the current account balance, but if there is a switch in expenditures in favors of say the domestic goods from foreign to domestic goods d N a goes up and it leads to an improvement in the current account balance. So, if there is an increase in d N a, it will have an impact on the incomes, but, it will also improve the current account balance.

Now, you can see from here that if there is an improvement in the current account balance it has an impact on the incomes. And we are also saying that it improves the current account balance. So, whatever is the impact on the incomes and through incomes, there is a change in the imports. It is still not able to wipe out the surplus which is created, by the shift of expenditures from foreign to domestic goods. So, this is the point that needs to be understood, and what we need to probe further is that, if we bring in interdependence in the model and if there is a switch in expenditure from foreign to domestic goods, Will it still lead to an increase in the current account balance? Or will there be still be balance of payment surplus?

So, think of this in a manner that, say for example, we introduce another country, we introduce another country which is say Japan and this is US or your country is India. And you introduce the India’s major trading partner now as china. Now think of what happens? If there is a change in the autonomous private expenditures in India .what we will see is that it not only improves the incomes here, but it also improves the incomes in the other countries.

But on the other hand, it deteriorates our current account balance, because the as the incomes goes up the imports go up. But an as a result, this current account balance is comes to be negative. Now when you have interdependent model, when you increase expenditures, it increases incomes in their countries, then it increases incomes in their countries, their imports go up .When their imports go up, our exports go up .And yet we will see at the end, that it is not able to wipe out the deficit, which is created in the current account.

So, today we are going to focus on the interdependent model. And finally, we will see whether the changes in expenditures or the switches are able to wipe out the deficit or surplus permanently? And the answer to it is that, it even, if you bring in interdependence, it will not be able to wipe out the surplus to deficit. Which is created by the shocks? Which are given in the in the model shocks? Which are given in the economy?

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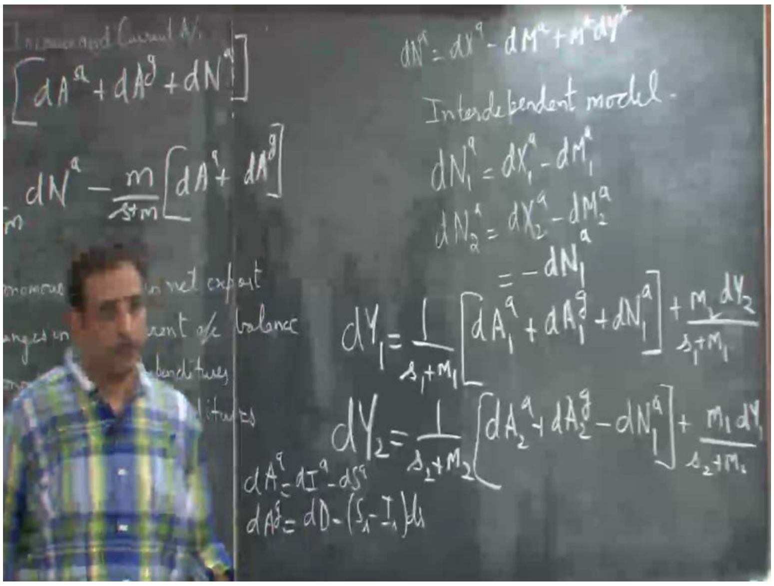

So, if you have to bring in, the interdependent model. You need to have some changes in this term d N a ,d N a earlier was d X a minus d M a plus M star d Y star .Where you had assumed that the incomes of the foreign country are constant and m star is the marginal propensity to import. Now in this interdependent economy, the change is that, you define d N 1 A to be d X 1 a minus d M 1 a .And d N 2 a to be d X 2 a minus d M 2 a and d N 2 a is minus d N 1 a.

So, the equations would become d Y 1 upon 1 plus M 1 d A1 A plus d A 1 g plus d N 1 a. And you would have M 2 d Y 2 divided by s 1 plus M 1. Now see the how this term as emerged? Because, now d N 1 A is d X 1 A minus d 1 d N 1 A and this is M 2 d y 2. So, if you take it out of the bracket, here out of the parenthesis, you will get M 2 d Y 2 divided by s 1 plus m 1. Similarly you can define d Y 2 to be equal to 1 upon S 2 plus M 2 d A 2 a plus d A 2 g minus d N 1 a plus M 1 d Y 1 divided by S 2 plus M 2. Please recall that your d A 2 a or d A is d I a minus d S a .And d A g which reflects the fiscal and the monitory policy of the government is d minus s r minus I R d R.

