**International Economics**
**Prof. S. K. Mathur**
**Department of Humanities and Social Science**
**Indian Institute of Technology, Kanpur**

**Lecture No. # 01**

Good afternoon. In today's lecture, we will talk about how expenditures effect 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 or they negated in the interdependent model.

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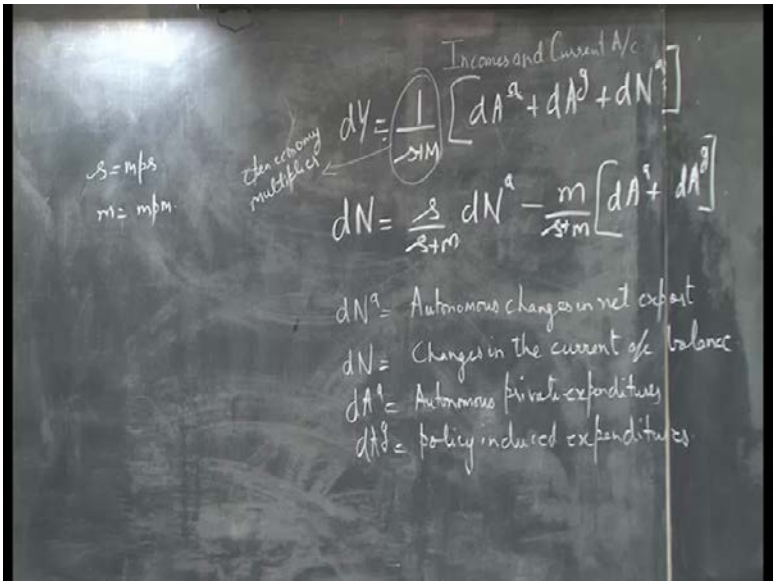


So, the equations are the following.

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These 2 equations, tell us about the impact of the expenditures on the changes in the income, and on the current account balance. So, if you see the first equation; if there are if there's 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,

wherein 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's 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 tend to have an impact on the incomes. As the incomes rises, the imports go up; so there's a deterioration in the current account balance; but if there is a switch in expenditures, in favor of, say the domestic goods from foreign to domestic goods, dN a goes up and it leads to an improvement in the in the current account balance. So, if there's an increase in dN 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's 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 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 circlers?

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 U.S or your country is India. And you introduce the 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 country; when it increase 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 or deficit which is created, by the shocks which are given in the in the model; shocks which are given in the economy. So, if you have to bring in the Interdependent model, you need to have some changes in this term dN a; dN a earlier was dX a minus dM a plus m star dy 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 dN 1 a to be dX 1 a minus dM 1 a; and dN 2 a to be dX 2 a minus dM 2 a; and dN 2 a is minus dN 1 a.

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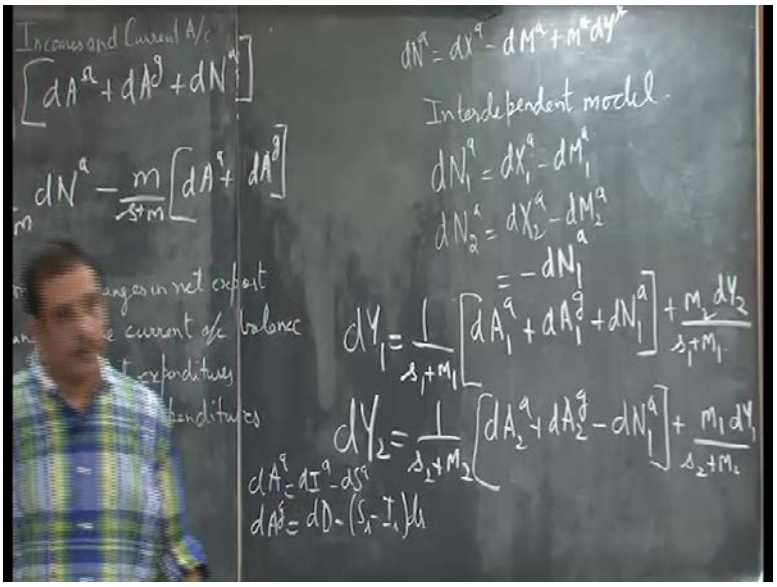


