Business Analysis for Engineers

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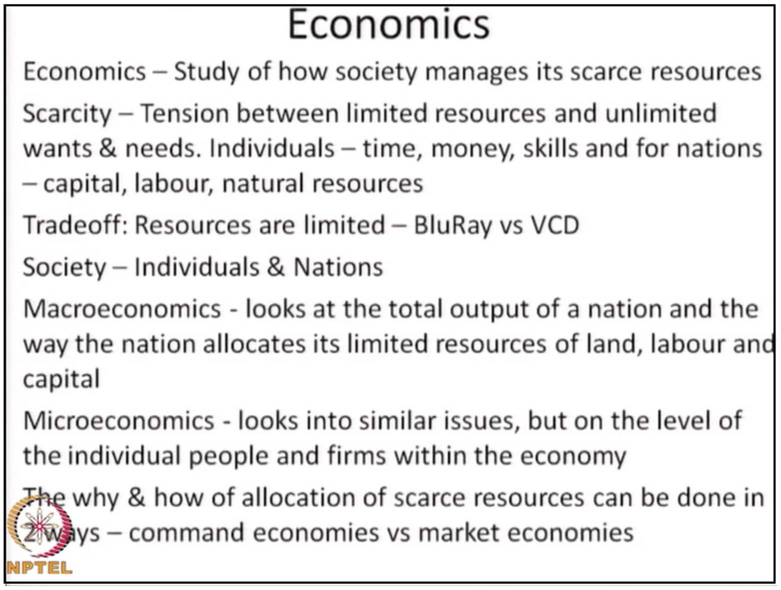
Lecture -36
Introduction to Economics

Good morning, class. The third and the last module, for this course, will be on, Economics. And, before I enter into the finer details, of what I would be handling in this third module, I would like to first confess that, I am not a trained economist, myself. As I told you in the beginning of the class, the very purpose of this course, is to give you a very basic understanding of, how much as engineers, you should understand, you should know, what is happening in the business ecosystem, outside.

It is with that perspective, that this entire course has been designed. And, the inputs that I have given so far, in accounting, in strategy, are in my opinion, enough for you to survive, an interesting conversation with your leadership team. And, that is the very purpose, as I said before, that this entire course has been designed. In the same perspective, the discussions that we are going to have, on this third module on Economics, will be enough for you to traverse, the contours of the economic landscape.

And, a little bit tries to delve into, some finer details, of some concepts. Now, while we are attempting to do this, at the end of this module, you will begin to appreciate the various terminologies, that you often hear from Economist. Or, you watch people in debates, in either in Television channels, or when you read Newspapers. Financial Newspapers like, the Economic Times or others, you will begin to appreciate, the various popularly used terminologies like, a GDP, Inflation, Interest rate, Macroeconomics, and Microeconomic variables.

So, with that in mind, the remaining classes, I will be giving you some inputs, on the fundamentals of Economics, so that you can appreciate, various nuances, various decision-making, at the policy level. Why certain decisions are being taken, in a particular way. So, that



you begin to understand, the decision making mind, behind the policymakers. Now, with that perspective, I will just give you an outline of what I am planning to cover, in this particular course.

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First, I will try to give you an understanding of, some basic economic definitions. And then, what constitutes a market, or what constitutes a society, in which a market plays a very crucial role. And, the economic fundamentals, which drive markets. Some of the economic sectors, which are critical, in strengthening a nation's output. And, how is that a nation's output is measured, by way of some quantifiable indicators.

And, how that a nation's output can grow, or how nation's output contract, the consequences of growth, as well as contraction. And, how this is all linked, to an academic theory, that governs the law of Supply and Demand. And, if this law of Supply and Demand is going to govern, the very fundamentals of Economics, who is responsible for controlling, the Supply and Demand. And, how was that the Supply and Demand, is been controlled, either by a fiscal policy or a monetary policy.

If it is fiscal policy, what are the economic variables, that are altered. If it is monetary policy, what are the economic variables, that are altered. And, in the even that various economic variables are altered, what happens in the economic ecosystem. The interrelationship between, various variables. Now, if we are able to understand this entire spectrum, then you will begin to appreciate the, nuances of Economics, for the very limited purpose of understanding, various decisions that are taken, in the economic realms.

So, let us first begin this discussion, by giving you a very broad definition of, what Economics is? Now, Economics, to put it in a very simple form, the theoretical definition of Economics, there are plenty. But, to put it in a very simple, understandable manner, Economics is a study, that understands the behaviour of society, in its managing the scarce resources, that are available in the society. So, it is a study, of how society manages, its scarce resources.