So, the change is now this change in the autonomous export term, autonomous change is in the net exports. Now it is a little curtailed one, it is d X 1 a minus d N 1 a and d N 2 a is d X 2 a minus d m 2 a which minus d N 1 a. So, now, you have these two countries we are studying the interdependence model. You have two equations in two unknowns; these have to be solved to get the values of d Y 2 and d Y 2.

So, I will spend some time on the board and then solve these simultaneous equations. And, see what finally, comes out? What impacts the changes in the incomes? And you will find that, it is not only your expenditures that is your country’s expenditures. But their country’s expenditures also having an impact on your incomes. And then once we have these figures, we will also get a figure for or current account balance.

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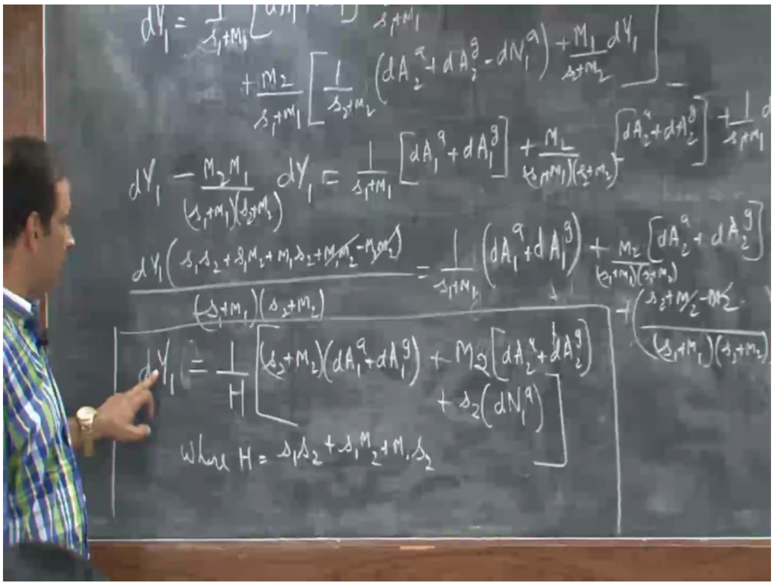

So, I will spend some time doings little bit of algebra..

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So, what I am going to do is? To replace the value of d Y 2 here, with this big figure.

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So, what we get is that the incomes in your home country changes. Because of the changes in the expenditures, be it the private expenditures or the policy induced expenditures. They change because of the policy induced expenditures and the private expenditures in your neighboring country, in your trading country, in the country which is engaging with you. And, if there is a switch in expenditures from domestic to foreign or foreign to domestic, say in case of foreign to domestic and d N 1 a improves. It will tend to increase your incomes.

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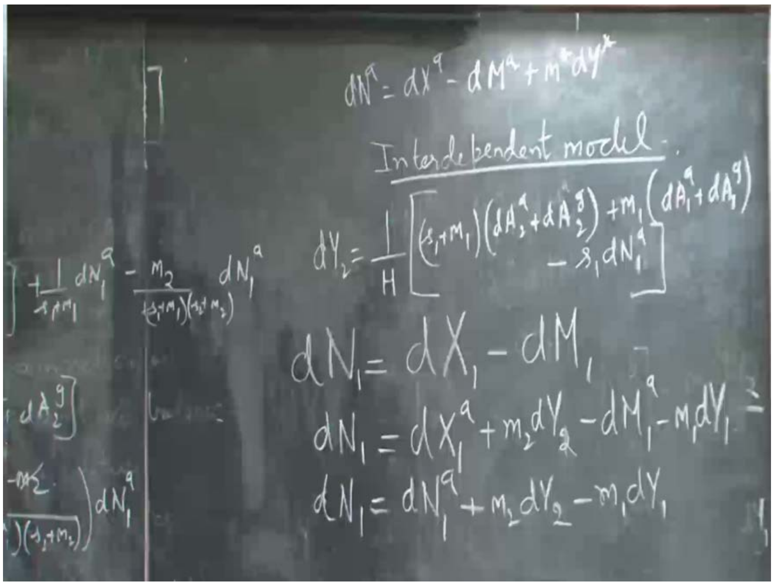

Similarly, if you solve for d Y 2, you can always get a value .You can always get the incomes of the second country.

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Now, look at the changes, which can happen in the incomes of your trading partner? The expenditures which are done there? It tends to have an impact on the incomes through the Keynesian multiplier. But your expenditures, your country’s expenditures also tend to promote incomes in the other countries. And any improvement in the net exports, say for example, if there is a switch in expenditure from foreign to domestic goods, which improves your net exports. It tends to deteriorate the net exports there; it tends to have a negative impact on the incomes.

