

AG ECON 513
(Agricultural Development and Policy Analysis)
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LECTURE SCHEDULE

S. No.	Name of the topic	Lectures
1	Development Economics-Scope and Importance- Economic development and economic growth-divergence in concept and approach .	2
2	Indicators and measurement of Economic Development–GNP as a measure of economic growth-New Measures of Welfare–NEW and MEW–PQLI -HDI – Green GNP –Criteria for under development.	3
3	Obstacles to economic development– Economic and Non-Economic factors of economic growth.	2
4	Economic Development–Meaning, stages of economic development, determinants of economic growth.	2
5	Theories of economic growth-Ricardian growth model –The Harrod –Domar Model-The Neo classical Model of Growth – The Kaldor Model .	4
6	Optimal Economic Growth -Recent Experiences of developing country economies in transition.	2
7	Role of state in economic development-Government measures to promote economic development. Introduction to development planning.	3
8	Role of agriculture in economic / rural development. Theories of agricultural development.	2
9	Population and food supply – need for sound agricultural policies – resource policies – credit policies – input and product marketing policies – price policies.	3
10	Development issues, poverty, inequality, unemployment and environmental degradation.	3
11	Models of Agricultural Development – Induced Innovation Model – policy option for sustainable agricultural development.	3

References & Examination Schedule

Sr. No.	Name of the book with the edition/year of publication	Author(s)
1	Development Economics, 2000, Oxford University Press, Delhi.	Devraj Ray
2	Growth & Development with special reference to Developing Economies, 2006, Palgrave Macmillan	A P Thirlwall
3	Agriculture and Economic Development, 1984, The Harvester Press Publishing Group	Subrata Ghatak and Ken Ingersent,
4	Leading Issues in Economic Development, 1984, Oxford University Press, New Delhi.	Gerald, M. Meier
5	Economic Development in the Third World, Orient Longman Ltd., New Delhi.	Michael P. Todaro
6	Economic Development: Problems, Principles and Policies, 1990 Reprint, University Book Stall, New Delhi.	Benjamin Higgins
7	The Economics of Development and Planning, 2011, Vrinda Publication (P) Ltd, New Delhi	M L Jhingan

Sr. No.	Name of Examination	Week of Examination	Weightage (%)
1	First Hourly	Fifth	15
2	Mid Term	As per date sheet	30
3	Assignment	Twentieth	10
4	End Term	As per date sheet	45
	Total		100

LECTURE 1

Development Economics: Scope & Importance

- The study of economic development is one of the newest, most exciting, and most **challenging** branches of economics and political economy
- Although, one could claim that Adam Smith was the first “development economist”, the systematic study of the problems and processes of economic development in Africa, Asia, and Latin America has emerged only over the past seven decades or so
- Some people claim that development economics is not really a distinct branch of economics but an amalgamation thereof with a specific focus on the individual economies of Africa, Asia and Latin America
- Though development economics draws on principles and concepts from other branches of economics in either a standard or modified form, for the most part it **is a field of study that is evolving its own distinctive analytical and methodological identity**

- Development economics is not the same as the economics of advanced capitalist nations (modern “neoclassical” economics). Nor is it similar to the economics of formerly centralized socialist societies (“marxist” or “command” economics)
- It is nothing more or less than the economics of contemporary poor, underdeveloped nations with varying ideological orientations, diverse cultural backgrounds, and very complex yet similar economic problems that usually demand new ideas and novel approaches
- Recent developments in theories of poverty traps, and the role of institutions, confirm this

- The awarding of the 1979 Nobel Prize in economics to two eminent development economists, W. Arthur Lewis of Princeton University and Theodore Schultz of the University of Chicago, for their pioneering studies of the development process, provided dramatic confirmation of the status of economic development as a separate field within the economics discipline
- Other Nobel laureates have also made major contribution to development economics, notably Amartya Sen, who won the prize in 1998, and Joseph Stiglitz, who won it in 2001

The Nature of Development Economics

- Traditional economics is concerned primarily with the efficient, least-cost allocation of scarce productive resources and with the optimal growth of these resources over time so as to produce an ever-expanding range of goods and services
- Traditional neoclassical economics deals with an advanced capitalist world of perfect markets'; consumer sovereignty; automatic price adjustments; decisions made on the basis of marginal private-profit and utility calculations; and equilibrium outcomes in all product and resource markets. It assumes economic "rationality" and a purely materialistic, individualistic, self interested orientation toward economic decision making

- Political economy goes beyond traditional economics to study **the relationship between politics and economics, with a special emphasis on the role of power in economic decision making**

- Development economics has an even greater scope.*

- In addition to being concerned with the efficient allocation scarce productive resources and with their sustained growth over time, it must also deal with the economic, social, political and institutional mechanisms, both public and private, necessary to bring about rapid and large scale improvements in levels of living for the masses of poverty-stricken, malnourished and illiterate peoples of Africa, Asia and Latin America.*

LECTURE 2

Traditional Economic Measures

- In strictly economic terms, development has meant the capacity of a national economy, whose initial economic condition **has been more or less static for a long time**, to generate and sustain an annual increase in its GNP or GDP
- A common alternative economic index of development has been the use of **rates of growth of income per capita** or per capita GNP to take into account the growth rate of its population
- Levels and rates of growth of “real” per capita GNP (**monetary growth of GNP per capita minus the rate of inflation**) are normally used to measure the overall economic well-being

- Economic development has also been seen in terms of the **planned alteration of the structure of production and employment** so that agriculture's share of both declines and that of the manufacturing and service industries increase

- These **economic measures have been supplemented by casual reference to non-economic social indicators**: gains in literacy, schooling, health conditions and services, and provision of housing, etc.

- Prior to the 1970s, development was nearly always seen as **an economic phenomenon in which rapid gains in overall and per capita GNP growth would either “trickle down” to the masses in the form of jobs and other economic opportunities or create the necessary conditions for the wider distribution of the economic and social benefits of growth***

- *Problems of poverty, discrimination, unemployment, and income distribution were of secondary importance to “getting the growth job done”*

The New Economic View of Development

- The experience of the 1950s and 1960s, when many developing nations did realize their **economic growth targets** but the **levels of living of the masses** of people remained for the most part **unchanged**, signaled that something was very wrong with this narrow definition of development
- An increasing number of economists and policymakers clamoured for the **“dethronement of GNP”** and the elevation of direct attacks on widespread absolute poverty, increasingly inequitable income distributions, and rising unemployment
- Hence, during the 1970s, economic development came to be redefined in terms of the **reduction or elimination of poverty, inequality, and unemployment within the context of a growing economy**. “Redistribution from growth” became a common slogan

Dudley Seers posed the basic questions to ask about a country's development :

What has been happening to poverty?

What has been happening to unemployment?

What has been happening to inequality?

If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result “development” even if per capita income doubled

- Many developing countries experienced relatively high rates of growth of per capita income during the 1960s and 1970s but showed little or no improvement or even an actual decline in employment, equality, and the real incomes of the bottom 40 % of their populations
- The situation by 1980s & 1990s worsened further as mounting foreign-debt problems led to cut back on already limited social and economic programmes
- Nor can we count on high rates of growth in the developed world to trickle down to the poor in developing countries
- In the 1990s while US, UK & other developed countries enjoyed a strong economic boom, average incomes declined in sub-Saharan Africa, and the number living in the region in extreme poverty (at less than \$ 1 per day) rose by some 50 million people

- *Underdevelopment is a real fact of life more than 3 billion people in the world-a state of mind as much as state of national poverty*

- The World Bank, which during the 1980s championed economic growth as the goal of development, joined the chorus of observers taking a broader perspective when, in its 1991 *World Development Report*, it asserted:

“The challenge of development.... is to improve the quality of life. Especially in the world’s poor countries, a better quality of life generally calls for higher incomes-but it involves much more. It encompasses as ends in themselves better education, higher standard of health and nutrition, less poverty, a cleaner environment, more equality of opportunity, greater individual freedom, and a richer cultural life”

- *Development must therefore be conceived of as a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the eradication of poverty*
- *Development, in its essence, must represent the whole gamut of changes by which an entire social system, tuned to the diverse basic needs and desires of individuals and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory toward a situation or condition of life regarded as materially and spiritually better*

LECTURE 3

Sen's "Capability Approach"

- *No one has identified the human goals of economic development as well as Amartya Sen, perhaps the leading thinker on the meaning of development*
- The view that income and wealth are not ends in themselves but instruments for other purposes goes back at least as far as **Aristotle (384-322 B.C)** who argued that **"wealth is evidently not the good we are seeking, for it is merely useful and for the sake of something else"**
- Amartya Sen, the 1998 Nobel laureate in economics, argues that the **"capability to function"** is what really matters for status as poor or non-poor person. As Sen put it, "Economic growth cannot be sensibly treated as an end in itself. **Development** has to be more concerned with **enhancing the lives we lead and the freedoms we enjoy**"
- In effect Sen argues that poverty cannot be properly measured by income or even by utility as conventionally understood; **what matters is not the things a person has-or the feelings these provide-but what a person is, or can be, and does, or can do**

- **What matters for well-being** is not just the **characteristics** of commodities consumed, as in the utility approach, but **what use the consumer can and does make of commodities**
- For example, a book is of little value to an illiterate person (except perhaps as cooking fuel or as a status symbol.) Or as Sen noted, a person with parasitic diseases will be less able to extract nourishment from a given quantity of food than will someone without parasites
- **Sen's approach is valid for more developed countries as well**
- For example, most of the things one could do with the personal computer one buys are never understood or even known, let alone ever used, by anyone other than specialist
- Of course, sometimes people want more “features” just in case they might want to use them. But if we exclude items of this kind, a computer with unused characteristics is no better than one without these characteristics

- The point is that to make any sense of **the concept of human well-being** in general, and poverty in particular, we need to think beyond the availability of commodities and consider their use: to address what Sen calls *functionings*, that is, what a person does with the commodities of given characteristics that they come to possess or control (or can do with them)

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- Freedom of choice, or control of one's own life**, is itself a central aspect of most understandings of well-being. As Sen explains,

*“the concept of **“functionings”**.....reflects the **various things a person may value doing or being**. The valued functionings may vary from elementary ones, such as being adequately nourished and being free from avoidable disease, to very complex activities or personal states, such as being able to take part in the life of the community and having self-respect”*

Sen identifies five sources of disparity between real incomes & actual advantages:

1. **Personal heterogeneities**, such as those connected with disability, illness, age, or gender;
2. **Environmental diversities**, such as heating and clothing requirements in the cold, infectious diseases in the tropics, or the impact of pollution;
3. **Variations in social climate**, such as the prevalence of crime and violence, and “social capital”;
4. **Differences in relational perspectives** meaning that the commodity requirements of established patterns of behaviour may vary between communities, depending on conventions and customs. In a richer society, the ability to partake in community life would be extremely difficult without certain commodities, such as a telephone, a television, or an automobile; it is increasingly difficult to function socially in Singapore or South Korea without an e-mail address; and
5. **Distribution within the family**: Economic statistics measure incomes received in a family, because it is the basic unit of shared consumption, but family resources may be distributed unevenly, for example, when girls get less medical attention or education than do boys

•As Sen stresses, a person's own valuation of what kind of life would be worthwhile is not necessarily the same as what gives pleasure to that person

• If we identify utility with happiness, then very poor people can have very high utility. Sometimes even malnourished people either have a disposition that keeps them feeling very happy and satisfied or have learned to appreciate greatly any small comforts they can find in life, such as a single breeze on a very hot day, and to avoid disappointment by striving only for what seems attainable

•If there is really nothing to be done about a person's deprivation, this attitude of subjective bliss would have undoubted advantages in a spiritual sense, but it does not change the objective reality of deprivation

•In particular, such an attitude would not prevent the happy but homeless poor person from greatly valuing an opportunity to become freed of parasites or provided with basic shelter

•Rather than a feeling, as Sen defines it, **the functioning of a person is an achievement; it is : what the person succeeds in doing with the commodities and characteristics at his or her command....** For example, bicycling has to be distinguished from possessing a bike. It has to be distinguished also from the happiness generated by (bicycling).....

A functioning is thus different both from (1) having goods (and the corresponding characteristics), to which it is posterior, and (2) having utility (in the form of happiness resulting from that functioning)

•Sen then defines **capabilities** as “**the freedom that a person has in terms of the choice of functionings, given his personal features (conversion of characteristics into functionings) and his command over commodities.....**” just as in basic microeconomics, where income matters to the extent that it impacts utility, utility too is important here to the extent that it exhibits a person’s capabilities. And clearly, capabilities are determined in part by income

- Thus, Sen defines Goulet's three core components of development in terms of **entitlements and capabilities**, the former giving life sustenance and self-esteem; the latter giving freedom
- He defines entitlements as 'the set of alternative commodity bundles that a person can command in a society using the totality of rights and obligations that he or she faces', and the entitlements generate capability to do certain things
- **ED** should be in terms of **expansion of entitlements and capabilities**
- For most people, entitlements depend on their ability to sell their labour & on the price of commodities

- Entitlements are not only determined by the **market mechanism**
- These also depend on factors like **power relations in** society, the **spatial distribution of resources** in society and what individuals can extract from state
- Sen views **freedom as the primary objective** of development & also the principal means of development
- Development consists of the removal of **unfreedoms** that leave people with little choice and opportunity
- Various unfreedoms could be: famines, undernourishment, lack of basic needs, political liberty, civil rights, economic security, etc.

LECTURE 4

Three Core Values of Development

- Is it possible then to define or broadly conceptualize what we mean when we talk about development as the sustained elevation of an entire society and social system toward a “better” or “more humane” life?
- What constitutes the good life is a question as old as philosophy and humankind, one that must be periodically reevaluated and answered afresh in the changing environment of world society.
- The appropriate answer for developing nations in the first decade of the twenty-first century is not necessarily the same as it would have been in previous decades.

- But following Goulet (1971) and others that at least three basic components or core values should serve as conceptual basis and practical guideline for understanding the inner meaning of development.

- These core values - **sustenance, self-esteem, and freedom** - represent common goals sought by all individuals and societies.*

- They relate to fundamental human needs that find their expression in almost all societies and cultures at all times.

1.Sustenance: The Ability to Meet Basic Needs

- All people have certain basic needs without which life would be impossible. These life-sustaining basic human needs include food, shelter, health, and protection.
- When any of these is absent or in critically short supply, a condition of “absolute underdevelopment” exists.
- A basic function of all economic activity, therefore, is to provide as many people as possible with the means of overcoming the helplessness and misery arising from a lack of food, shelter, health and protection.

•To this extent, we may claim that economic development without sustained and continuous economic progress at the individual as well as the society level, the realization of the human potential would not be possible.

•Rising per capita incomes, the elimination of absolute poverty, greater employment opportunities, and lessening income inequalities therefore constitute the necessary but not the sufficient conditions for development.

2. Self-Esteem: To Be a Person

- A second universal component of the good life is **self-esteem- a sense of worth and self-respect**, of not being used as tool by others for their own ends.
- All peoples and societies seek some basic form of self-esteem, although they may call it **authenticity, identify, dignity, respect, honour, or recognition**.
- The **nature and form** of this self-esteem **may vary** from society to society and from culture to culture. This is because **national prosperity** has become an almost **universal measure of worth**.

3. Freedom from servitude: To Be Able to Choose

- Another universal value is the concept of **human freedom**.
- Freedom here is to be understood in the sense of **emancipation from alienating material conditions** of life and from **social servitude** to nature, ignorance, other people, misery, institutions, and dogmatic beliefs, especially that one's poverty is one's predestination.
- **Freedom** involves an **expanded range of choices** for societies and their members together with a **minimization of external constraints** in the pursuit of some social goal we call development.