Now, there two important terms, that you will have to understand, here. The scarcity, and secondly, what constitutes the society. Let us begin with, scarcity. Scarcity, I view it as, a tension between, the limited resources that are available, and the unlimited wants and needs of the end user of such resources. Now, the society constitutes, various stakeholders. For an individual, the resources that are limited, is the time, the money, or the skills, that the individual possesses.

And, for nations, the resources that are limited, could be the natural resources, that the nation is endowed with, the capital, the technology, the labour that is available in a country. So, these are various resources, either at the individual level, or at the nation's level, but all of them are available, only to a limited extent. Now, when resources are available, only within a limited extent, then there arises a trade-off. It is the willingness of the end user, to forego an alternate opportunity, that actually forms, the basis on which, such scarce resources are allocated.

Now, different individuals, different nations, have different priorities. And, this priority difference is the key, for allocation of limited resources. Suppose, I am I have an opportunity to buy two VCD’s, as against one Blu-ray DVD. Now, I have to take a decision, whether I have to forego the opportunity of, owning extra one VCD, which could be poor quality, so that I buy only one Blu-ray DVD, for a higher price, so that I have one movie of very superior quality.

Now, extending this at various levels, the willingness of individuals, different types of individuals, the willingness of nations, and different types of nations, to forego on alternate opportunities, that are available, is the one that forms the underlying basis, on which various resources are allocated. So, a society at large, behaves in different ways. And, how the society behaves, when it comes to managing this scarce resources, that are available.

What are the variables within a society, that determines the behaviour of the society? As a result of which, the resources get allocated. And, if there is a scientific empirical way, that can define these relationships, then this scientific study, is Economics as a subject by itself. By a society, I meant individuals, as well as nations. If you take, the fundamental economic unit, I would say that, an individual is the fundamental economic unit.

It is an individual, or a group of individuals, that constitute a household. A group of households, constitute a neighbourhood. A group of neighbourhoods, constitute a community. A group of communities, constitute a bigger town. A group of towns constitute, bigger cities. A group of cities, to states. And, a group of states, constitute a nation. So, it is these aggregation of small economic units, beginning from an individual, and then going into bigger size economic units. An aggregation of these economic units, constitute a nation's economy.

The way in which, we would understand the behaviour, of these economic units, constitutes two popular fragments of Economics. One could be, the macroeconomic understanding. The other could be, understanding Economics, from a microeconomic point of view. Now, macroeconomics, it looks at the total output of a nation. And, how a nation is able to allocate, the resources that it has. The limited resources like, Land, Labour, Capital, Technology, whatever it is, how a nation is able to allocate such resources, constitutes macroeconomics.

On the other hand, microeconomics, also looks into the very similar issues of allocation of resources, but at a very limited level, a level limited to that of an individual, or of small business firms, within an economy. So, whether it is macroeconomics or microeconomics, it is the understanding of how, any of these economic units, is able to allocate the limited resources, that is available on hand. Is important. The why and how these allocation of scarce resources can be done. Constitutes the economic theories, that have governed the functioning of nations.

And, these theories have, a lot of history behind them. But fundamentally, there are two ways in which, a nation puts its economic principles in place. One could be, driven by market economies. The other could be, driven by command economies. By market economies, I mean, a nation which is capitalist, in its thinking. Which believes, that there is something called a free hand, an unseen hand, that operates behind the market.

And, it is the market forces left to themselves, that govern the law of Supply and Demand. Whereas, command economies on the other hand, believes that, an efficient market should not be left, independent of market forces, to decide on its functioning. But, it is the Government, that actually has to decide on, the allocation of these resources. So, that explains two popular theories, whether it is the Adam Smith's Capitalist Theory, or the Marxian Communist Theory.

And, different countries have embraced, these two different options. And, today you might on hindsight feel, that the collapse of Russia, or Eastern Europe for that matter, or some parts of North Korea, which embraced these command economies, where the Government was supreme. It dictated the ways in which, resources could be allocated, and used. And, the fall of these economies signalled, the success of a capitalist driven society.

A capitalist driven society, that you could see in advanced economies like, the USA, or UK, or Australia, which embraces these market economies. And, after 2008, another alternate theory is emerging, as a substitute, to these market economies. Because, the feeling is that, market economies themselves, have not proven to be successful. Thought, it is not accepted, but this is the general feeling, that people have begun to have.

Now, my opinion, if I am not digressing, is whether it is market economies or command economies, it is only the nature of ownership, that is different. Both the economies, strive hard to allocate capital. And, in the process, add economic value. It is only the ownership, that actually differs. And, that is why, I always believe that, these two economies, are two faces of the same coin. In a market economy, the ownership is diverse.