But, what you should be able to understand from these two things? Is that if d N 1 a increases, it tends to increase the incomes in your country. And it leads to a decline in incomes in the other country. When there is a decline in incomes in the other country, it leads to a decline in imports. And when there is a decline in imports, it leads to a decline in exports. And yet, it is not able to wipe out the current account surplus that is created right at the beginning. To further explain the last point that I just mentioned, I need to get a figure for the change in net exports, which is d X..

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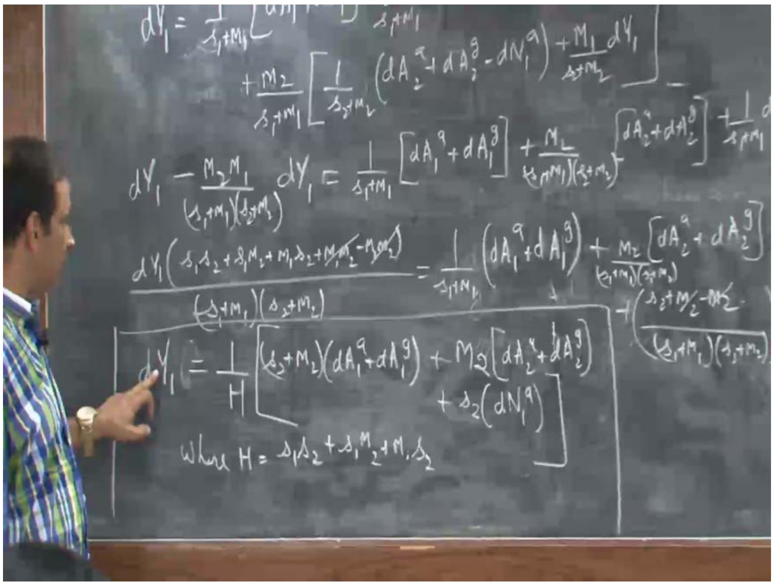

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So, d N 1, the change in current account balance d N 1 is equal to d N 1 a plus M 2 d Y 2 minus m 1 d Y1.

Now, you have already got the values of Y 1, d Y 1 and d Y 2. You need to substitute here in this equation to get the value of the current account balance. So, let us do it. So, in the board I will just keep the values d Y 1 and d Y 2. And then solve for the changes in the current account balance. So, d N 1 is equal to d N 1 a plus m 2 .Instead of d Y 2 , I would put that to be.

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So, d N 1 is d N 1 a plus m 2, d Y 2 instead of d Y 2 I have replaced value of d Y 2 here, and then minus M 1 d Y 1.Which is?

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Now, collect the common terms and then see what we get?

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You need to focus on this equation, which is the changes in current account balance? In the first country, in the home country. As, a function of the autonomous change in net exports, changes in expenditures in the other country. The changes in expenditures in your home country. So, you see this equation, where the change in the home countries current account balance is directly related to the expenditures in your country. That is the home country and negatively related to positively related to the expenditures in the foreign country.

So, what it shows is that even in the interdependent model, if you raise your expenditures, it will deteriorate the current account balance. This is happing despite the interdependence in the model, please recall the two equations which were 1 upon s plus N ,d A 1 a plus d A 1 g plus d N 1 a and d N to be equal to s upon s plus M d N a minus. Even in this model, where you do not have interdependence? Expenditures in your home country led to deterioration in the current account balance. Meaning that if you raise expenditures, your incomes go up, when your incomes goes up, your imports go up, when your imports go up, there is deterioration in the current account balance. This is when, there is no interdependence, it does not have any impact on the incomes of the trading partners.

Now, bring in the interdependence, if your expenditure goes up, their incomes also go up. When their incomes go up, their imports go up. When their imports go up, they are exports go up and yet it is not able to wipe out the negativity in the current account balance. Do you see this, that if this improves, if there is an increase in expenditure .Let me repeat it, it leads to a deterioration in the current account balance. Because the channel is when you increase expenditures, your incomes go up by the value of the multiplier. Your imports go up, So, your current account deteriorates.

Now, bring in the interdependent model. When you increase expenditures their incomes also go up, because d Y 2 is not only a function of your expenditures, but, their expenditures also. So,when this goes up, their incomes go up, their imports go up or exports go up. So, there is a marginal improvement in the current account balance and therefore, the net result is that there is still underline current account deficit in your balance of payments. So, even when you bring in interdependence, it is not able to wipe out the current account deficit which is created by giving a shock to the system that is increasing the expenditures in the economy.

So, in today's lecture, we see that even if you have interdependent model, it is not able to adjust fully to the shocks which are given initially in the model. So, that is where we will end today in the next lecture .We will talk about how to remove deficit and surplus in the balance of payments , thank you.