

**Introduction to Economic Growth- I**  
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**Lecture-1**  
**Introduction**

Hello and welcome to this brand new course on Introduction to Economic Growth. So, this week is the introductory lecture. This is almost like setting the stage kind of a lecture. Now, since we are going to spend the next few weeks together, it is a good idea to get familiarized with one another. So, before we get started with this particular course, let me first introduce myself. I am Sohini Sahu, and I am affiliated with the Department of Economic Sciences at IIT Kanpur.

And I have been teaching here for quite some time now, and generally, the topics or subjects that I teach all belong to macroeconomics. So, I generally teach Macroeconomics at the principles level, at the intermediate level, also at the advanced level. Also, I teach Applied Macroeconomics, and of course, Economic Growth is one of my favorite subjects that I teach, which I am also going to teach here now in this course. I also sometimes teach courses on Development Economics.

So, as we said that this is week 1 for this particular course, and the objective is to set the stage; this is our objective for this particular week. So, what we have done is for this particular week, we are going to talk about these five things. We can call them like small modules so that we do not have to tackle everything at one stretch, and also, there is a flow to the way we are conducting this course. So, the very first thing that we will be talking about is why study economic growth as a subject. That will be followed by how are we going to place this particular course in context.

What that means is, of course, this is a course in economics, but in which area or sub-field of economics. Does this particular course belong to? So that we have an idea about the kind of concepts that we are going to use here and also about the kind of questions that we are going to ask ourselves here. We will also be covering some preliminary concepts in this introductory week. The reason being that if we cannot distinguish very clearly amongst the few concepts, then it will be difficult to proceed. So, the plan is we are going to talk about the distinction between what we call the short-run fluctuations in an economy versus the concept of long-run economic growth. And after that, we will be talking about what is known as the stylized facts of economic growth.

What it means is there are a few observations, these are known as stylized facts. We are going to talk about those and over the course of the next few weeks, we are hoping that we should be able to find some of the satisfactory answers to that. And lastly, by this time, we should have a fair idea of the questions that we are pursuing here, the distinction between short-run fluctuations and long-run economic growth, and what are the big questions in economic growth. So, we will end this week's lecture by talking about how this course will be conducted. This is important because economic growth as a subject can be taught in a variety of ways.

There is no one single way in which this is generally taught. So, it makes sense to talk about how we plan to conduct or go through economic growth for the next few weeks. So, this is the plan for the first week. If you are comfortable with this by now, then we will start with the first module which is why study economic growth. Of course, now listening to this question, you might be wondering what kind of question is this? This is perhaps one of the subjects that you have to take as an elective in your college course may be.

So, I do really do not have an option, but to take this as a course. Some of us might be also very curious about what happens around us and we might have a few questions in our minds and although it might not be in the syllabus per se, still we might like to know the answers to a few questions. Now, if we look at the world map, what we see here is that there is a lot of diversity. Now if I were to show this map to someone and ask that what do you see on this map? What kind of answer do you think one would get? Let us take a moment to think about that. Well, it depends on who is going to answer the question.

Why? Because if I am a student of geography and I am looking at this particular map, the first thing that is evident to me is that well there are a few land masses and there are huge water bodies, there are continents, there are islands, this is the perspective that one would take. Now, if let us say we ask this question to a historian, the historian would think from the perspective of all these different countries, when they came into being, what kind of history do they have, who were the rulers of these different kingdoms or empires. So that is the kind of answer we might expect from a historian. Now if I were a linguist then I would be looking at this map and wondering well look at this world and so much of diversity is there. People are speaking different kinds of languages, and some are also languages that have been carried forward from a very long time, whereas there are languages that have become extinct.

People in different parts of this world speak different languages, and I would wonder where did all these languages originate from. So the point being as we said when we look at the world map and ask someone that what do you see here? The answers are going to vary and the perspective that we take about our world depends on the kind of perspective that we are thinking it from. But well, this is a course in Economics. So, if someone were to ask me this particular question that what do you see when you see this world map? May

be the first thing that would come to my mind is that this is a disparate world. Why this disparity? Because not only are there countries and there are continents, but the countries are very, very different from one another in economic sense.

What do we mean by that? Before we go on to that, why not look into some specific images? So, on one side of the panel, we have a setup that we are quite familiar with, and this kind of perhaps represents an agrarian economy, where agriculture is the mainstay of the economy. On the other hand, or on the other panel, what we see here, it is a very, you know, developed features of a very developed country that we see here. What is written here is that it has the world's biggest shopping mall, it has converted a desert almost into a fairy land, so a huge sign of development. Few more images, on one panel, we see a wonderful house, neat and clean, hygienic, lovely tree in front of it, okay, a perfect life that one can imagine. Whereas on the other panel, in some corners of the world, we see houses that are not really quite desirable, so as to say, the streets, as we can see, are very different from the ones that we see in the other panel.