Whereas, in a command economy, the Government owns the assets. Other than this, both these economies, try to achieve economic value, by allocating capital. So, you must understand that, different nations, have different theories of economies, based on which, they allocate capital. Either allowing market forces, to determine the allocation, or it is the Government, that actually regulates, and allocates these resources.

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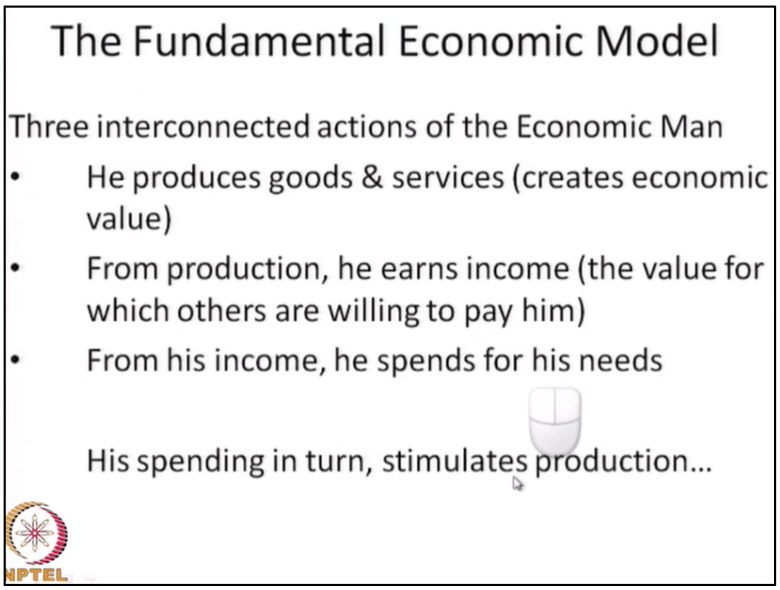

Now, let us begin to understand, the fundamentals of Economics. And, I would like to give this understanding, by providing a framework, or I call a mind map, that will describe, the various variables in our economic system, and try to understand the interrelationships of these variables.

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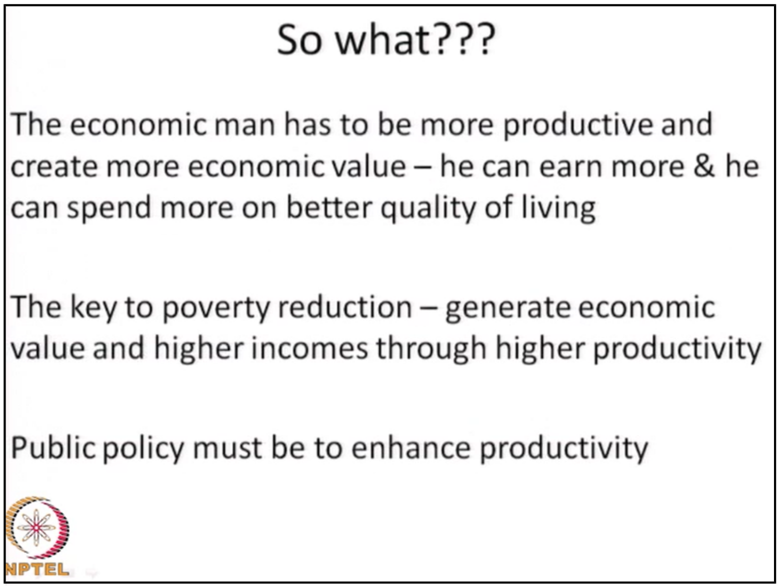

Now, I will just begin by, giving you a small mind map, so that you will be able to understand this, better. Now, I will begin describing these, interconnected actions, by having somebody called the economic man in the middle, of the economic ecosystem. Let us understand, the three interrelated actions of the economic man, who forms the centre of the economic ecosystem.