- **W. Arthur Lewis** stressed the relationship between economic growth and freedom from servitude when he concluded that “the advantage of economic growth is not that wealth increases happiness, but that it increases the range of human choice.”

- It should also **encompass** various components of political freedom including, but not limited to, personal security, the rule of law, freedom of expression, political participation, and equality of opportunity.

- Most economic success stories (in 1970s & 80s) did not score high score on the 1991 Human Freedom Index compiled by the UNDP.

Three Objectives of Development

1. To increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health and protection.
2. To raise levels of living, including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and human values. *All of which will serve not only to enhance material well-being but also to generate greater individual and national self-esteem.*
3. To expand the range of economic and social choices available to individuals and nations by freeing them from servitude and dependence not only in relation to other people and nation-states but also to the forces of ignorance and human misery.

LECTURE 5

MEASURES OF WELFARE

GNP as a Measure of Welfare : Deficiencies

1. GNP figures tell nothing about the **types of goods and services produced** or the amount of welfare derived from the use of these services. It tells nothing about the costs to society of increased pollution, urbanization or population growth
2. Many **goods and services** (unpaid housework or do-it–yourself repairs, food produced and consumed on farm) **not passing through the market** are excluded from GNP estimates
3. GNP tells nothing about the **distribution of income**

4. Numerous problems arise when comparisons of GNP per capita are made among countries due to **different exchange rates**

5. Another problem in making international comparisons concerns the great **differences in domestic relative price structures** among countries

6. **Statistics in DCs** are often quite **poor**

OTHER MEASURES OF WELFARE

1. Measure of Economic Welfare (MEW)

- During the late 1960s GDP-based measures of economic welfare were questioned by many
- The adverse environmental effects of uncontrolled economic growth began to be considered, prompting the search for a wider measure of welfare, not exclusively based on raw GDP figures
- In 1972, Yale economists William Nordhaus and James Tobin introduced Measure of Economic Welfare (MEW) as an alternative to crude GDP

- MEW took national output as a starting point, but adjusted it to include an assessment of the value of leisure time and the amount of unpaid work in an economy, hence increasing the welfare value of GDP

- They also included the value of the environment damage caused by industrial production and consumption, which reduced the welfare value of GDP. It is also known as Net Economic Welfare (NEW) (Samuelson and Nordhaus, 1992)

2. Physical Quality of Life Index (PQLI)

- **Morris D. Morris** developed *Physical Quality of Life Index (PQLI)*.
- Three indicators viz, **life expectancy (LE)**, **infant mortality rate (IMR)** at age 1 year **and basic literacy (BL)** were used.
- LE measured in years, IMR measured in terms of per thousand and BL in percentage terms.
- For each indicator a scale was devised from 1 (worst performance) to 100 (best performance). For LE 100 was given to Sweden (77 years) and 1 was assigned to Guinea-Bissau (28 years) in 1960.
- For IMR, the upper limit (100) was 9/ thousand for Sweden (1973) and lower limit (1) was 229/ thousand in Gabon (1950).
- Literacy rates as measured by percentages.

- **Composite index** calculated for country by **averaging the three** ratings, giving **equal weight** to each.

3. Human Development and Human Development Index (HDI)

- The issue of ‘**human development**’ has occupied the centre stage of development discourse during the **past three decades** or so
- The credit for this digression in development dialogue goes to the United Nations Development Programme (**UNDP**) which has re-brought into focus the ‘**human face**’ of the development paradigm
- **First Human Development Report (HDR)** was published by the UNDP in **May, 1990**. Theme was **Concept and Measurement of Human Development**
- Since then the preparation of HDRs at various levels has become customary

- Further down the history, the intellectual antecedents of human development may be traced to the ‘basic needs’ approach of the ILO and the World Bank (Fukuda-Parr and Kumar, 2003)

- But in the recent past, the reappearance of the emphasis on ‘human development’ is traceable in the Sen’s concept of capabilities (Sen, 1984). According to this concept, the process of economic development can be seen as a “process of expanding the capabilities of the people”.

- But the credit for the unprecedented success of the HDRs goes to Dr. Mahbub ul Haq who along with a host of economists and social scientists pioneered the preparation of HDRs under the auspices of the UNDP

- HDRs on an **array of themes** :financing human development,, people's participation, international dimensions of human development, human security, gender, economic growth poverty, consumption, human rights, etc. . (**Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience, 2014; Work for Human Development, 2015**)
- These HDRs exerted **tremendous pressure** on the **global policy dialogue** and have become **instruments of change** for the international institutions, governments, donors, NGOs and the civil society at large
- The HDR has been prescribed as a **text in most of the leading universities**. It has greatly influenced the global search for new development paradigms that are people-centred and environmentally sound

4. Green GNP

- GNP ignored environmental degradation and resource depletion
- Green GNP approach takes care of these omissions
- Green GNP proposes to explicitly estimate these missing costs by subtracting the economic penalties imposed by natural resource depletion and pollution from national accounting
- Green GNP thus is meant to advance a **more inclusive view of ‘natural capital’ and promote more sustainable management practices**
- **MEW** was an early effort towards **Green GNP**
- Index of Sustainable Economic Welfare (**ISEW**) and Genuine Progress Indicator (**GPI**) are two such indicators

LECTURE 6

The Structural Diversity of Developing Countries

1. The size of the country (area, population and income).

Large size advantages: Diverse resource endowment, large potential markets, lesser dependence on foreign sources of materials and products

Disadvantages: Problems of administrative control, national cohesion & regional imbalances

2. Its historical and colonial background

- Most African & Asian nations were colonies of Western Europe; hence their economic structures, social and educational institutions modeled on those of their colonial rulers
- These rulers used three most powerful tools of private property, personal taxation and the payment of taxes in money rather in kind
- In Latin America, despite vast geographical spread, more shared colonial heritage (Spanish & Portuguese) meant similar economic, social & cultural institutions
- In Asia, colonial heritage plus local traditions to create new institutions (India (British), The Philippines (Spanish & American), Vietnam (French), Indonesia (Dutch), Korea (Japan)).

3. Its endowments of physical and human resources.

- Persian gulf v/s Chad, Yemen, Haiti and Bangladesh (poor in raw material and minerals, even fertile lands)
- But Congo's case- wealth is no guarantee of development success
- Geography and climate influence development

4. The relative importance of its public and private sectors

- Most of developing economies are mixed economies
- Generally, Latin American & SE Asian countries have large private sectors than South Asian and African nations
- Economic policies (e.g. employment) would differ in these two dispensations

5. Its ethnic and religion composition

- More the ethnic & religious diversity, more internal strife and political instability
- Culturally homogeneous societies South Korea, Taiwan, Singapore and Hong Kong more developed
- Ethnic & religious diversity need not necessarily lead to inequality, turmoil or instability. Malaysia, Mauritius, Zimbabwe and US are examples of economic and social integration of minority groups

6. The nature of its industrial structure

- Agriculture (subsistence and commercial) main occupation
- Relative importance of agriculture, manufacturing and services- widest variations in developing countries
- Relative importance of primary exports and imports

7. Degree of dependence on external economic & political forces

- DCs substantially dependent on foreign economic, social and political forces which in turn depends on respective size, resource endowments & political history
- Besides, international transmission of institutions, values, consumption patterns, attitudes towards work, life and self

8. Political structure, power & interest groups within the nation

Large landowners, urban industrialists, bankers, foreign manufacturers, military, trade unions play an important role in the economies of developing countries.

LECTURE 7

Common Features of Developing Countries

1. Low levels of living- low incomes, inequality, poor health and inadequate education
 - Low relative levels & slow growth rates of NI. The ratio of income level of top 20% to bottom 20 % which was 30:1 in 1960, became 70:1 in 1997
 - Low levels & stagnating rates of real income per capita growth.
 - 80 % of world income produced in developed countries by 15 % of people
 - PCI of low & mid income countries less than 1/20th of PCI of rich countries
 - Skewed income distribution, with the top 20 % of population receiving 5 to 10 times as much income as the bottom 40 %

- Great masses suffering from absolute poverty, with up to 1.3 billion people living on subsistence incomes of less \$370 per year at PPP. (< one \$/day)
- Large populations suffering from ill health, malnutrition and diseases, with IMRs running as high as 10 times those in developed countries
- In 1998,

	LDCs	Developing countries	Developed countries
LE (years)	48	63	75
IMR	96	64	8
- Low literacy levels, high drop out rates and irrelevant curricula and facilities

2. Low levels of productivity

- Levels of labour productivity (output per worker) very low in DCs as compared to developed nations
- It can be explained by law of diminishing marginal productivity for the variable input of labour in the absence of other complementary factors (including institutional and structural arrangements)
- Impact of worker and management attitudes (quality of human resources) also play a crucial role (The Four Asian Tigers of South Korea, Singapore, Hong Kong and Taiwan)
- Low productivity is also attributed to poor health in DCs
- Low levels of living & low productivity are self-reinforcing

3. High rates of population growth and dependency burdens

- Birth rates: 30-40 per 1000 in developing countries & 10-15 in developed world
- Death rate: Difference is small
- Population Growth rate: 1.6 & 0.7 % pa, respectively

4. Substantial dependence on agriculture

5. Prevalence of imperfect markets and limited information

6. Dominance, dependence and vulnerability in international relations

7. Rural - Urban migration

LECTURE 8

Non-Economic Obstacles to Growth and Development

- Everett Hagen, in his book ‘On the Theory of Social Change (1962)’ tried to answer the question, “ Why have the people of certain societies entered upon technological progress sooner or more effectively than other?” He sought explanations for this question in anthropology, sociology and psychology

- Some of these non economic factors are:

1) Traditional society: Resistance to change

- Traditional here means that society resists virtually all attempts to alter established patterns.
- Traditional societies seek to preserve their institutions, or ‘ways of doing things’. Religious beliefs or other elements of culture reinforce the established behaviour patterns.
- If nature & neighbours leave a society alone, its way of life can persist for centuries (Tasaday in Philippines & many communities in Amazon basin)

- Institution of extended family *vis-a vis* nuclear family
- Community attitudes towards individual advancement

2. Psychological obstacles

- Psychological factors (emotional, unstable, paranoid, fatalistic people)
- ‘Great man’ theory which attributes social change to the forceful & dominating personality of a single individual-Kemal Ataturk (Turkey), Lenin & Stalin (Soviet Union), Mao Tse-Tung (China), Fidel Castro (Cuba) and Julius Nyrere (Tanzania)

3. Lack of entrepreneurship

Land, labour & capital are the traditional factors of production.

- The fourth factor of production was introduced to world as entrepreneurship by Joseph Schumpeter, *The Theory of Economic Development* (1911) in German.

•4. Political obstacles

- Colonialism, neo colonialism, political instability, authoritarianism, sheer incompetence are treated major obstacles to development.

•5. Modernization consideration

- When traditional attitudes are considered as obstacles, then the modernity can be thought of as development facilitating.
- But it could be treated as a result and not the cause of development.
- Modernization in terms of changing institutions.
- Modernization in terms of individual /group attitudes
- Modernity of western world: strong personal work ethic, individualism, entrepreneurship, materialism, optimism and a government structure facilitating these.

LECTURE 9

ROSTOW'S STAGES OF ECONOMIC GROWTH

- W W Rostow; 'The Stages of Economic Growth (1960)', & also 'Process of Economic Growth (1953)'.
- Historical approach to economic development
- Five stages:
 - (1)The traditional society,
 - (2) Preconditions for take off,
 - (3) The take off,
 - (4) The drive to maturity stage and
 - (5) The age of high mass consumption

1.The traditional society

- A traditional society defined "as one whose structure is developed within limited production functions based on pre-Newtonian science & technology and as pre-Newtonian attitudes towards the physical world".
- Though economic changes took place in these societies (trade & agriculture expansion, manufacturing developed) yet a ceiling existed on the level of attainable output per head.
- The social structure was hierarchical in which family and clans played dominant role agriculture.
- Agriculture main source of income and livelihood.
- Mostly income was spent on social functions.
- Political power in the hands of aristocracy.

2. The Pre conditions for take off

- Transitional era
- These conditions were created in Britain & Western Europe during the end of 15th & beginning of 16th centuries (when medieval age ended modern era began).
- These conditions were initiated by four forces
 - i. The new learning or renaissance
 - ii. The new monarchy
 - iii. The new world &
 - iv. The new religion or the reformation
- These forces led to 'reasoning & scepticism in place of "faith and authority"'.
- These forces brought changes in attitudes, expectations, structure of values.
- These conditions had their roots in invasions.

- "Economic progress is possible & is necessary condition for other purposes; new enterprises come up, investments go up, the scope of commerce goes up".

- The preconditions for sustained industrialization required radical changes in three non-industrial sectors:

- i) A build up of social overhead capital (especially in transport) to enlarge the market, to exploit natural resources & to rule effectively.

- ii) A technological revolution in agriculture, so that agricultural productivity increases to meet the rising population.

- iii) An expansion of imports (especially capital) financed by natural resource exports.

3. The take-off stage

- The great watershed when growth becomes normal condition.
- Growth proceeds by geometric progression.
- Relatively short- of about two decades.
Britain:1783-1802;
France:1830-1860;
US:1843-1860;
Japan:1878-1900;
Russia:1890-1914; and
India & China:1952

- Conditions for take-off are

- i) Rise in investment from 5% to over 10% of NI

- ii) The development of one or more substantial manufacturing sectors with high growth.

- Primary Growth Sectors* where possibilities of innovation or of exploiting new or unexplored resources lead to a higher growth rate than in the rest of the economy (*cotton textiles in UK*) ;

- Supplementary Growth Sectors* where rapid growth takes place as a consequence of growth in PGS. e.g. railways (US) a Primary Growth Sector but iron, coal, steel as supplementary growth sectors and

- Derived Growth Sectors: Total income, Population*

- iii) The existence or emergence of a quick political, social and institutional framework which exploits the growth impulses.

4. The drive to maturity stage

- When modern technology is applied to bulk of its resources
- Long sustained growth extended to about four decades
- New production techniques and leading sectors emerge
- Economy is able to withstand unexpected shocks
- Three changes
 - (i) workforce character changes (becomes skilled), people prefer to live in urban areas, real wages rise and workers unite.
 - (ii) entrepreneurship character changes (Rugged & hardworking masters give way to polite, polished efficient managers.
 - (iii) Society feels bored of industrialization.
- U K 1850, U S 1900 Japan 1940, Russia 1950.

5. The age of mass consumption

- Migration to suburbia
- Automobile use
- Consumer goods (durables),
- Household gadgets.
- Attention from supply to demand.
- Welfare state
- Pursuit of national policy.
- U K 1930, U S 1920 and Japan 1950

Criticisms of stages of growth

(1) Traditional society not essential for development U S , Canada, New Zealand and Australia-derived pre conditions from UK.

(2) Pre conditions may not precede the take-off.

(3) Overlapping in the stages-Agriculture in Denmark and New Zealand and Railway (SOC) – in take-off continued.

(4) Criticism of take off- dates are doubtful – 1937- 1952 (India).

It ignored the bumps and crash landings.

It neglects the historical heritage, degree of backwardness, time of entry into the process of modern economic growth. Conditions are arbitrary.

(5) Derive to maturity – puzzling/ misleading- It contains all the features of take off.

(6) Mass consumption Stage – Not chronological-Australia and Canada entered it before reaching maturity.

Take off and UDCs

- (i) COR not constant
- (ii) Silent over removal of unemployment.
- (iii) Element of ambiguity
- (iv) Aeronautical concept not OK.