What are we driving to? So, in other words if we ask ourselves the question that when as an economist I look at this map, the map that we just saw, these are the images that typically come to my mind. Now, I would encourage you that you also do this thought experiment. It is not necessary that the way I am thinking about the world map is also the same way that you are also going to think about the world map. Your views might be quite different. But by and large, these pictures are representative.

As economists, when we look at the world, we see this huge disparity. And these are just some of the representative images. So, naturally, the question comes to mind: how can we possibly summarize the pictures that we have just seen here? Now, this is the title of actually a paper that was presented by economic historian David Landis in 1990 and I have chosen that title of the paper, which I think is a very good summary of what we just saw and that is within quotes why are we so rich and they so poor. Now, In a way, sometimes when I teach Economic Growth in this particular course in class, I say that you know, this is perhaps the only course where I see that throughout the course, we just keep chasing one single question, and that is this particular question. Now, we are not the first ones who are asking this particular question.

In fact, this is an age-old question that has preoccupied economists for centuries. In fact, it so fascinated the classical economists that it was stamped on the cover of Adam Smith's famous treatise, "An Inquiry into the Nature and Causes of Wealth of Nations". You must have heard about Adam Smith, who is considered the father of Economics. This book that he wrote was published in the year 1776, and it is like the Bible of Economics. If you have not read it, I would highly encourage you to read it.

It is, of course, quite a thick book, but the insights are wonderful. Now so as we said that this we are not the first ones of course, who are asking ourselves this question. As you can see that *Wealth of Nations* was written in 1776, that would be the 18th century. So, since the 18th century, economists have been pondering about this particular question. And it was the mistaken forecast of Thomas Malthus in the early 19th century concerning the future prospects of Economic Growth that earned the discipline its most recognized epithet which is the dismal science.

So, what it means is that after Adam Smith was Thomas Malthus. Some of us we might have heard about Thomas Malthus, and he is very well known in this field. In fact, for the kind of forecast he made, economics is actually known as a dismal science. So, quick recap: why is economics known as a dismal science, and what was his forecast? So, his forecast was that the population of the earth is growing very fast, and land is limited as a result of which the production of food grains that is also going to be limited, whereas the population is growing much faster than the cultivation or production of these food grains. So, there would come a time when there would be scarcity, and a good bit of the population from this earth that is going to perish.

So, this was his famous forecast one can say. Well, it did not happen like that, and the reason being something known as productivity. So, land might be finite if one is considering land in terms of area let us say, but that same land can be tilled let us say 3 times a year, it can be made more productive. So, the production of food grain need not be finite. So, the fears that Thomas Malthus had, you know, that was allayed, but again, coming back to our point, this was a slight digression.

I am sure you must have heard about this particular anecdote. So, the point being that the question that we are going to ask ourselves, well, not just this week, in fact throughout this course, this is a question that has intrigued economists for not just years, as you can see, but actually centuries. It started with Adam Smith and continued with Thomas Malthus, and also, in present times, we have quite a few economists who are working on this, and before we take their names, a few related observations. What are these few related observations? One, there are some countries that were poor then, by then, I mean in the past, and those countries are affluent now, by now, we mean in the present. The question is why? What happened that led to this transformation? Well, the second type is also possible, and that has also been observed.

There were some countries that were really affluent in the past. However, they are not that affluent now. In fact, they are in the middle income category of countries or they are poorer countries in relative terms. Again, the question arises: why? Why there has been a turn of fortune? There were some countries that were affluent in the past, and today also, they continue to be quite affluent. So, there is some kind of continuity that we see.

Again the question is why? What helped them maintain their status and perhaps to do even better? And the last observation is some countries were poor then; in the past, they used to be poor, and today, they continue to be pretty much the same. So, this is known as stagnation in our terms. Again, the question arises: why? So it is not just about the disparity that we saw a few slides back in terms of pictures, but it is also these questions based on related observations. So again, coming back to our topic, when, as an economist, I look at the world map, these are some of the questions that come to my mind. And I very much encourage you that you also explore and try to find out that when you look at the world map, especially in the context of this particular course that you are doing, what is the first thing that strikes you? As we said that this question is an age-old question started you know, maybe even prior to Adam Smith, but at least it is recorded starting from Adam Smith which is starting from the 18th century.

And then, of course, there was Malthus and Malthus's you can say the prophetic claim that he made, and thankfully, that did not turn out to be true. But still, economics continues to be called as dismal science. And based on these related observations, these questions they continue to intrigue economists even today. Now, in the current context, and we are, of course, going to talk more about this when we get deeper into this course, but the modern examination of these questions they dates back to the decade of the 1950s when an economist known as Robert Solow, he did very influential work. In fact, there were two papers where he talked about these questions at length and of course, we are going to talk more about Robert Solow and his contribution to this particular field.

So, in some sense, we can say that this question came back in modern times starting from the 1950s with the influential work of Robert Solow. Now also in this context, I would kind of implore you that think about the context in which these works came up. Now, Economics is a social science. Whatever we learn, whatever we teach, and whatever questions we ask ourselves is very much a function of time. What do we mean by that? Suppose you know I remember having this question in mind when I first studied Robert Solow's models.