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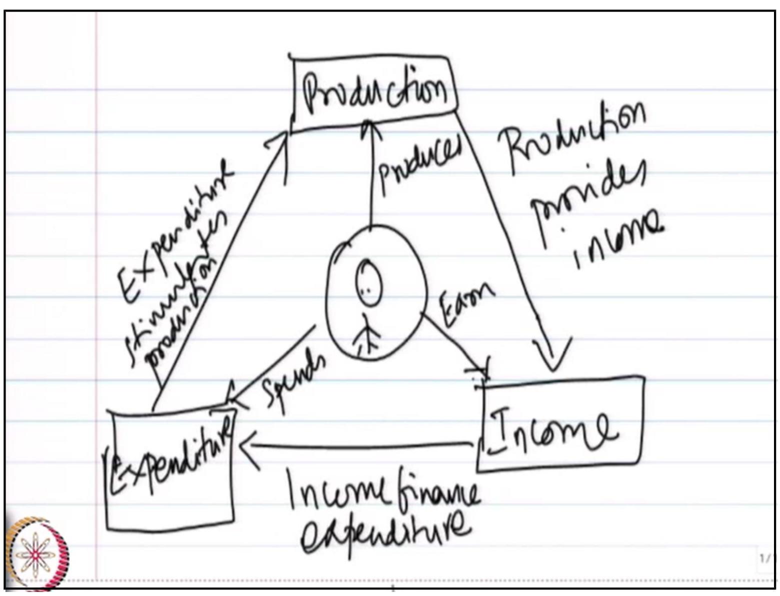

So, if an economic man forms a centre, of an economic ecosystem, it is this man, who actually produces the goods and services. The Production of goods and services, is done by the economic man. By Production of goods and services, the economic man creates an economic value. From this Production, the economic man earns income. By income, I mean, the value for which, others are willing to pay him. So, this constitutes, the earning power of the economic man.

So, he earns income, because of the willingness of others to pay, for the economic value that the economic man creates. From his income, he spends for his needs and wants. As a result of which, there is an Expenditure. An Expenditure because, he spends from the income. And, it is this Expenditure, that actually stimulates Production. So, his spending in turn, stimulates Production. So, the Expenditure stimulates Production. So, beginning from the Production, that provides income. And, this income is the one, that finances the Expenditure. And, the Expenditure stimulates the Production. Quick recap.

So, it is the economic man, who produces the goods and services. And, it is from the Production, he earns the income. And, from this income, he spends for his needs. And, this Expenditure further simulates, more Production. So, what does this mean, for us to understand. It means that, an economic man has to be more productive. And, in the process, has to create more economic value. So that, he can earn more, and he can spend more, in terms of better infrastructure, better education, better healthcare, better food, and overall improve his quality of life.

And, at the policy-making level, we must understand that, it is the generation of economic value, and the process creating higher Incomes, through higher productivity, is the key for nations, to reduce the poverty levels. So, at the policy-making level, we need to understand that, we need to generate economic value, and also drive higher productivity, that gives higher income. So, any economic public policy, must be to enhance, such productivity levels.

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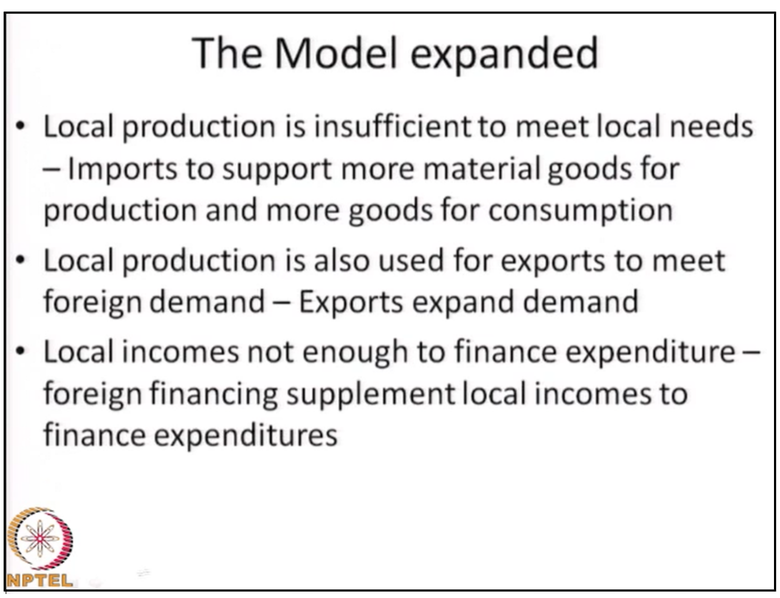

Now, we will just try to expand, the understanding of the economic man, by just trying to add some more, into this basic Economic Model, that we saw earlier.