Take off & India

- Ratio of investment to NI went up from 5.5% in 1950-51 to 10.4% in 1964-65.
- Leading sector condition - Agriculture and industrial sectors.
Index of agricultural production- 45.6 (1950-51) - 158.4 (1964-65)
Index of industrial production- 3.5 (1950-51) - 186.9 (1964-65)

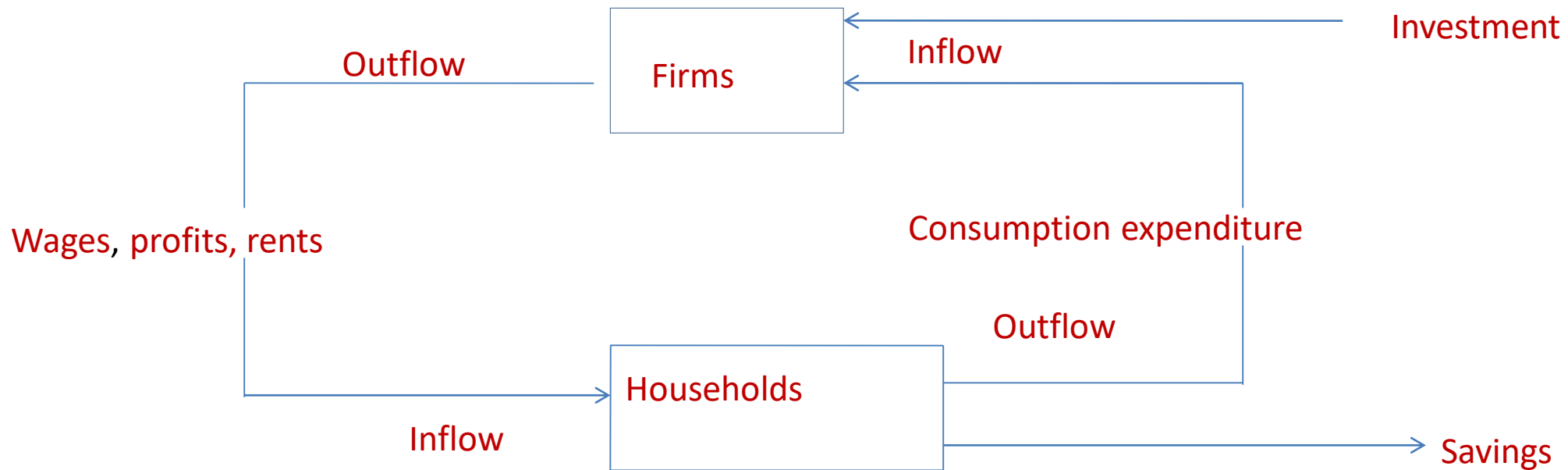
LECTURE 10

Theories of Economic Growth

1. The Harrod-Domar model

- Named after **Roy Harrod** and **Evsey Domar**, who wrote—well known papers on the subject in 1939 and 1946, respectively.
- Commodity production creates income, which creates the demand for those very same commodities.
- Exactly which commodities are produced depends on **individual preferences** and the **distribution of income**.
- Broadly commodities fall into two groups: consumption goods & the capital goods.

The idea of macroeconomic balance explains how growth takes place



- If you understand the basic concept of macroeconomic balance, you understand the foundations of all models of economic growth.
- Economic growth is positive when investment exceeds the amount necessary to replace depreciated capital, thereby allowing the next period's cycle to recur on a larger scale.
- The economy expands in this way and the volume of savings and investment is an important determinant of the growth rate of an economy.

Let Y denote total output, C total consumption, and S total savings.

1) $Y(t) = C(t) + S(t)$. In words, national income is divided between consumption and savings.

The other side of the coin is that the value of produced output must be matched to goods produced for consumption plus those needed by investors; that is,

2) $Y(t) = C(t) + I(t)$, where, I denotes investment. Equations (1) & (2) are one step away from the famous macroeconomic balance equation

3) $S(t) = I(t)$ or “savings equals investment”.

Investment augments the national capital stock K and replaces that part of it which is wearing out. Suppose that a fraction δ of the capital stock depreciates.

Then, of course,

4) $K(t + 1) = (1 - \delta) K(t) + I(t)$ which tells us how the capital stock must change over time.

Now we introduce two important concepts.

1. The savings rate (s) is just saving divided by income; $S(t) / Y(t)$.

2. Second concept is the capital-output ratio (θ). It is the amount of capital required to produce a single unit of output in the economy, and it is represented by the ratio, $K(t) / Y(t)$.

Combining (3.) and (4.), using these concepts,

$$K(t+1) = (1 - \delta) K(t) + S(t)$$

$$K(t+1) = (1 - \delta) K(t) + s Y(t)$$

$$\theta Y(t+1) = (1 - \delta) \theta Y(t) + s Y(t)$$

$$\theta Y(t+1) = \theta Y(t) - \delta \theta Y(t) + s Y(t)$$

Dividing by $\theta Y(t)$, through out we get,

$$\{Y(t+1) - Y(t)\} / Y(t) = s / \theta - \delta$$

$$s / \theta = g + \delta$$

For per capita calculations, assume population to grow at rate n so that

$$P(t+1) = P(t) (1+n) \text{ for all } t$$

$$K(t+1) = (1-\delta) K(t) + s Y(t)$$

$$\theta Y(t+1) = (1-\delta) \theta Y(t) + s Y(t)$$

Dividing both sides by $P(t)$

$$\theta Y(t+1) / P(t) = (1-\delta) \theta Y(t) / P(t) + s Y(t) / P(t)$$

$$\text{Or } \theta y(t+1) \cdot P(t+1) / P(t) = (1-\delta) \theta y(t) + s y(t);$$

Small letters are per capita magnitudes.

Dividing by $\theta y(t)$

$$\{y(t+1)/y(t)\} \cdot P(t+1)/P(t) = (1-\delta) + s y(t)/\theta y(t)$$

$$\{y(t+1)/y(t)\}(1+n) = (1-\delta) + s/\theta$$

But $y(t+1)/y(t) = 1 + g^*$

Therefore, $s/\theta = (1+g^*)(1+n) - (1-\delta)$

$$s/\theta = 1+n + g^* + g^*n - 1 + \delta$$

$$s/\theta \approx g^* + n + \delta$$

$$s/\theta \approx g^* + \delta + n$$

Beyond Harrod-Domar Model

- H-D model tells us that if savings rates, capital-output ratios, population growth rates, and depreciation rates are such and such, then the resulting growth rate is so many percentage points. But in many cases they do not.
- The reason they may not always be useful is that the very parameters that are used to predict growth rates may themselves be affected by the growth process.
- Put another way, such variables **may not be exogenous to economic growth**, but may be themselves be endogenously determined.

1. The Endogeneity of Savings

- Rate of savings is the most important parameter in the H-D model.
- Can it be treated as a parameter that can be manipulated easily by policy?
- There are several reasons to believe that the rate of savings may itself be influenced by the overall level of per capita income in the society, not to mention the distribution of that income among the population.
- As economy grows, there is increased room for savings. Thus there should be some tendency for the savings rate to significantly rise as we move from very poor to middle-income levels, both within a country and across countries.

- These concepts necessitate an adjustment in the H-D theory: as income change, the savings rate that enters into H-D formula will change. This creates a tendency over time for the growth rate of a country to alter in a way that mirrors the movement of the savings rate with income.
- It implies that the prediction is that both low-and high income countries have lower growth rates than middle-income countries.
- Thus, H-D model is a neutral theory of economic growth. It provides no reason why growth rates systematically differ at different levels of income. There is no “feedback” from the level of PCI to the many parameters affecting the growth process. With the amendment in this example, neutrality is lost: a pattern linking per capita income to growth rates is created.

2.The Endogeneity of Population Growth

- Just as savings rate might vary with level of per capita income, population growth rates vary too.
- There is an enormous body of evidence that suggests that population growth rates systematically change with the overall level of development of a society.
- If that is indeed so, we have another reason for the variation of per capita growth rates that is quite independent of any systematic variation in the rate of savings.
- The fundamental variation of population growth rate with the level of development is known as the demographic transition.

- In LDCs, the combination of a high birth rate and high death rate keeps the net population growth rate at a low level.
- With an increase in living standards, death rate starts to fall. This causes the population growth rate to initially shoot up. The increase is all the more dramatic if the decline in death rates is rapid.
- In the longer run, and with further development, birth rates begin their downward adjustment and the population growth rate falls to a low level once again.
- This “inverse – U” shaped behaviour of the population growth rate has been noted in many different countries and is referred to as the demographic transition.

LECTURE 11

The Solow Model

- Developed by Robert M Solow (1956)
- It relies on the possible endogeneity of another parameter, the capital-output ratio in the H-D model
- Solow's twist on the H-D story is based on the law of diminishing returns to individual factors of production
- Capital and labour work together to produce output. If there is plenty of labour relative to capital, a little bit of capital will go a long way. Conversely, if there is a shortage of labour, capital intensive methods are used at the margin and the incremental capital-output ratio rises

Thus, according to the Solow thesis the capital-output ratio, θ , is endogenous. θ might depend on the economy wide relative endowments of capital and labour.

From H-D model, $K(t+1) = (1-\delta)K(t) + sY(t)$.

If we divide through by population (P_t) and assume that population grows at a constant rate, so that $P(t+1) = (1+n)P_t$, it changes to

$$(1+n)k(t+1) = (1-\delta)k(t) + sy(t),$$

where the lower case k_s and y_s represent per capita magnitudes (K/P and Y/P), respectively.

•The right-hand side has two parts, depreciated per capita capital [which is $(1-\delta)k(t)$] and Current per capita savings [which is $s.y(t)$].

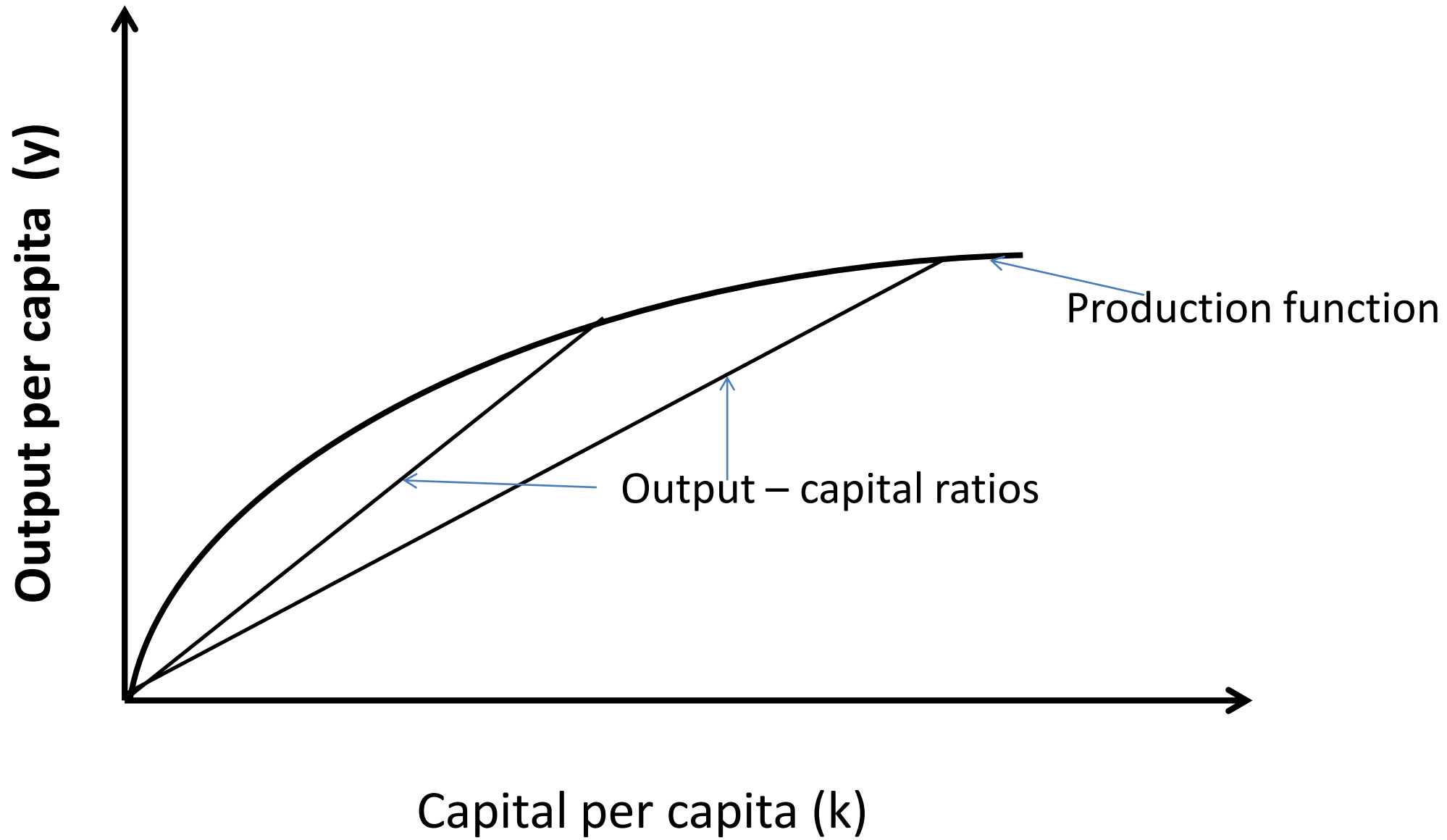
- Added together, this should give us the new per capita capital stock $k(t+1)$, except for one complication: population is growing, which exerts a downward drag on per capita capital stocks.

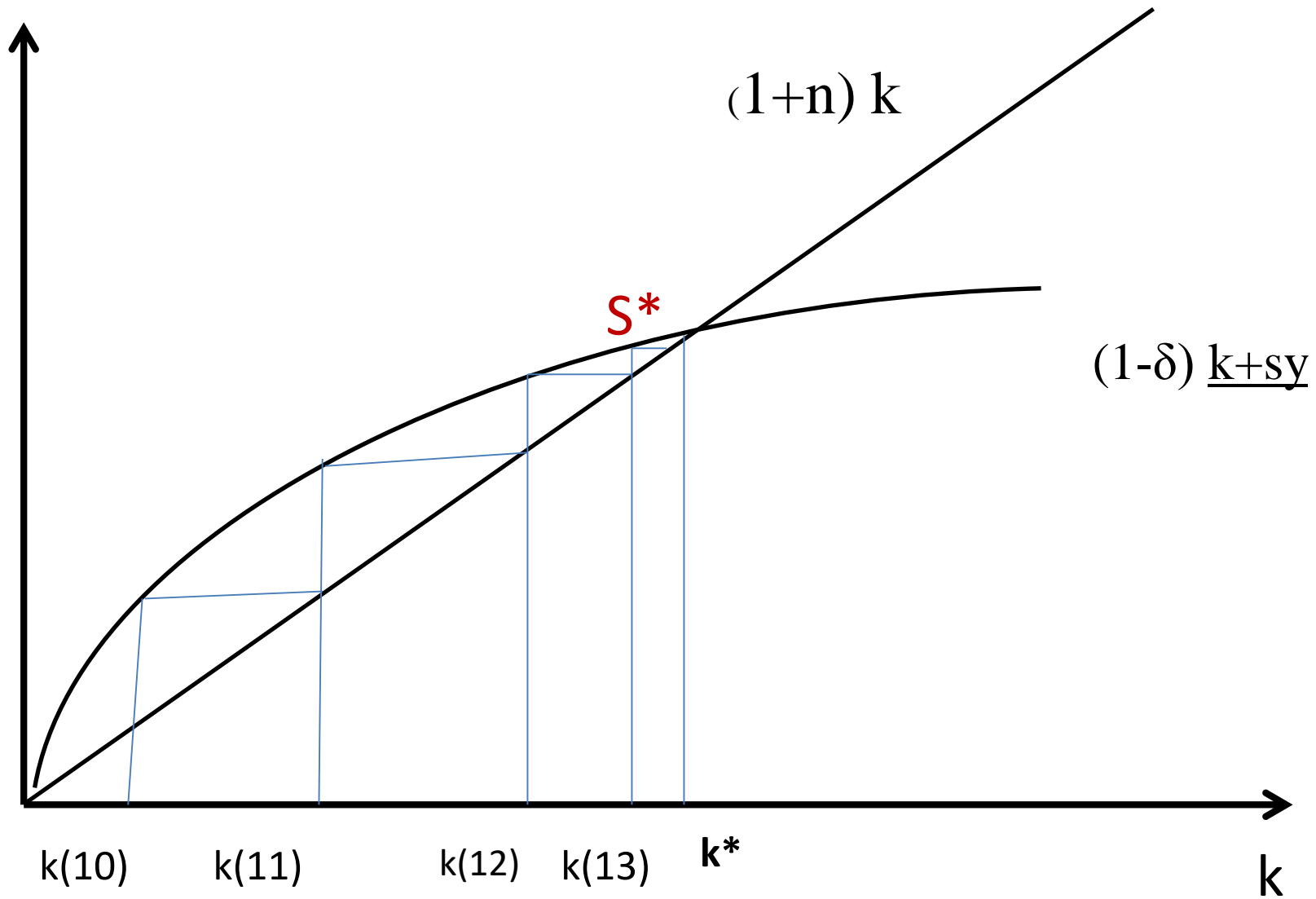
- This is why the left-hand side has the rate of growth of population (n) in it.