So, the equations would become dy 1 1 upon s 1 plus m 1 dA 1 a plus dA 1 g plus dN 1 a. And you would have m 2 dy 2 divided by s 1 plus m 1; now, see the how this term as emerged? Because now, dN 1 a is dX 1 a minus d 1 dN 1 a and this is m 2 dy 2. So, if you take it out of the bracket, here out of the parenthesis, you will get m 2 dy 2 divided by s 1 plus m 1; similarly, you can define dy 2 to be equal to 1 upon s 2 plus m 2 dA 2 a plus dA 2 g minus dN 1 a plus m 1 dy 1 divided by s 2 plus m 2. Please recall that, your

dA 2 a or dA a is dI a minus ds a and dA g, which reflects the fiscal and the monitory policy of the government is dD minus s r minus I r dr.

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 dX 1 a minus d 1 dN 1 a and dN 2 a is dX 2 a minus dM 2 a which is minus dN 1 a. So, now, you have these 2 countries; we are studying the interdependence models; you have 2 equations in 2 unknowns; these have to bed to get the values of dy 1 and dy 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 in the incomes? And you'll 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. So, I will spend some time doings little bit of algebra.

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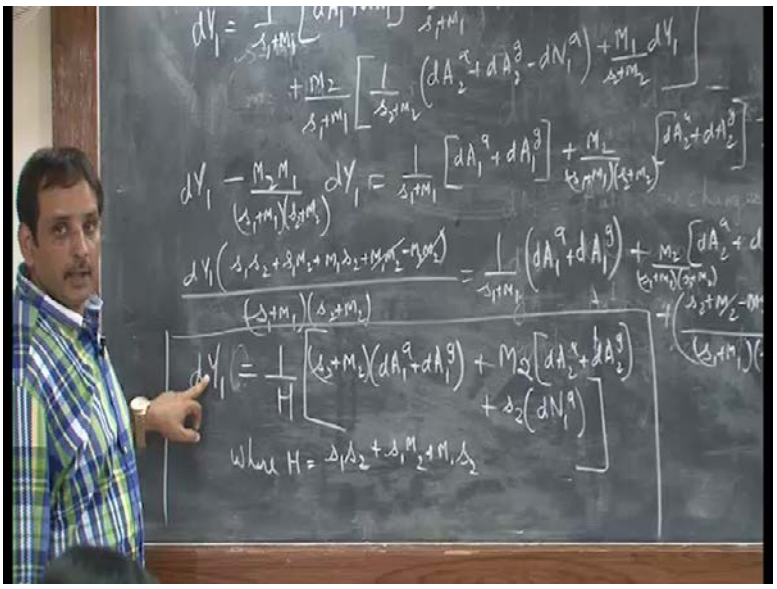

So, what I am going to do is to replace the value of dy 2 here with this big big figure.

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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 in the 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 dN 1 a improves; it will tend to increase your your incomes. Similarly, if you solve for dy 2, you can always get a value; you can always get the the the incomes of the second country.