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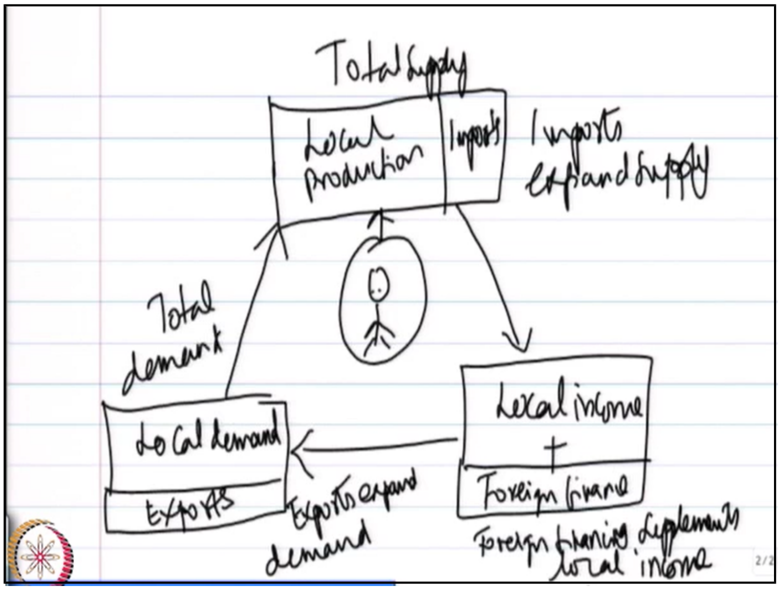

It is a common understanding that, local Production is insufficient, to meet local needs. So, we actually import, to support material goods for Production, and also to get more goods for Consumption. Because, the local Production is not enough, to meet local Demand. So, this total supply, can now be split into two parts, the Local Production + Imports. Because, it is this imports, that actually expand supply.

And similarly, if suppose, the local income that I get, is not able to finance, the Expenditure that is involved, then other external financing mechanisms, foreign financing mechanisms, will supplement local income, to finance these Expenditures. So, Local Income + Foreign Finance. And, just as you have imports, to supplement the local Production, we also have Exports, that cater to outside Demand. So, you have a Local Demand, and Exports. So, now we understand that, Imports expand the total supply, that is available.

And then, foreign financing supplements, local income. So that, you could finance, additional Expenditure. And then, Exports expand the Demand. And, when Demand is expanded, the market for products also gets expanded. So, this takes the fundamental Economic Model, into the next stage where, it is expanded to include, Imports and Exports. The other form of expansion that is happening, which is very visible nowadays, is the effect of globalisation.

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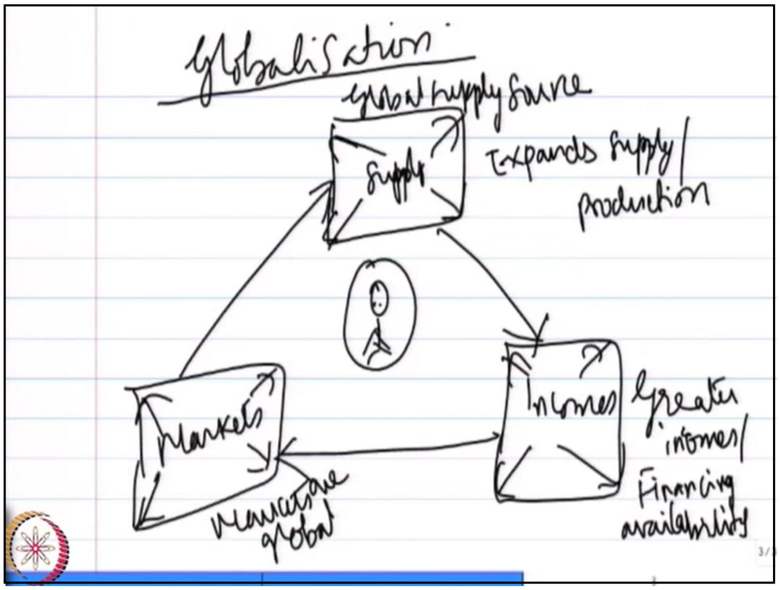
Now, again if we view this, from the model that we just saw before, globalisation means that, we



are linking a country's economy, with that of the entire world. As a result of which, we create high levels of Export, high levels of import, and free movement of capital. Since, we are talking about supply, Demand, as well as financing, it means, globally interconnected imports, globally interconnected financing, and globally interconnected Exports.

Now, this expansion through globalisation, results in, a Supply that is interconnected globally, Incomes again that are interconnected globally, and markets that are interconnected globally. So, this becomes, a global Supply source. So, this expands, Supply and Production. Because, now we are sourcing materials, from various countries. Because, we are now viewing, world as a market. And here, greater Incomes, and better financing capacity, due to availability.

Because, now a global capital market exists, where access to finance, actually transgresses national boundaries. As a result of which, the markets also expand globally. Markets are global. So, the expansion of markets through Exports, the widening of the resource base through imports, and the increase in financing through foreign capital inflows, allows Incomes to grow as well.