- To complete our understanding of the Solow model, we must relate per capita output at each date to the per capita capital stock, using the production function.

- It is a typical production function with diminishing returns to per capita capital.

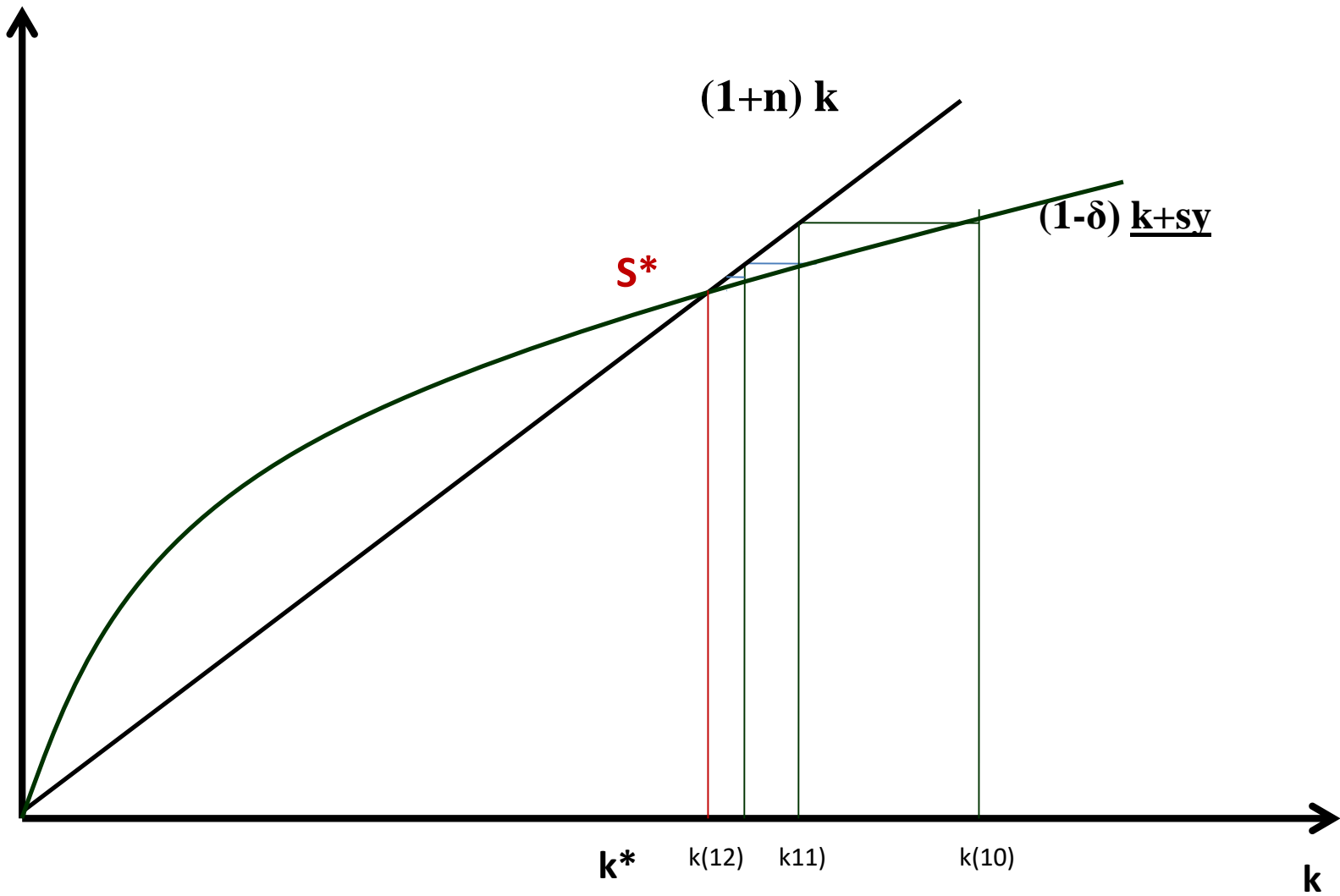
- As per capita capital increases, the output-capital ratio falls because of a relative shortage of labour.





The Steady State

- With the low stock, the output-capital ratio is very high and so the per capita capital stock can expand quite rapidly.
- Growth of per capita capital slows down and per capita capital finally settles to k^* , which is a distinguished capital stock level where the curved and straight lines meet. Likewise, trace the argument for a high initial capital stock.
- Here, there is an erosion of the per capita stock as time passes, with convergence occurring over time to the same per capita stock, k^* .
- The output-capital ratio is low, so the rate of expansion of aggregate capital is low.



- Therefore, population growth outstrips the rate of growth of capital, thus eroding the per capita stock.
- We can think of k^* as a steady-state level of the per capita capital stock, to which the per capita capital stock, starting from any initial level, must converge. However, if the per capita capital stock settles down to some “steady-state” level, then so must per capita income!
- Thus in this version of Solow model, there is no long-run growth of per capita output, and total output grows precisely at the rate of growth of the population.
- In particular, the savings rate has no long-run effect on the rate of growth, in sharp contrast to the prediction of the H-D model.

- Solow model brings in a feature that chokes off growth : Diminishing returns to capital which create endogenous changes in the capital-output ratio.
- Look again at figure and observe that the smaller the degree of diminishing returns, the closer is the curve to the straight line & longer it will take for the capital stock to settle at k^* .
- The H-D model studies the limiting case of this process where there is no diminishing returns at all and consequently no such steady state k^* : In that case, the per capita capital stock can grow indefinitely.

How parameters affect the steady state

- The rate of savings in Solow model does not affect the long-run growth rate of per capita income, but it certainly affects the long run level of income. So does the rate of depreciation and the growth rate of population.
- All these effects work through changes in the steady state level of capital per capita, which is the same as per capita income in the long run.
- Were the economy to start from the steady state level k^* , it would stay as k^* in every period. This means; $k(t) = k(t+1) = k^*$.
- If we use the notation y^* to denote the per capita output producible from k^* , we obtain the equation that describes the steady state:

$$k^* / y^* = s / (n + \delta)$$

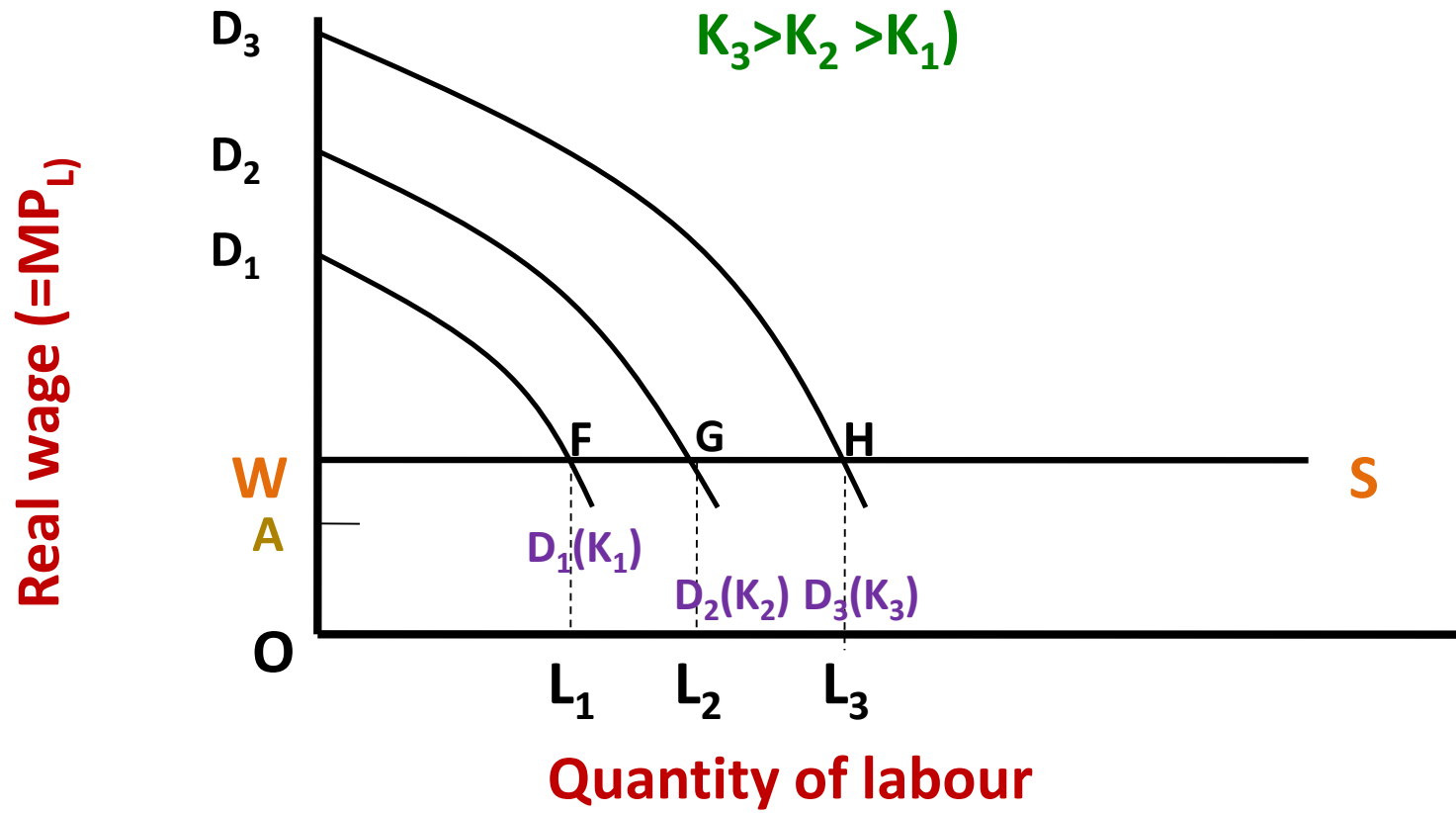
LECTURE 12

The Lewis Theory of Development

- One time best-known theoretical model of development that focused on the **structural transformation** of a primarily subsistence economy was that formulated by Nobel laureate W. Arthur Lewis in the mid-1950s. (**Economic development with unlimited supplies of labour, *Manchester School*, 1954**).
- Modified, formalized, and extended by **John Fei and Gustav Ranis**.
- The Lewis two–sector model became the general theory of the development process in surplus – labour Third world nations during most of the **1960s and early 1970s**.

- In this model, the underdeveloped **economy consists of two sectors**.
- A traditional, **overpopulated rural** subsistence sector characterized by **zero marginal labour productivity**.
- This situation permits Lewis to classify this as **surplus labour** so that it can be withdrawn from the agricultural sector without any loss of output.
- And a **high-productivity** modern urban **industrial sector** into which labour from the subsistence sector is gradually transferred.
- The primary focus of the model is on both the **process of labour transfer and modern-sector employment growth** are brought about by output expansion in that sector.

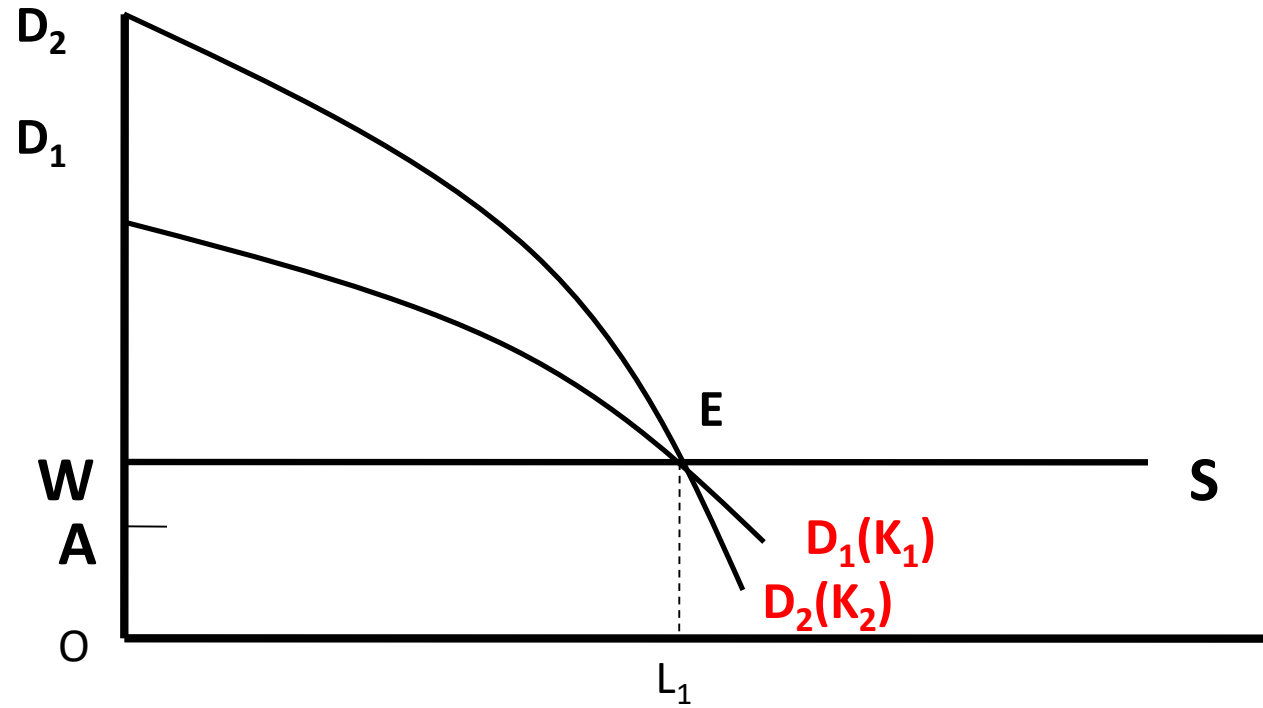
- The speed with which this **expansion occurs** is determined by the rate of industrial investment and **capital accumulation in the modern sector**.
- Such investment is made possible by the **excess of modern-sector profits over wages** on the assumption that capitalists reinvest all their profits.
- Finally, the level of **wages in the urban industrial sector** is assumed to be **constant** and determined as **a given premium** over a fixed average subsistence level of wages would have to be **at least 30% higher than average** rural income to induce workers to migrate from their home areas.
- At the constant urban wage, the **supply curve of rural labour** to the modern sector is considered to be **perfectly elastic**.