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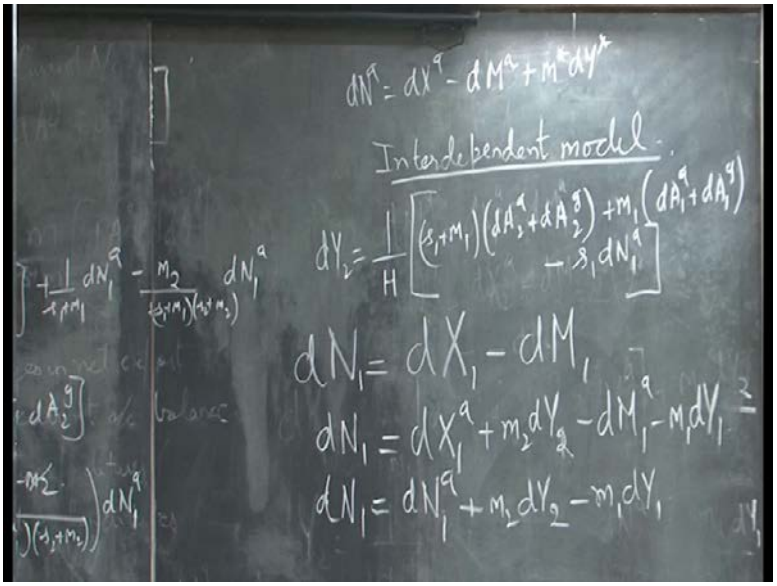


Now, look at the changes which can happen in the incomes of your trading partner; the expenditures which are done there, it tends to have an impact on the incomes through the Keynesian multiplier; but your expenditures, your country's expenditures also tend to promote incomes in the other countries. 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 from these two things is that, if dN 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 dX… So, dN 1, the change in current account balance dN 1 is equal to dN 1 a plus m 2 dy 2 minus m 1 dy 1; now, you already got the values of y 1, dy 1 and dy 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 of dy 1 and dy 2, and then for the changes in the current account balance.

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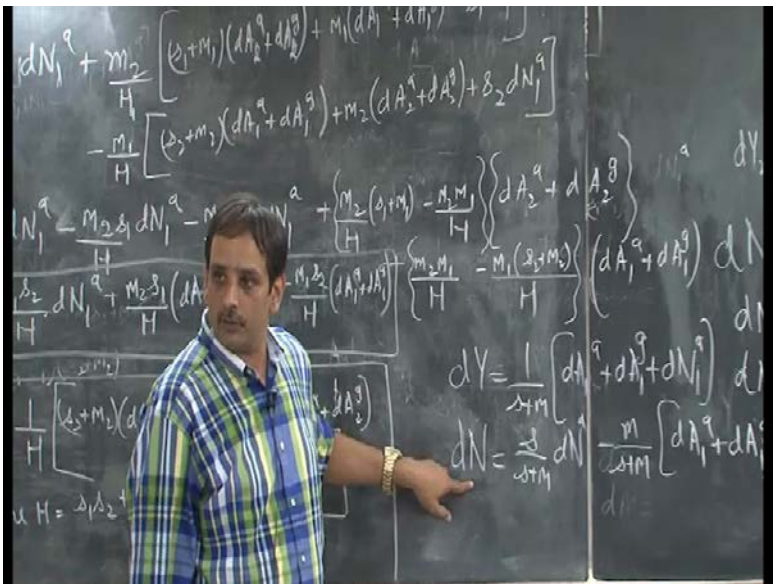

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So, dN 1 is equal to dN 1 a plus m 2; instead of dy 2 I would put that to be… So, dN 1 is dN 1 a plus m 2 dy 2; instead of dy 2, I have replaced value of dy 2 here. And then minus m 1 dy 1 which is… Now collect the common terms, and then see what we get? 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 changes in the home countries current account balance is a 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.

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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 2 equations which were 1 upon s plus n dA 1 a plus dA 1 g plus dN 1 a and dN to be equal to s upon s plus m dN a minus… Even in this model, where you didn't have interdependence, expenditures in your home country, lead 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 a 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 our exports go up. And yet it is not able to wipe out the 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, bringing the Interdependent model; when you increase expenditures, their incomes also go up. Because dy 2 is not only a function your expenditures, but their expenditures also. So, when this goes up, their incomes go up; their imports go up; our exports go up. So, there is marginal improvement in the current account balance. And therefore the net result is that, there is still, 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.