Now, this Economic Model, which started from a fundamental level, to reach to a global level, is for the understanding that, there are three important ingredients namely, the Supply, which is viewed as Production, the Income, and the Markets, which is viewed as the Demand. So, when markets keep expanding, because of this globalisation, Imports increase, Exports increase, and there is movement of capital, as well.

Now, what creates, these markets? How do we understand, the details of this Economic Model? Where is the market created? Is it in the services? Is it in the Industry? Or, is it in the Agriculture? Or, is it, just in the imports, or just in the Exports? Now, to understand these concepts, at a finer level, we should understand that, the Production or the supply, or the Expenditure or the Demand, or the Incomes, have amongst themselves, different ingredients, that constitute the Production or supply, or the Expenditures or the Demand, or the Incomes.

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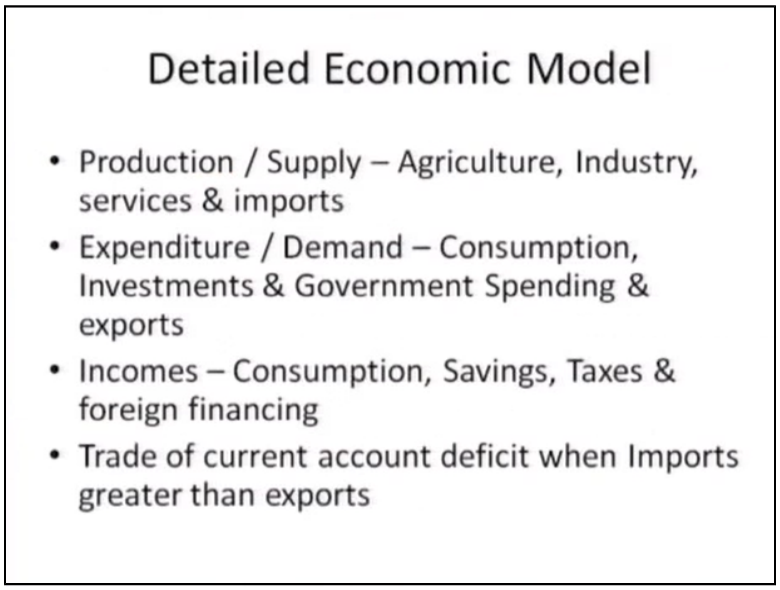

So, if you want to break down, the Economic Model into finer details, you will understand that the Production or supply, is driven by three main sectors, the Agriculture, the Industry, Services, as well as imports. And, the Expenditure or Demand comes from, the Consumption, or the Investments, and the Government spending and Exports. And, Incomes again, coming from the Savings that we make, again Consumption driven, or the Taxes that the Government gets its income from, and also foreign supplemental Incomes. Now, if we just begin to, split this.

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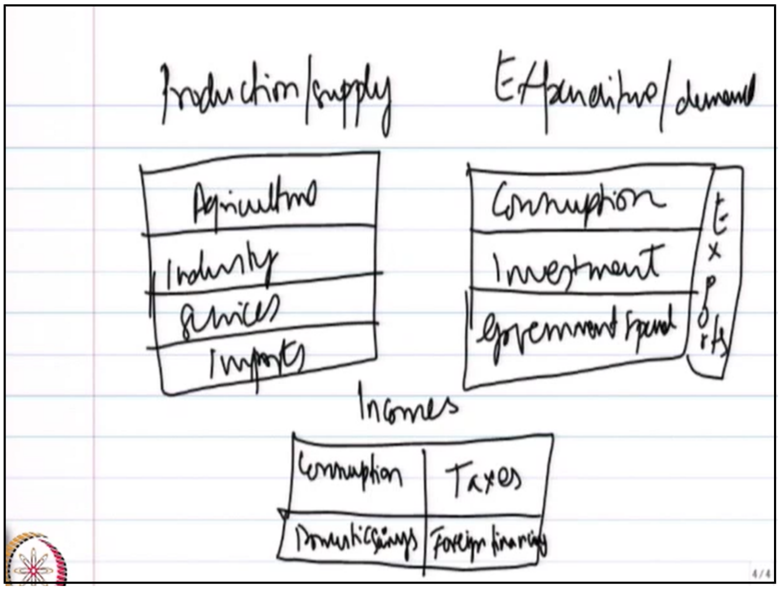

So, as I said, the Production or the Supply. We will have Agriculture. We will have Industry. We will have, services and imports. An Expenditure or Demand. An Expenditure represents, the Demand for goods or services. And, they can be classified as, Expenditures for Consumption, Expenditures for Investment, Government spending or Exports. Exports represents, Expenditures by foreigners, when they buy our products and services. And, then lastly, the Incomes, which is again, through Consumption, through Taxes.