Criticisms of Lewis Model

- Model is in conformity with the historical experience of economic growth in the west, but three of its assumptions do not fit in LDCs.
- Implicit assumption that the labour transfer and employment creation in the modern sector is proportional capital accumulation in the modern sector.
- Assumption of surplus labour in rural sector may not hold true in LDCs.
- Assumption of constant real urban wage until the point where the supply of rural labour is exhausted may not be true due to unionisation of labour, civil service wage scales, MNC wage practices, etc.

Real wage (=MP_L)



Quantity of labour

LECTURE 13

The Doctrine of Balanced Growth

- The idea of balanced growth has been interpreted differently.
- Balance is required between the demand and supply sides. The supply side lays emphasis on the simultaneous development of all inter-related sectors, which help in increasing the supply of goods.
- It includes the simultaneous and harmonious development of intermediate goods, raw materials, power, agriculture, irrigation, transport, etc., and all industries producing consumer goods.

- The demand side relates to the provision for larger employment opportunities and increasing incomes so that the demand for goods and services may rise on the part of the people.
- The demand side is related to supplementary industries, consumer goods industries, especially agriculture and manufacturing industries
- The theory of balanced growth states that there should be simultaneous and harmonious development of different sectors of the economy so that all sectors grow in unison.

The doctrine of balanced growth has been advocated by **Rosenstein-Rodan, Ragnar Nurkse, and Arthur Lewis**

Explanation of the Theory

- **Rosenstein-Rodan** was the first economist who propounded the theory of **balanced growth** without using these words in his **1943** article.
- His main contention is that often **SMP** (Social Marginal Product) of an investment is different from its **PMP** (Private Marginal Product).
- And when a group of industries is planned together in accordance with in accordance with their SMPs, the rate of growth of the economy is greater than it would have been otherwise.
- This is because an individual entrepreneur is interested only in the PMP of investment and is not likely to have an accurate assessment of its SMP.

- Rosentein–Rodan gives a number of examples where the SMP of an investment is greater than its PMP. **It is complementarity of different industries** which leads to the most profitable investment from the standpoint of the society. Famous example of the shoe factory-a market for shoes.

- If, instead, a whole series of industries were started which produce the consumption goods on which workers would spend all their incomes, all the industries complementary system of industries would reduce the risk of not being able to sell their products and would lead to a large scale planned industrialization.

- This very idea has been developed and elaborated by **Ragnar Nurkse** in his thesis.
- According to Nurkse, **vicious circles of poverty** are at work in underdeveloped countries which retard economic development. If, however, they are broken, economic development will follow.
- The vicious circles operate both on the **supply side and the demand side**.

How to Break these Circles?

By enlarging the Market

- Market size can be enlarged by monetary expansion, by salesmanship and advertising, by abolishing trade restrictions and by expanding the economic infrastructure.
- It can also be widened either by a reduction in prices (money incomes remaining constant), or by an increase in money incomes while keeping prices constant. This implies increase in productive efficiency and in real income.
- In underdeveloped countries market is not large enough to permit production on a scale that may lead to reduction in costs. Inelastic consumer demand, technical discontinuities and lack of enterprise keep down the demand for capital.

- Therefore, the only way out of this impasse, according to Nurkse, is “more or less synchronized application of capital to a wide range of different industries.
- The doctrine of balanced growth requires a balance between different sectors of the economy during the process of economic growth.
- To sum up in the words of Lewis,” *In development programmes all sectors of the economy should grow simultaneously, so as to keep a proper balance between industry and agriculture and between production for home consumption and production for export ... the logic of this proposition is as unassailable as its simplicity.*”

Criticism of the Doctrine of Balanced Growth

The doctrine of balanced growth has been severely criticized by Hirschman, Singer, Kurihara and others on the following grounds:

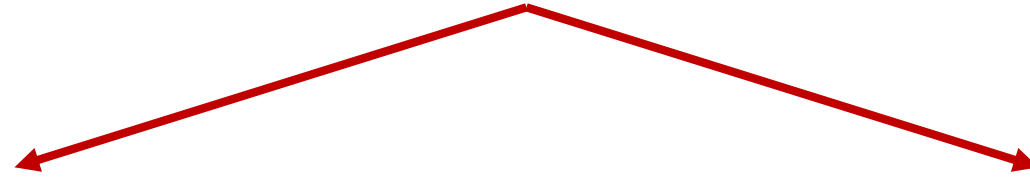
1. Rise in Costs
2. No Attention to Reducing Costs
3. Fails as a Theory of Development
4. Beyond the Capabilities of UDCs
5. Disproportionality in Factors
6. Shortage of Resources
7. Wrong Assumption of Increasing Returns
8. Capital Lumpiness not Essential for Development
9. Balanced Growth not Essential for Induced Investment
10. Does not Consider Planning
11. Scarcities and Bottlenecks Encourage Growth

LECTURE 14

The Theory of Unbalanced Growth

- Propounded by A O Hirschman in his work, ‘The Strategy of Economic Development (1958)’.
- Singer, Kindleberger and Streeten, etc. have favoured it over Balanced Theory.
- Opposite of the doctrine of Balanced Growth. Investment is made in selected sectors rather than simultaneously in all sectors.
- The deliberate unbalancing of the economy according to a pre designed strategy is the best way to achieve the economic growth.
- Development is regarded as a ‘*chain of disequilibria*’ that must be kept alive. The seesaw advance is induced by one disequilibrium that in turn leads to new disequilibrium and so on *ad infinitum*.

ANY NEW PROJECT



Appropriates external economies created by previous projects. Creates new external economies for future projects

A: Convergent series of investments: That appropriate more external economies than they create. Also called induced investments as they are net beneficiaries of external economies.

B: Divergent series of investments: That create more external economies than they appropriate.

- From economy's point of view, **B have greater social desirability than A.**
- Development can take place by unbalancing the economy. This is possible by investing either in social overhead capital (SOC) or in directly productive activities (DPA).
- The former create more external economies while the latter appropriate more external economies.

Unbalancing the Economy with SOC

- SOC comprises of those basic services without which primary, secondary and tertiary productive activities cannot function, e.g. investments on education, public health, communications, transportation and public utilities like light, water, irrigation and drainage systems, etc.

- Large investment in SOC encourages private investment later in DPA. Thus, SOC approach to economic development is to unbalance the economy so that subsequently investments in DPA are stimulated.

Unbalancing the Economy with DPA

- An imbalance can also be created via DPA. A Govt. might directly or indirectly invest in DPA instead of investing in SOC.
- When DPA investment is undertaken first, the shortage of SOC facilities raises production costs substantially which puts political pressures to stimulate investment in SOC also.
- Investment sequences are generated by these pressures.

THE PATH TO DEVELOPMENT

- Hirschman calls the first sequence, from SOC to DPA, as the ‘*development via excess capacity of SOC*’ .
- And the second sequence, from DPA to SOC, as the “*development via shortage of SOC*’.
- The sequence which is ‘**vigorously self propelling**’ should be preferred for economic development.
- Hirschman makes two assumptions: first, SOC and DPA can not be expanded simultaneously and secondly, that sequence should be used which maximizes induced decision making.
- ‘**Linkages (largest total linkage) Effects**’ and ‘**last industry first**’ argument are very important for rapid economic development.

Limitations

1. Inadequate attention to composition, direction and timing of the unbalanced growth.
2. Emergence of inflationary pressures.
3. Linkage effects not based on data.
4. Lack of factor mobility.
5. Beyond the capabilities of underdeveloped countries.
6. Lack of basic facilities.

LECTURE 15

New Growth Theories

- Can we be satisfied with a growth theory that only assumes differences in key parameters without explaining these differences?
- Long run per capita growth may be driven by technical progress. But technical progress is not manna from heaven.
- What are the implications of dropping the assumption of free flow of technology from one country to another?
- How do we reconcile the huge observed differences in PCI with the more modest predictions of the Solow model?
- Are there different grades of labour that enter the production function differently and in turn affect the rate of return to physical capital?

Human Capital and Growth

- Rich countries have high amount of both physical capital as well as human capital.
 - Poor countries have large unskilled & uneducated labour.
 - Augmenting Solow model by permitting saving in two forms: physical capital & education . Only two inputs of production-physical capital & human capital.
 - Human capital is deliberately accumulated and is not the outcome of population growth or exogenous technical progress.
- $y=k^\alpha h^{1-\alpha}$ (1) where h–human capital & unskilled labour is omitted, y, k & h could be aggregate or per capita magnitudes since population is assumed as constant & depreciation is ignored.

Part of the output is consumed and the other part is saved in two ways: a fraction s is saved that results in capital accumulation,

$$k(t+1) - k(t) = sy(t), \dots \dots \dots (2)$$

Another fraction q is used to augment human capital,

$$h(t+1) - h(t) = qy(t), \dots \dots \dots (3)$$

It can be shown that starting from any initial level 0 of h & k , the above equations cause the economy to have y , k , & h growing at some common rate and this rate is determined by s & q .

Let $r = h/k$ in the long run. Divide both sides of eq. 2 by $k(t)$ and using eq. 1, it is

$$\frac{k(t+1) - k(t)}{k(t)} = sr^{1-\alpha}, \dots \dots \dots (5)$$

gives the growth rate of k .

$$\frac{h(t+1) - h(t)}{h(t)} = qr^{-\alpha}, \dots \dots \dots (6)$$

$h(t)$ gives the growth rate of human capital.

Since these growth rates are same in the long run, so that the ratio of h to k stays constant, we must have,

$$sr^{1-\alpha} = qr^{-\alpha}$$

$$\text{or } r = q/s$$

Using r, long run growth rate can be computed as

$$\frac{k(t+1) - k(t)}{k(t)} = sr^{1-\alpha} \\ = s^\alpha q^{1-\alpha}$$

LECTURE 16

The Concept of Capital – Output Ratio

- Capital-output ratio (or capital coefficient) expresses the relationship between the value of capital investment and the value of output.
- Refers to the amount of capital required to produce a unit of output. Capital-output ratio of 5:1 implies that a capital investment of Rs. 5 crore is essential to secure an output (income) worth Rs 1 crore.
- It may thus be defined as “a given relationship between the investments that are to be made and the annual income resulting from these investments.”

The capital- output ratio is of two types:

- i) the **average capital - output ratio** and
 - ii) the **marginal or the incremental capital-output ratio**.
- The average capital–output ratio indicates the relationship between the existing stock of capital and the resultant flow of current output.
 - The incremental capital-output ration (ICOR) expresses the relationship between the amount of **increase in output** (income) ΔY , resulting from a **given increase in stock of capital**, ΔK ($=\Delta K / \Delta Y$).
 - The former is a static concept, while the latter is a dynamic one.

- Different capital-output ratios for different sectors of the economy depending on the **techniques** (capital-intensive or labour-intensive).
- In a sector using capital-intensive techniques the capital-output ratio would be high and in an other sector using labour-intensive techniques the capital-output ratio would be low.
- Transport, communications, public utilities, housing & capital goods industries have very **high sectoral ICORs** sector.
- ICOR for manufactured **consumers' goods** industries and service industries is generally **low**. The overall capital-output ratio for a country is the average of the sectoral ones.

Factors Determining Capital-Output Ratio

1. Availability of Natural Resources
2. Growth of Population. Amount of Capital Employed
3. Degree and Nature of Technological Advance.
4. Rate of Investment
5. Efficiency with which New Equipment is handled
6. Composition of Investment.
7. Quality of Managerial and Organizational Skill.
8. Pattern of Demand.
9. Relative Factor Prices
10. Employment Policy
11. Industrialization
12. Spread of Education
13. Use of Social and Economic Overheads
14. Impact of Export and Import policy

LECTURE 17

Economic Planning (EP)

- Economic planning may be described as a **deliberate governmental attempt** to **coordinate economic decision making over the long run** and to influence, direct, and in some cases even control the level and growth of a nation's principal economic variables (income, consumption, employment, investment, saving, exports, imports, etc.) to achieve a **predetermined set of development objectives**.
- An economic plan is simply a specific set of quantitative economic targets to be reached **in a given period of time**, with a **stated strategy** for achieving those targets.
- Economic plans may be **either comprehensive or partial**. A comprehensive plan sets its targets to cover all major aspects of the national economy. Partial plan covers only a part of the national economy-industry, agriculture, the public sector, the foreign sector, and so forth.

- The **planning process** can be described as an exercise in which a **government** first **chooses social objectives**, then sets various targets, and finally organizes a **framework for implementing, coordinating and monitoring** a development plan.
- Proponents of economic planning for developing countries argued that the **uncontrolled market economy** can, and often does, subject these nations to **economic dualism, fluctuating prices, unstable markets, and low levels of employment**.
- In particular, the market economy is not geared to the **principal operational task of poor countries**: mobilizing limited resources in a way that will bring about the structural change necessary to stimulate a sustained and balanced growth of the entire economy.
- Planning came to be accepted, therefore, as an **essential and pivotal means of guiding and accelerating economic growth** in almost all developing countries.

Economic problem is central to the issue of EP.

•EP implies deliberate control and direction of the economy by a central authority for the purpose of achieving definite targets and objectives within a specified period of time.

Thus, EP comprises the following features:

- Rational arrangement of economic resources,
- Predetermined & well defined objectives,
- Time constraint for the achievement of objectives,
- Control of resources by the State.

Economic Planning versus Economic Policy:

When plan is made, it is based on certain fundamental principles which are the basic policies. These principles in the form of economic policies, fix the terms of reference within which the plan is formulated.

Plan Formulation and Requisites for Successful Planning

- 1.Planning authority**
- 2.Statistical Data**
- 3.Objectives**
- 4.Fixation of targets & priorities (strategy)**
- 5. Resource Mobilization**
- 6.Balancing the Plan**
- 7. Efficient administration**
- 8. Proper Development Policy**
- 9. Economy in Administration**
- 10. Public cooperation**

LECTURE 18

Types of Planning

1. Physical and Financial Planning

1 a. Financial Planning (FP)

- Refers to the technique of planning in which **resources** are **allocated in terms of money**.
- Financial planning is essential in order to remove maladjustments between **supplies and demand** and for calculating **cost and benefits** of the various projects.
- The **essence of FP** is to ensure that demands & supplies are matched in a manner **which exploits physical potentialities** as fully as possible without major and unplanned changes in the price structure.

Limitations for (UDCs)

- Measures to mobilize financial resources through taxation may adversely affect the propensity to save.
- Large non-monetized sector in UDCs. The imbalance between monetized and non-monetized sector will lead to shortages in supplies and to an inflationary price rise.
- Increase in supply through imports may lead to BOP problem.
- To be successful, FP must be free from all bottlenecks, especially inflationary rise in prices. It is more appropriate to use it in sectoral planning rather than overall planning.
- Might accentuate disparities between haves & have-nots.