Well, why is it that Solow came up with this model in the 1950s, or to put the question slightly differently? Did someone else also talk about these questions prior to that? Well, Harrod Domar did to some extent, but the question being, does this timing of the decade of the 50s, does it have something to do with how the world was or what the world was at that time? You see, because of the questions that we ask ourselves as social scientists, there has to be a context, right? Now, what was perhaps the context? So, my best guess would be think about the timing. Now, starting from the early 20th century. The world had witnessed the First World War, then it witnessed the Great Depression, then it witnessed the Second World War. So, in the first half of the 20th century, the world had already, you know, witnessed three very, very big events as a result of which a good part of the world or many countries in the world they were affected. So, my guess would be including, by

the way, since we are talking about this, India also gained independence from British rule in the year 1947.

So, is it coincidental that Robert Solow started looking into these questions in the 1950s? Perhaps it is not a coincidence because this is how the world was in the 1950s. Because a good part of the world it was kind of restructuring themselves, right including India, because we have become independent, and you know, after long 200 years of British rule, we were trying to find our feet as an independent economy, and so were many countries around the world that have been the victim of either the Great World Wars or of Great Depression. So this was, you know, what I would like to term as a time for great churning, so as to say, a time for great transformation. So, perhaps this is the context in which Robert Solow took up these questions.

Again coming back to our topic. So, may be again these are questions that come to our mind and I would very much urge you to try to get into the background of these questions because whatever we are going to do in this course, the models that we are going to cover, the data that we are going to talk about They are not stand-alone in nature; they are always done in some context or the other. And knowing a little bit of world history in context always makes things very interesting. So that we really do not feel like we are doing this because it is merely a part of a course, but we are doing this to gain a greater understanding of the world around us. So there was Solow in the 1950s with his two influential papers. As we said, this is exactly what we are going to cover in this particular course.

So we will get introduced to the works of Robert Solow, and his work was very, very influential; that is the term that we can use. Many governments around the world actually adopted the Solow growth model, or they went by the predictions of the Solow growth model and for a fairly long time. The predictions of the Solow growth model were working fairly well. However, let us again recall the historical context.

In the 1970s, there were two oil shocks. So, you might remember that, and that again changed the course of Macroeconomics as a subject to some extent because again, let us recall, as we said that what questions do we try to answer at any given point in time. The questions that we try to answer at any given point of time pretty much depends upon whatever is happening around us. So, if in the decade of the late 40s and early 50s, the main concern was, you know, restructuring for the different economies, then in the 1970s, it was the two oil shocks and how it affected the different economies around the world. So, another set of restructuring was again taking place by the end of the decade of 1970s and early 1980s. So again, it is not a coincidence that two people in the 1980s that is Robert Lucas Junior and Paul Romer, they reignited interest in these questions.

By the way, it is a trivia that all these three people that are mentioned on this particular slide. They have all won the Nobel Prize in Economics for their contribution towards the

subject. So, I think from this particular fact also, this also tells us about the enormity of their contribution in trying to help us in solving some of or in rather in answering some of the questions that we posed to ourselves right at the beginning of this particular week today. So, in 1980s again as we mentioned that Robert Lucas Junior and Paul Romer they reignited interest in these questions, and they came up with their famous models, which perhaps we will just mention in this particular course, but perhaps you will come across those in some other course in Economic Growth. And since then, ever since journey into these questions have continued.

Till today, there are economists who are working on these questions. The questions still remain the same. As we said, this is one subject in which I find where the question has remained unchanged, but the answers that we are finding in the depth of the answers empirical evidence that we find that there is a newness to that. That is why the journey into these questions they have continued even today. So, I hope, to some extent, that answers the question that why is it that we study the area of Economic Growth.

Before we move on to the next module, just a quick recap of what we found is that. This very particular course centers around a question that comes to our mind. We do not have to be an economist to ask ourselves that question. Even a layman can relate to those pictures, and sometimes fleetingly, those questions come to our mind that well why do we see so much of economic disparity and that is the aim for this particular course. Next comes the question: well, we understand the objective for this particular course, but where exactly do these questions that we have posed to ourselves, where does it fit in within the framework of economics? So, I am guessing most of you are from the economics background.

So, you might be wondering that well where is it that I am going to place this particular course. So to answer this question, let us go back to the very basic, which is by now we know that economics as a subject, this is fundamentally what I feel after being with this subject for quite some time, but fundamentally this subject stands on four pillars. These are very, very critical and fundamental areas you can see. They are like the ABCs; we cannot do without these alphabets. And what are these four pillars? They are Microeconomics, Macroeconomics, Econometrics, and Mathematical Economics.

You might be wondering, well, there are more areas in economics that I have studied. Perhaps, maybe I have done a course in international development, or I have done environmental economics, or I have studied development economics; where do they fall? Well, in most cases, all the other areas they fall within one of these topics that we have mentioned or broad areas, you can say, and sometimes there are subjects that we do that overlap between one or more of these areas.