When Domestic Incomes are insufficient to finance Expenditures, then you have foreign financing, and Domestic savings. So, when Domestic savings are inadequate to finance Expenditures, you have foreign financing. And, in the process if you find that, the Imports are greater than the total Exports, then the country is spending more, than what it is earning internationally. So, that is why, you have a trade deficit, or a current account deficit, when actually the Imports is more, than the Exports.

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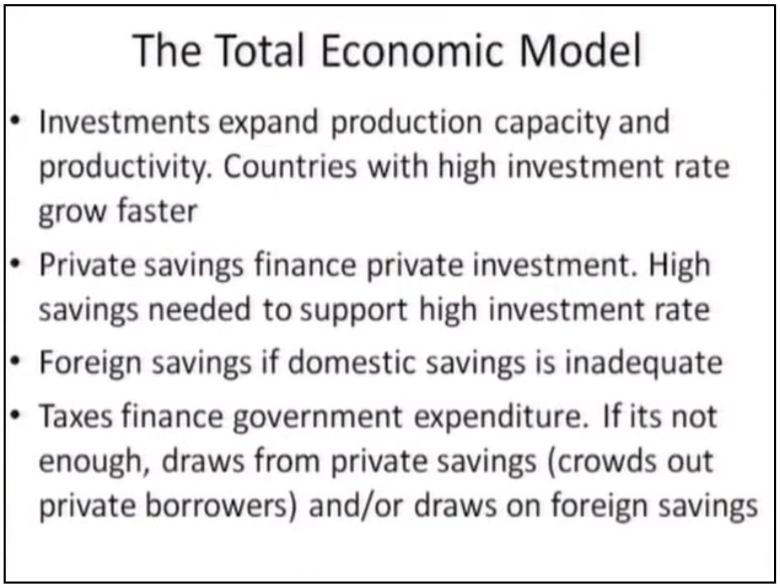

So, all this put together, let us understand the, Total Economic Model.

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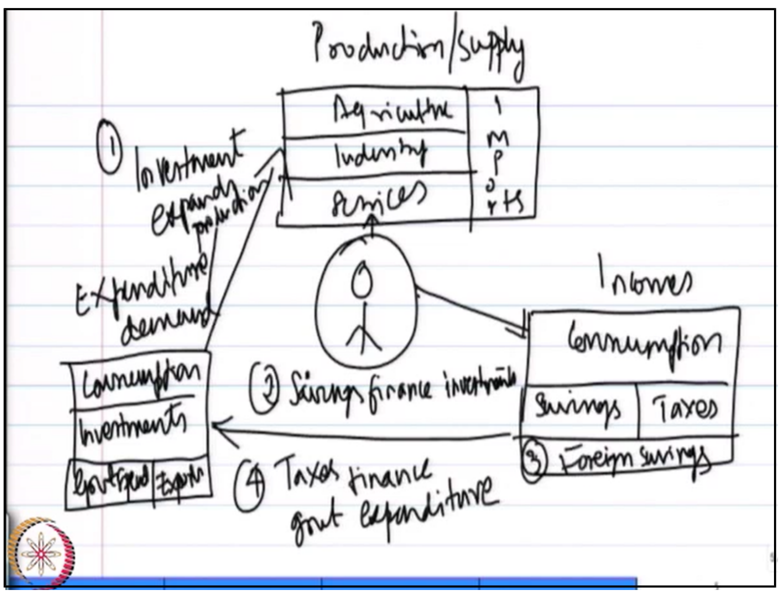

Again, beginning with, the economic man in the centre. Production or Supply, which constitutes, mainly driven by, Agriculture, Industry, services. As a result of which, there is Consumption, there is Savings, and income derived from Taxes. Not only domestic savings, you also have foreign Savings, which drives Expenditure, that creates Demand, which is Consumption driven, or gives rise to Investments, Government spend, or Exports.

Now, we will begin, understanding this. First, we should understand, that it is this Investment, that expands Production capacity. So, it is Investment, that expands Production. And, countries with high Investment rates, tend to grow faster. And then, the Savings is the one, that finances Investments. So, private savings basically finance, private investments. And, a high Savings rate is needed, to support a high Investment rate. But, in addition to these domestic savings, we also have the foreign Savings, either through loans, equities, or grant aids.