1 b. Physical Planning (PP)

- Technique of planning where allocation of resources is done in terms of men, materials and machinery.
- PP is an attempt to work out the implications of the development effort in terms of factor allocations and product yields so as to maximize income and employment.
- The physical balance consists in a proper evaluation of the relationship between investment and output. Investment coefficients are computed.
- Outputs of various sectors are also balanced.
- PP has to be viewed as an overall long term planning and not as short term planning. It requires overall assessment of real resources.

Limitations

- Most tough task is the **availability of proper data**.
- **Balancing** different segments is difficult due to structural difficulties.
- **Shortages** in physical targets are bound to lead to inflationary pressures. So physical controls are exercised.
- **PP without FP is negation of planning** in UDCs, e.g. second FYP (in final year) was pruned by Rs. 200 crore due to shortages of financial shortages.

2. Perspective and Annual/Short Term Planning

- Perspective planning refers to long term planning in which long range targets are set in advance for a period of 15, 20 or 25 years.
- In a planned economy there is always a demand for planning and projecting a 'perspective of development' over along period.
- A perspective plan is a blue print of developments to be undertaken over a longer period.

- Since **planning is a continuous process**, so perspective planning is the essence of this process.
- Main purpose of a perspective plan is to provide a **background to the shorter term plans**, so that the problems that have to be solved over a very long period can be taken into account in planning over a shorter term.
- In a perspective plan those **forces the effects of which can be estimated with reasonable certainty over long period can be expressed**. e. g. population growth, the influence of the education, etc.
- **Factors exposed to wide changes** (e.g. harvest, yield) can not be & should not be taken into account.

- Perspective planning would be primarily concerned with the **technical and scientific aspects** of long term growth of the economy.
- So **studies and research** to solve practical problems would be an **integral part** of a perspective plan.
- The idea of perspective planning was mooted in 1920 in Russia for electrification (GOELRO plan).

Limitations

- It is **rigid** because necessary adjustments to unforeseen changes may not be made.
- Administratively** may not be feasible.
- Psychologically **downsizing** the plan may have **demoralizing** effects.

3. Indicative planning v/s Imperative Planning

- The distinction between indicative and imperative planning is visible both in the sphere of **formulation** as well as **implementation**.
- The **former** is found mostly in **capitalist** economies while the **latter** is found both in **socialist** as well as certain **non- socialist** economies.

3a) Indicative Planning

In most capitalist nations the **essential function of planning is co-ordination** of different economic units with the **objects and methods of coordination differing in different situations** in these economies.

These methods of coordination may be grouped into three approaches, which are not mutually exclusive.

i) Forecasting Approach

ii) Policy Approach

iii) Corporate Approach

3 b. Imperative Planning

- It is also called **directive planning/ comprehensive planning**.
- Since, it **does not involve coordination** among economic groups; it is better **suited in socialist economies groups** where there is less variety of economic groups (state owns most of the things).
- Here, it is **planning for** the economic units whereas in indicative, it is **planning with** the other economic units outside the government.
- All economic decisions are as per **state's directions**. There is **no consumers' sovereignty** in such plans.

4. Rolling v/s Fixed Planning

- In a rolling plan every year three new plans are made and acted upon.
- First, there is a plan for current year which includes the annual budget.
- Second, there is a plan for a number of years-3, 4 or 5. It is changed every year in keeping with the requirements of the economy.
- Third, a perspective plan 10,15 or 20 years is presented every year in which the broader goals are stated and the outlines of future development are forecast.
- The annual plan is fitted into the new FYP and both are framed in the light of perspective plan.

- Advocated by **Gunnar Myrdal** for UDCs.
- First used for defence in **1962** and was successful, was again used in 1978-80. **Failed in Burma & Mexico** but succeeded in **Japan & Poland**.
- Being **flexible overcomes rigidities** of fixed planning.
- It is flexible so **uncertainty** is created.
- Requires **strong communication** network.
- Targets laid down are not achieved.

LECTURE 19

Role of Planning and the Planning Commission (NITI Aayog) in the New Indian Economy

The issue is not whether planning is needed – it surely is – but whether the most effective place to do the planning is in a government centralised bureau or at the level of the firm. Today most economists are skeptical about the ability of a centralised bureau to do effective planning.

–Joseph E Stiglitz (1997, p 984)

- Can there be a role for **centralised planning in a market economy**?
- Question was **debated** in the wake of the reforms **in the nineties**.
-
- After liberalization, **planning** as practised in the first four decades after independence was **no longer tenable**.
- This reality was recognized in the **Eighth Plan** (1992-1997), that stated in its preface: “**The Plan is indicative in nature**”.
- That the state can at best be a facilitator for private enterprise was reiterated in the two plans that followed, the Ninth and the Tenth.

- However, the **practice of** drawing up ambitious FYPs **plans** under the aegis of the agency, the Planning Commission, **persisted till 2015** with all its paraphernalia when the NITI Aayog came into being.
- The **PC used to preside over the allocation of central funds** meant for the “Plan” both for the centre and the states.
- In the case of the **states**, the practice of requiring them to **come to Delhi** for their “plan approval” every year **also continued**.

The focus of the discussion on institutional reforms is on **three of the institutions/ practices** that have a vital bearing on the results sought to be achieved through the plan. These are:

1. **The disjunction between the budgets of the government and the plan,** and the practice of classifying expenditures in government budget under “plan and non-plan” (now removed);
2. **Inadequate fiscal space of the states for fulfilling the objectives of the plans** while major responsibilities for plan implementation are devolved on them; and
3. **The system of intergovernmental transfers** that is supposed to help address one of the basic objectives of planning, i e, balanced regional growth.

1. Role of Planning in a Market Economy

- Post liberalisation, the role of the public sector in the Indian economy has shrunk substantially .
- Financial constraints emanating from the Fiscal Responsibility and Budget Management law coupled with inefficiency and waste in service deliveries led to demand for the state to vacate even areas hitherto regarded as the responsibility of the government, like education and health.
- “Public-private partnership” or PPP has now emerged as the preferred vehicle for initiatives in development.

•Should there be any role for planning?

The answer is **YES** since

1. Resources being **limited**; given the objectives, actions must be guided by a well-designed plan. Planning must for providing information necessary to guide action (for both the public and the private sectors). In other words, **planning has a very useful “indicative”** role.
2. It has to be recognised that even in a market economy the state has to play a vital role not only as a **facilitator but also as a provider of basic infrastructure, physical, social and financial.**

3. The state has to play a **redistributive role** as well to lessen the disparities across people and regions

4. A **central agency with the requisite expertise is also needed** to draw up the plan and set the parameters to guide action in all sectors

5. Agency is needed to **coordinate the plans of different** ministries and government agencies and monitor results

6. Another function of planning is **“prescriptive”**, that is, influencing the behaviour of both public and private agents to serve public goals through **“prescription”**

LECTURE 20

The Role of Agriculture in Development

Agriculture makes four major contributions to the process of economic development:

- i) a product contribution,
- ii) a factor contribution,
- iii) a market contribution and
- iv) a foreign exchange contribution

i) Product Contribution

- The product contribution of agriculture refers to the fact that agriculture **must supply food** to labour working in alternative occupations
- For example, in Rostow's model, take-off stage must be preceded by an agricultural revolution (Britain)
- **Economic progress** in early stages of development **requires an increase in the marketable surplus** (difference between total agricultural output and subsistence needs), which in turn requires an increase in labour productivity

- If productivity does not increase naturally or voluntarily, **marketable surplus can be forcibly extracted** (as in Japan at the time of **Meiji Restoration**, 1868, when land owners were compulsorily taxed or **kulaks genocide** in Russia in 1920)
- Marketable surplus is a very important concept in neoclassical model of the development process: unless **MS rises as the DD for food rises**, the **price of food will tend to increase**
- This will **turn the terms of trade against industry**; higher wages will have to be paid to workers in industry, which will **eat into profits & capital accumulation**. The marketable surplus thus becomes the major constraint on industrial growth

ii) **Factor Contribution (FC)**

- Factor contribution of agriculture consists of two parts: a labour contribution & capital contribution
- Labour for industry and other activities must come from agriculture but can be released only if productivity in agriculture rises. The existence of surplus labour (or disguised unemployment) plays a major role in development process (Lewis model)
- Agriculture is a source of saving and capital accumulation for industrial development. It could be voluntary (rich farmers investing in industries or small farmers in saving) or forced/ involuntary (taxes on agriculture). Other way is through the pricing policies of markets boards

iii) Market Contribution

- It refers to the fact that the DD from agriculture must be a major source of **autonomous DD for industrial goods**. If industry is to grow, it must be able to sell its goods

There is complementarity between agricultural and industrial growth in early stages of development (e.g. Japan). Because low agricultural prices are good for industry from SS side but bad from DD side perspective

iv) Foreign Exchange Contribution

- In early stages of development primary commodity exports are only source of foreign exchange
- Thus, agriculture provides means to have export earnings to have goods that cannot be produced domestically or can be produced only at a very high cost

LECTURE 21

Agricultural Development and Theory of Induced Technical Change

- Technological innovation is a two-stage process of invention or discovery, and adoption of the improved input or method of production by producers
- Although an innovation can have no economic impact unless and until it is adopted by producer
- Traditionally, there has been no economic theory of invention or technological improvement

- **Recognition by economists** that scientific discoveries and inventions can explain faster economic growth and development (or their absence explain economic stagnation)
- The traditional approach to modeling economic growth has been to treat invention as an exogenous shift variable
- An alternative to the exogenous shift variable approach is to assume that a stock of unused inventions is always at the disposal of producers
- This means adoption never catches up with invention, so that invention *per se* can never impede growth

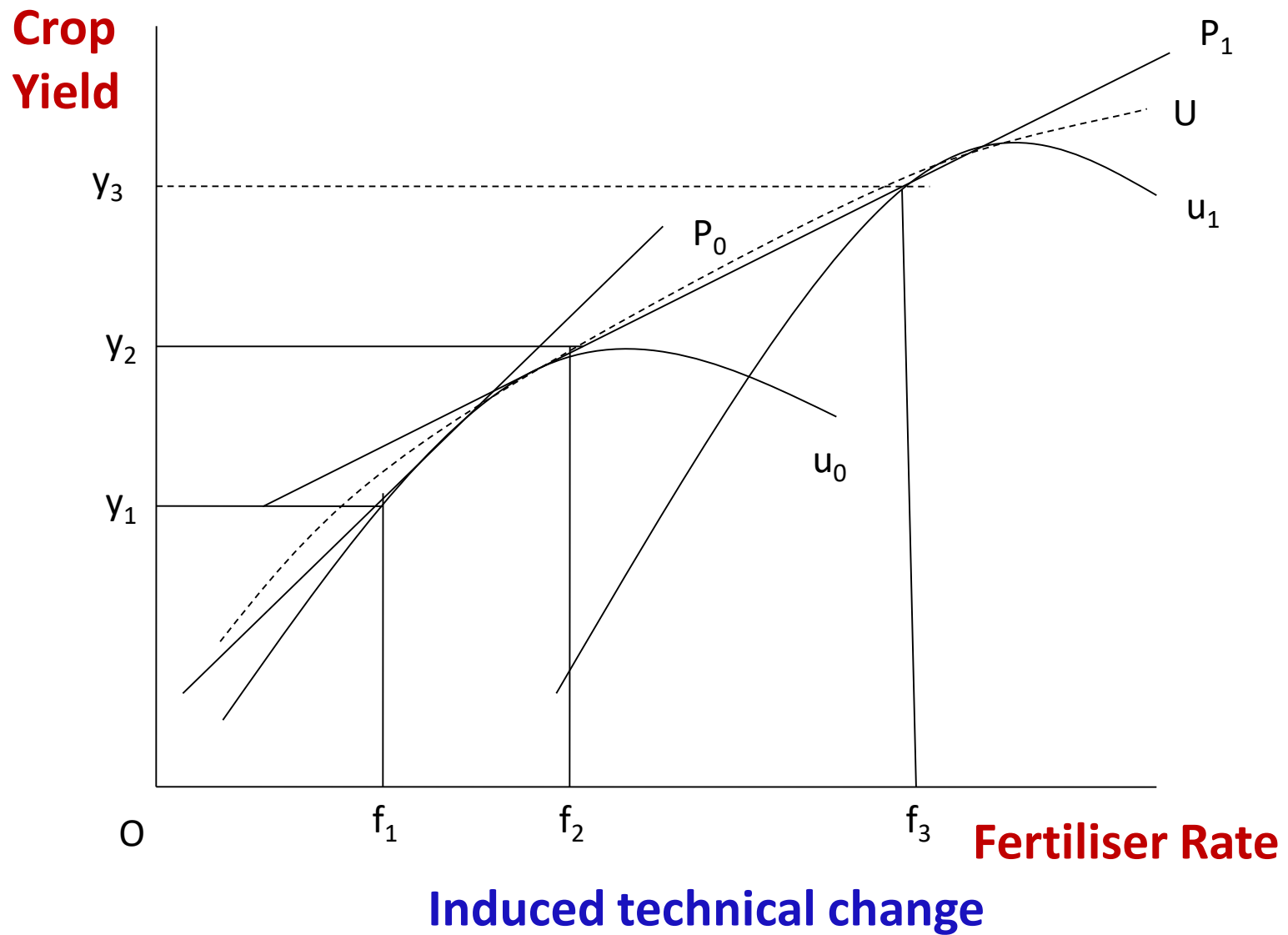
- Such an assumption underlies **Boserup's contra-Malthusian theory** that, even in poor countries, the **response of food supplies to population growth is elastic**
- Boserup believes that in primitive agriculture farmers in the aggregate do not actually adopt more productive technologies until forced to do so by population pressure
- However, **the credibility of this theory** is dependent on what many critics regard as **dubious assumptions**

- For agriculture, there is a **more credible** alternative to the traditional ‘**manna from heaven**’ approach to the generation of new technological discoveries
- This is the theory of **induced technical and institutional change** (Hayami and Ruttan, 1971, ch. 3; Ruttan, 1974)
- The **crux** of this theory is that the **research and investment** which necessarily precedes new discoveries leading to technical progress **is induced by market forces**

- In agriculture, changes in the **relative scarcities of resources**, especially land and labour, **induce a derived demand** for technological innovations to facilitate the **substitution** of relatively less scarce and **cheap factors** for more scarce and **expensive ones**
- For example, in a **labour-scarce economy** there is a tendency for capital in the form of **labour-saving machinery** to be substituted for **human labour**
- In a **land-scarce economy**, **yield-increasing and land-saving inputs** such as fertilizers, irrigation and HYVs are **substituted for land**

Induced technical change

- Hayami and Ruttan have evolved a meta-production function hypothesis to explain how induced technical change increases the elasticity of response to factor price changes.
- Consider first varying the amount of a single input factor, such as fertilizer inputs in response to a change in the factor:product price ratio.
- Although farmers can normally be expected to increase fertilizer inputs in response to a decline in the fertilizer: crop price ratio, the amount of the fertilizer increment and crop yield increment corresponding with it may both be only comparatively small unless new crop varieties are developed which are more responsive than traditional varieties to fertilizer application.

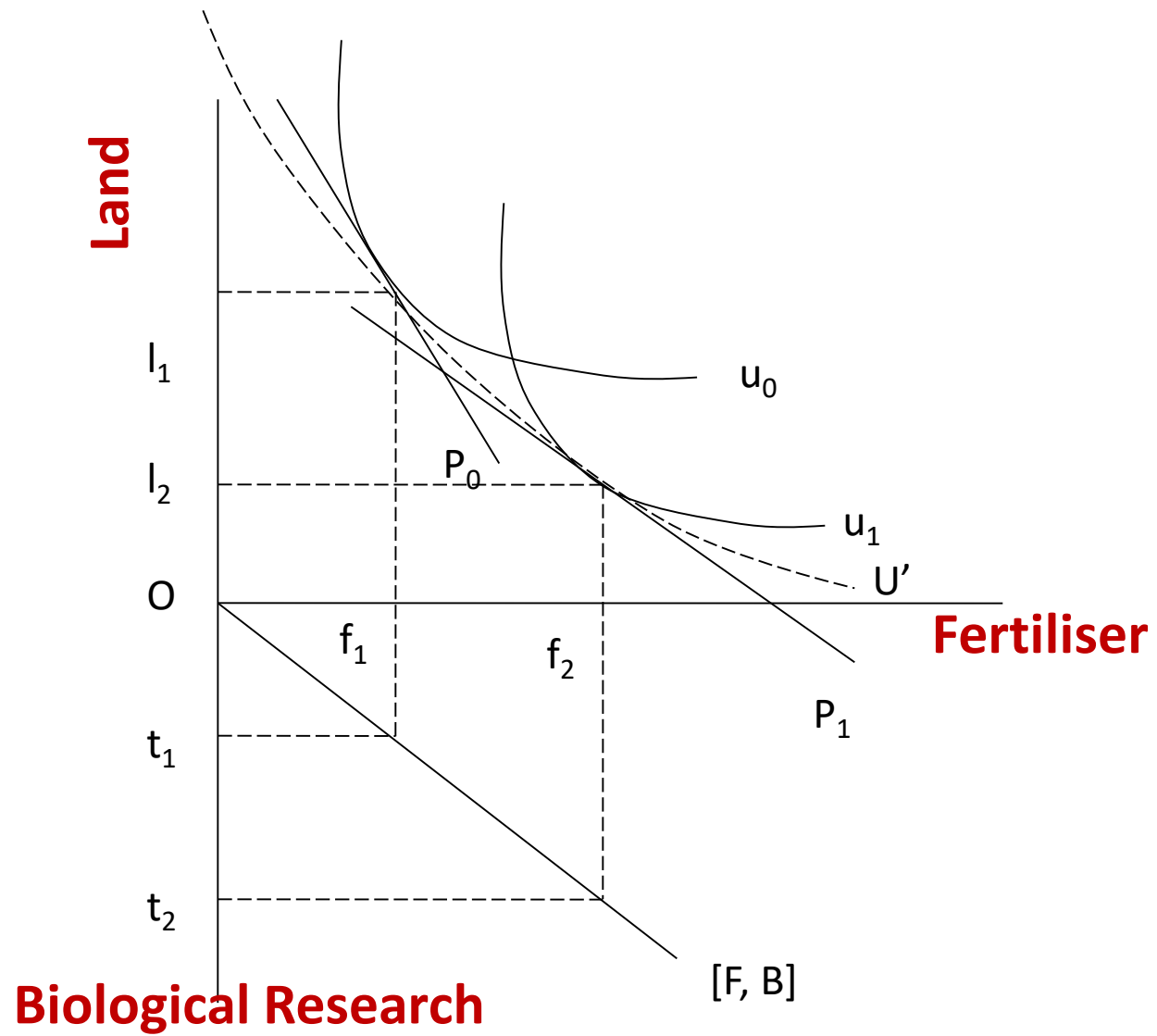


- The behavioural rationale of this model: a decline in the price of a single variable factor (fertilizer) provides producers (or their industry representatives) with an economic incentive to press the R&D ‘industry’ to discover and develop new technology possessing the property of making output more input responsive

- That is, the economic rate of input usage at the new lower price level would be substantially increased compared with the rate justified by existing technology

•Similarly, it can be argued that **changes in factor prices give guidance** to the discoveries of improved technology regarding types of technological advance with the **best ‘market prospects’**.

•However, this version of the **model over-simplifies** reality because, in the real world of input factor substitution, the incentive for **promoting technological changes** may equally well derive from changes in **factor/factor price ratios**.



Induced factor substitution

- This model emphasizes the link between the technological or research input and the discovery of innovations which broaden the scope for factor substitution in response to price change
- It can readily be extended to all factors and from biological to mechanical technology
- When the price of labour rises relative to the price of land, farmers are consequently induced to press agricultural engineers to develop new machinery with an enhanced capacity for substituting land for labour
- Bigger and more powerful machines with the capacity for enabling each worker to handle a larger land area are demanded

- The **meta-production function hypothesis** has been shown to give a statistically acceptable explanation of contrasting past patterns of agricultural growth in the **USA and Japan**
- The historical record shows that both countries achieved similar rates of agricultural growth over the period 1880-1960, though with different technologies and factor mixes
- Growth in the output of US agriculture was primarily based on improvements in mechanical technology (reflecting labour scarcity), in **Japan improvement in yield –increasing** biological technology (reflecting land scarcity) were dominant

LECTURE 22

Reforms in Agriculture and Policies

*The imperatives for the reforms in Indian agriculture, with
'growth with equity' as the touchstone*

Reforms in Agriculture

- Pace of reforms in Indian agriculture still slower
- There were no serious distortions in agriculture as were evidenced in the industrial sector
- Aggregate measure of support (AMS) calculated by various scholars, though yielding different results, did not suggest any gross distortion either in positive or in negative terms
- A more sensitive indicator, the intersectoral terms of trade, although adverse to agriculture was gradually improving in favour of agriculture

- Reforms in nonfarm sectors had a salutary impact on agriculture.
- Non-price measures were considered to be more important for agricultural growth than market-oriented measures.
- A large section of population in agriculture had very weak linkages with the markets both as producers and as consumers.
- Government was also extra careful as nothing could be done that might jeopardise food security.
- Agriculture being a state subject, most of the states gave lukewarm response when it came to reforms in agriculture.

- The most important : abolition of zonal restrictions on the movement of agricultural commodities, especially foodgrains.
- India a single market for agricultural commodities was by and large.
- Private agencies given larger scope in the distribution of inputs, provisions of some of services and in agricultural extension.
- Some controls relaxed for a few commodities (such as non-nitrogenous fertilisers.
- There was liberalisation of imports as well as exports of agricultural commodities to a certain extent.

Some concerns

- Stagnation in agricultural productivity, in the face of rising demand.
- The build up of foodgrains stocks to an unsustainable level.
- Growing burden of subsidies leading to fiscal imbalance and crowding-out public investment in agriculture.

Critical Areas

Four major weaknesses plague Indian agriculture.

1. Preponderance of low-value agriculture,
2. Low cost-benefit ratio,
3. Inefficient use of natural resources and
4. Deterioration in self-help institutions.

The development strategy, therefore, should aim at

1. Increase in ‘value-added’ per hectare, more so on the small and marginal holdings;

2. Improvement in productivity of inputs, especially purchased inputs, such as fertilisers and irrigation water;

3. Prevention of environmental degradation, especially degradation of land and water resources; and

4. Encouragement to farmer’ self-help institutions, particularly at the grass roots level.

LECTURE 23

Agricultural Price Policy

- Price policy objectives are multiple and often conflicting
- Need to relook at the scope, instruments and institutions of agricultural price policy
- Agricultural price policies comprise:
 - i) a minimum support price (MSP)
 - ii) a procurement price (now same as the MSP),
 - iii) a buffer stock
 - iv) a public distribution system (PDS)

- This policy structure **had served well** earlier in closing the gap between demand and supply of foodgrains from domestic production
- The goal of food **self-sufficiency reached** by the late 1980s
- Price policies **assured the producers** that they would not be ‘out of business’ if they accepted new technology and production would increase to the extent that the price in the free market would drastically fall
- The **MSPs** – later the procurement prices – acted **as cushion** against price-induced risk

Several **distortions crept** in to this system:

- The concept of MSP originally based on the ‘**paidout**’, or **variable costs** of production enlarged to **full cost of production** – in the farm management parlance from A2 cost to cost C
- Principle of fixing MSPs mainly on the ‘**cost-plus**’ basis got established
- Due to pressure from vocal and organised large farmers’ lobby, **all farm expenditures**, incurred or imputed, were **added to the cost of production** for the purpose of fixing the MSP
- This **escalated the MSP** which had to be increased year after year

- Distinction between procurement prices & MSP first **blurred**, and **then abolished**
- All quantities of foodgrains, mainly cereals, offered for sale by the farmers were procured at the enhanced MSPs
- Continuous rise in procurement prices on the one hand, and obligation to purchase all grains offered by the farmers at that price, **led to accumulation of stocks** of wheat and rice much above what is required for public distribution system
- The **procurement and public distribution** is handled by a FCI, in collaboration with similar institutions at the state level **inefficiently**

- The **cost of procuring and distributing foodgrains** got very high
- With mounting subsidies resulting from high MSPs and higher cost of procurement and distribution, foodgrains distributed through the PDS had to be **released at progressively high issue prices**
- This **defeating its purpose** of issuing foodgrains to the vulnerable sections below the market prices
- The net result is that **expected offtake from PDS is declining** and the stocks are rising to an unsustainable level
- So **dismantling the 'high-cost high-subsidy'** regime is needed to release resources for more productive uses, such as investment in research and extension and creating better rural infrastructure

Suggestions

- There is a need to recognise that price policy is a weak instrument for income transfers
- Capacity to offer MSPs for a large number of commodities is limited
- Instrument of MSPs has to be used sparingly, greater reliance needs to be placed on crop insurance and on forward markets
- Procurement operations need to be made more business like
- Need for dovetailing agriculture and trade policies is urgent
- FCI be decentralised and debureaucratised; states should be made major stakeholders in the PDS

LECTURE 24

Input Policy and Subsidies

- A large and growing amount of input subsidies-disturbing feature of agricultural policy. These are progressively losing their relevance and are becoming an unbearable fiscal burden
- Input subsidies were justified on the ground that agricultural producers, and consumers of agricultural products, are poor and hence be helped
- This has come to be known as ‘cheap-input cheap-output policy’
- The argument of subsidies leading to increase in the use of inputs and consequently resulting in improved productivity was added to it

- A policy of **subsidising inputs** can be **justified** if,
 - i. Introduction of a new input warrants **sharing of risks** by the state;
 - ii. Use of subsidised inputs ensures **continuous increase in productivity** which are shared both by the producers and consumers;
 - iii. Subsidising inputs are the only way to **transfer income** to the poor producers;
 - iv. In heavily traded products, the trading partners are resorting to **overt or covert subsidisation**, and there is no other way for redressal

- None of the arguments for input subsidisation applies in the present circumstances
- Neither fertilisers nor irrigation nor for that matter power, is an unfamiliar input
- Increasing use of the subsidised inputs is **not contributing to productivity** at the margin
- Marginal productivity of fertilisers and water applications is **declining**, largely because of weaknesses in the organisation and functioning of the extension system

- There are **better ways of transferring incomes** to the producers, i e, by improving income terms of trade
- Only **justification** for subsidies for the heavily-traded agricultural produce is when our **trading partners** are **not playing** according to the rules of the game
- A determined move needs to be made to dismantle the subsidy regime in agriculture
- Also, for major subsidies on irrigation and power while the centre has a limited role, the states have to take the initiative

Action needed :

- A cap on subsidies be put in the current year's budget
- Phased programme of progressively withdrawing subsidies be made
- Amount thus saved from input subsidies be earmarked as addition to the funds for strengthening rural infrastructure, research and extension
- Well-defined measures taken to improve efficiency and plugging leakages in input supplies
- The need for cost recovery, particularly in irrigation and power, should be impressed upon the state

LECTURE 25

Agricultural Trade Policies

- With the establishment of the **WTO in 1994** a major change has taken place in the international trade scenario
- The **Uruguay Round** of trade negotiations which paved the way for the establishment of WTO, for the first time brought agriculture in the discipline of GATT
- These agreements cover three basic areas:
 - (i) market access,
 - (ii) export competition, and
 - (iii) domestic support.

- These agreements aim at facilitating the process of trade liberalisation and provide a mechanism for arbitration
- The most important feature of WTO is that the signatories agree to treat all members as 'MFN', without any discrimination
- One of the major issues in agricultural trade policy is our stance on food self sufficiency
- Pressures to wean us away from this policy which was till lately the overarching objective of agricultural policies, not only in India but also in other countries

The globalisation along with secular decline in the foodgrains prices at the international level, have been advanced as the arguments to forsake food self-sufficiency as a national objective and organise production on the basis of comparative costs. This proposition is flawed several counts

- Firstly, the notion of comparative advantage (often represented by the border prices) is, at best, a static concept
- It does not take into account the dynamic role of technological and institutional measures
- It also assumes ability for quick and frequent shifts in cropping pattern by domestic producers to adjust to the changes in international prices

- Wide inter-year and intra-year fluctuations in international prices of foodgrains, greater in magnitude than the fluctuations in domestic prices, **enhance risk and uncertainty** for the domestic producers as well as consumers
- Advocacy of unrestricted exposure to the international markets ignores the fact that a large majority of **rural producers** depend on foodgrains production as their main **source of livelihood**
- And, it **overestimates the resilience** of the system to compensate these producers from heavy and sudden dislocations
- For some time to come we have to **stick to the objective of food self sufficiency**

The criteria by which we should judge the **export-potential of an agricultural commodity** could be:

- (a) the **place of the commodity in the consumption pattern** of the people, especially the poorer sections;
- (b) **supply and price elasticities**;
- (c) the **ratio of export price and the domestic price**; and
- (d) **future demand/supply prospects** in the international markets.

Summing up

Main ingredients of reform agenda in agriculture should be:

- (i) Acceleration of liberalisation in domestic markets.
- (ii) Un-freezing the lease market.
- (iii) Revising the agricultural price support system by
 - (a) curtailing the scope of MSPs to aim at *protecting variable costs* for a few commodities in selected regions, and
 - (b) Greater emphasis on crop insurance & forward markets
- iv) Carrying procurement operations on commercial lines.
- (v) Involving states and the lower tiers of Panchayati Raj in public distribution of foodgrains.

- (vi) Dovetailing **price & trade policies** effectively.
- (vii) Establishing the **principle of cost recovery** in agriculture inputs, and phasing out input subsidies, by
 - (a) placing a ‘cap’ on existing subsidies,
 - (b) Announcement of a time bound programme of phasing out input subsidies.
- (viii) Working out a **long-term export strategy for ‘commercial crops’** and other dynamic and high value crops.
- (ix) Progressive **decanalisation of exports of agricultural commodities** and removing other irritants.
- (x) Preparing to challenge any deviation from the main objective of WTO, and take initiative in **organising other developing countries** for the same purpose.

LECTURE 26

Poverty

Poverty is the state of one who lacks a certain amount of material possessions or money.

Absolute poverty or **destitution** refers to the deprivation of basic human needs, which commonly includes food, water, sanitation, clothing, shelter, health care and education.

Relative poverty is defined contextually as economic inequality in the location or society in which people live.

Causes of Poverty

1. Underdevelopment
(low PCI; inadequate growth rate; capital deficiency; low technology)
2. Inequality (regional disparity)
3. High growth rate of population
4. Unemployment
5. Inflation
6. Social factors

Poverty Reduction

- Increasing supply of basic needs
- Increasing supply of food and other goods
- Increasing supply of healthcare and education, water and energy utilities
- Removing constraints on govt. services
- Reversing braindrains
- Controlling overpopulation
- Increasing personal income

Measures of Poverty

1. Head Count Ratio (HCR): Proportion of total population that falls below poverty threshold income or expenditure. Based on either national PL or dollar a day PL.

$$HCR = \frac{m}{n}$$

2. Poverty Gap (PG): Unlike HCR, it gives us a sense of how poor the poor are. It is equivalent to income gap below PL per head of total population, and expressed as a percentage of the poverty line.