So, foreign Savings will be needed, if domestic savings are not sufficient, to finance domestic Investments. And, in addition to this, you also have the Taxes, from Government, that finance Government Expenditure. When Taxes are in insufficient, to finance the Government Expenditure, the Government draws on, domestic private savings. And, when this happens, it is crowding out of capital. Actually, it crowds out private borrowers, from getting access to capital.

Or, even it draws on, foreign Savings as well, when the Taxes are inadequate, to finance the Government Expenditure. So, if you look at the Total Economic Model, that I just drew here, you will understand that, it is the Investments, that expand the Production capacity. And, countries with higher Investment rate, tend to grow faster. And, the private savings actually constitute, the source for private investment. And, economies that incentivise Savings, so that there is more Savings, will have higher Investment rates.

And, if that is inadequate, there is also access, through foreign Savings. And, Government Expenditure is taken care, by Taxes, that actually finance Government Expenditure. And, when Taxes are insufficient, to meet Government Expenditure, then the Government also, accesses finance from the domestic savings. As a result of which, it crowds out private borrowers. Because, it is Private Borrowers + Government, again trying to fight for a capital, from the domestic savings.

So, this is the Total Economic Model. And, all this is done, to create a Supply, to produce output, either in the Agriculture, or the Industry, or the services, or it is also through Imports. Now, all of this has to be measured, in some form or the other. Now, these measurements, the Agriculture output, or the Industry output, or the services output, they have to be quantified. And, the extent to which they are quantified, determines the strength of a nation's output.

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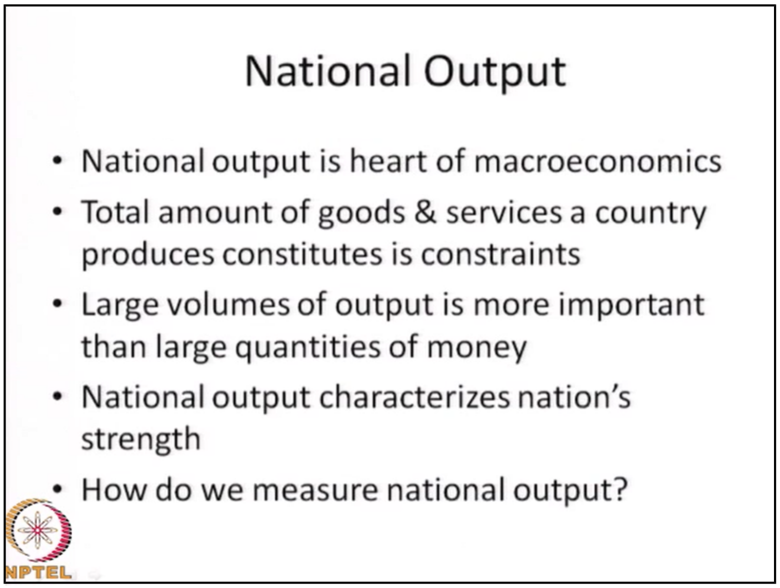

And, it is this nation's output, that forms the heart of macroeconomics. Now, the Total Economic Model that we saw, had in itself, certain amount of goods and services. And, the extent to which a country can produce, these goods and services, constitutes the budget constraints of the country. And, we need to understand, that nation economies, must produce volumes of output. And, that is more important, than large quantities of money. A layman thinks that, you can print more money, and make everybody millionaires.

But, without creating additional output, mere printing of currency, does not serve the economy, any good. It is the National Output, that is measured by the large volumes, that is being created, that characterises a nation's strength. So, we need to understand, that we need to measure, a nation's output. How do we measure, a nation's output? How is that, the output that comes from the Agriculture, or the Industry, or the services sector, can be quantified? And, these can come in the form of tangible goods or services, that the end-user uses.

And, all of this, needs to be quantified. And, the extent to which, a nation's output is quantified, determines the economic strength of a nation. Nations with higher output, will have a higher quantifying indicator. Nations with lower volumes of output, will have a lower measure of this National Output. Then, what constitutes the National Output, is what we will be seeing, in next class. And, this is commonly referred to as, the Gross Domestic Product, of a country, of a nation. And, we call this as, the GDP.

So, the GDP of a nation, is very important. Because, it is that GDP, which actually measures, the economic strength of a nation. And, there are different ways, of calculating the GDP. And, we need to understand, at the very fundamental level, what is GDP? Why is it important? And, how is it calculated? Understanding GDP, how it is calculated, and what constitutes the economic flow, that is used to calculate the GDP, these three are very important, to understand the National Output, as measured by its GDP. We will see this, in the next class. Thank you.