Where,

$$PG = \left(\frac{1}{n} \right) \sum_{i=1}^m \left(\frac{z - y_i}{z} \right)$$

m= no. of poor population, n = total population,
z= poverty line, y_i =income of i-th person

3. Squared Poverty Gap (SPG):

Adds the dimension of inequality among the poor to the poverty gap index. For a given value of the PGI, population with greater dispersion of income among poor indicates a higher value for the SPG.

$$SPG = \left(\frac{1}{n} \right) \sum_{i=1}^m \left(\frac{z - y_i}{z} \right)^2$$

Where,

m= no. of poor population,

z= poverty line,

n = total population,

y_i =income of i-th person

4. Foster Greer Thorbecke (FGT)

Is a generalized measure of poverty within an economy. Developed by Erik Thorbecke, Joel Greer, James Foster.

The formula is:

$$FGT_{\alpha} = \frac{1}{N} \sum_{i=1}^H \left(\frac{z - y_i}{z} \right)^{\alpha}$$

where, z = is an agreed upon poverty line (1.25\$ or 2\$ per day),
 N = is the number of people in an economy,
 H = is the number of poor (those with incomes at or below),
 y_i = are individual incomes and,
 α = is a "sensitivity" parameter.

If α is low then the FGT metric weights all the individuals with incomes below z roughly the same. If α is high, those with the lowest incomes (farthest below) are given more weight in the measure. The higher the FGT statistic, the more poverty there is in an economy.

Efforts to alleviate poverty

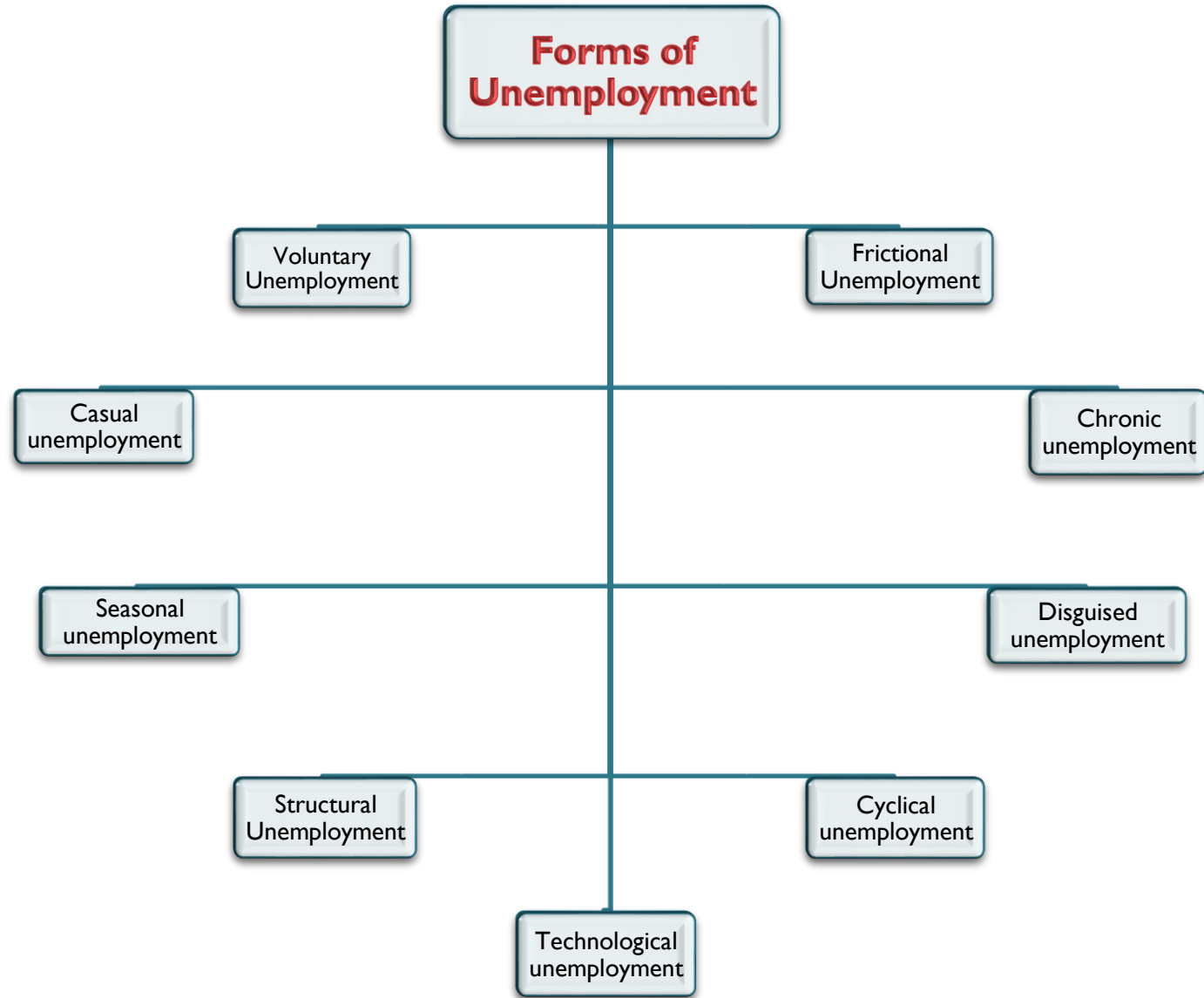
1. Resource and income development programmes for the rural poor.
2. Special area development programmes.
3. Works programme for the creation of supplementary employment opportunities.
4. The Minimum Needs Programme (MNP) to improve the consumption levels of the poor in order to raise their productive efficiency.
5. MNREGS

LECTURE 27

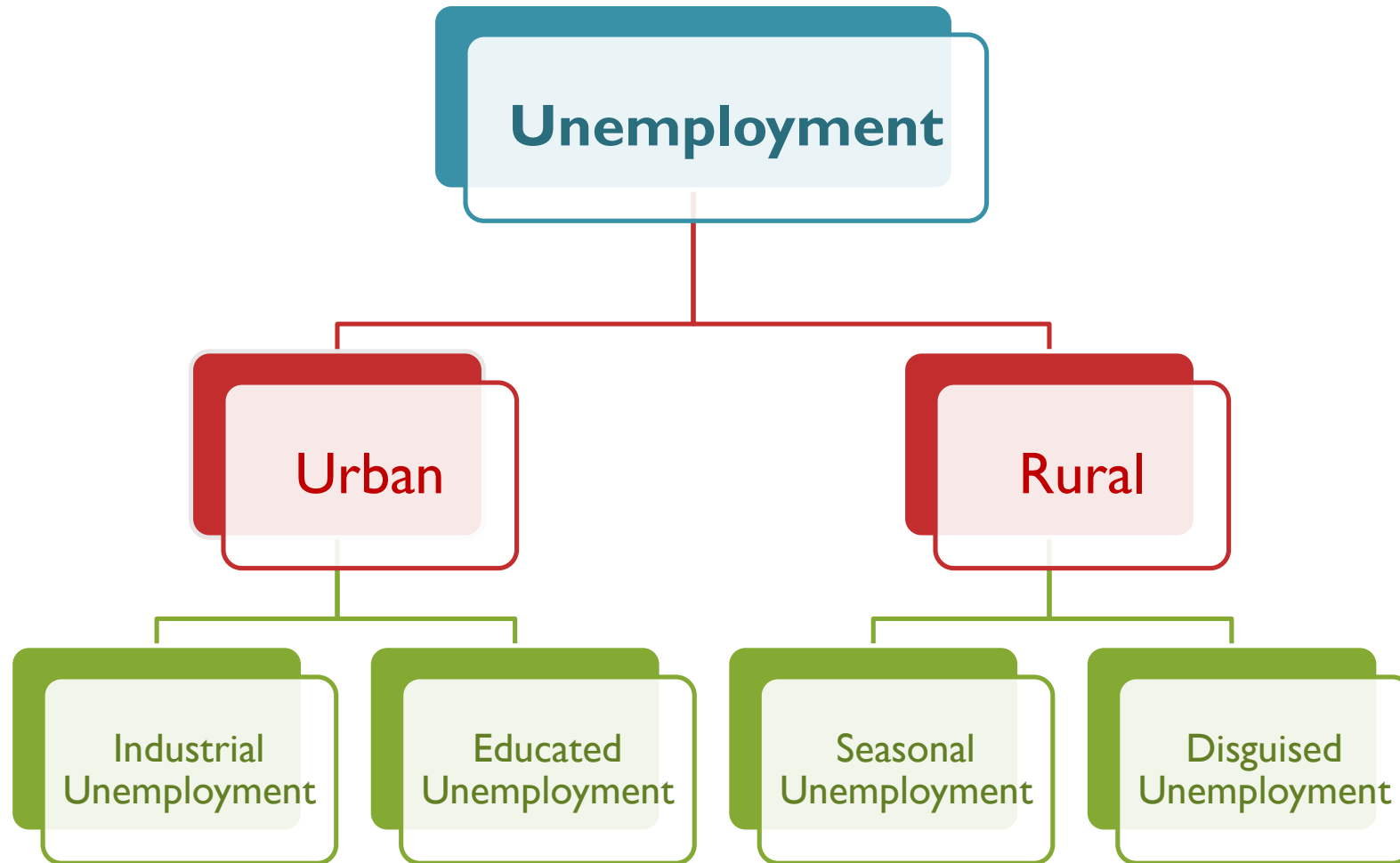
UNEMPLOYMENT: A Development Issue

A person who is not gainfully employed in any productive activity is called as unemployed and collectively the situation is called unemployment.

Forms of Unemployment



Nature of Unemployment in INDIA



Measuring Unemployment

- **Usual Status:** It estimates the number of persons who may be said to be chronically unemployed. This measure generally gives the lowest estimate of unemployment especially for a poor economy because only a few can afford to remain without work over a long period.
- **Current Weekly Status (CWS):** This estimate reduces the reference period i.e. the period for which data is collected to one week. According to this estimate a person is said to be employed for the week even if he is employed only for a day during that week.
- **Current Daily Status (CDS):** The reference period here is a day. It counts every half day's activity status of the respondent over the week.

Causes of Unemployment in India

- Poverty
- Excessive increase in population.
- Slow growth of Indian economy
- Backward agriculture
Lack of National Employment Policy
Defective educational system:
- Emphasis on Capital intensive techniques.

Policy Measures

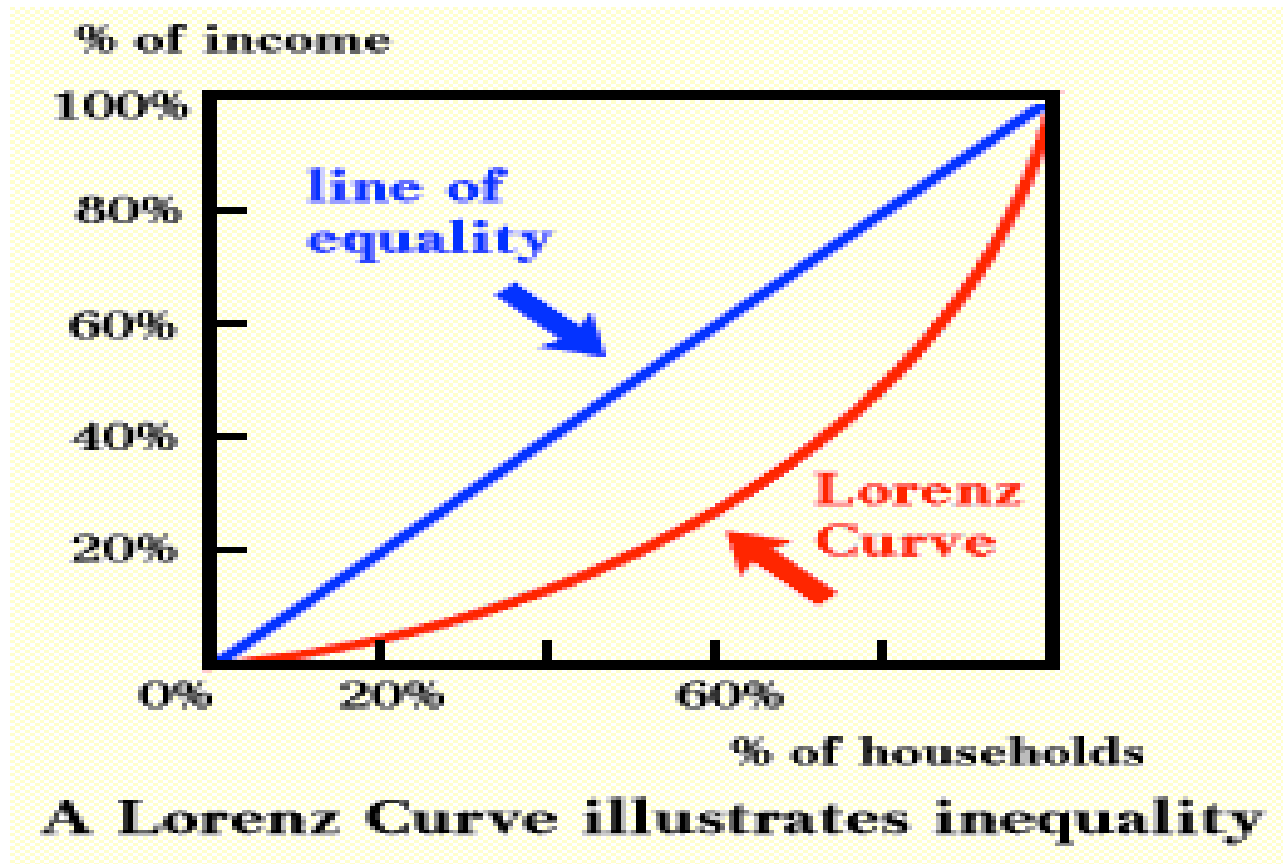
- Changing the pattern of production
- Adoption of labour intensive techniques
- Encouragement to small enterprises
- Full utilization of excess capacity
- Population control
- Restructuring the educational system
- Measures for rural unemployment

LECTURE 28

Economic Growth and Income Equality

- ❖ Economic growth is defined as “the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income”
- ❖ Income equality is the distribution of total income amongst the representative population. In a nation with **perfect income equality**, each and every individual has an equal share of the total income
- ❖ This is contrasted with **perfect income inequality**, where one individual has all of the total income. Of course, neither of these extreme situations exists in any national economy

- ❖ Income equality can be compared internally for a given nation, as well as externally between several nations.
- ❖ The variation in income distribution is represented diagrammatically by the *Lorenz curve*.



- ❖ Differences in national income equality are measured by the national Gini coefficient, also known *Gini Coefficient Ratio*. The *Gini coefficient* is a number between 0 and 1, where 0 corresponds with perfect equality and 1 corresponds with absolute inequality.
- ❖ Relative degree of inequality in a country can be obtained by calculating the ratio of the “area” between the diagonal and Lorenz curve compared with the total area of the half-square in which the curve lies
- ❖ The most immediate limitation of the Gini coefficient is that it does not sufficiently explain the overall variation in income distribution
- ❖ It is possible that two nations could have equal Gini coefficients, but vary significantly in the allocation of income between specific groups
- ❖ This usually occurs between nations where the income distribution varies between the poor and middle income groups

Causes of Economic Inequalities

1. The labour market
2. Taxes
3. Education
4. Economic neoliberal views
5. Views on globalization
6. Impact of gender
7. Development patterns
8. Diversity of preferences
9. Wealth concentration
10. Rent-seeking
11. Impact of finance sectors

Causes of Inequalities

1. **Poverty**
2. **Inadequate economic development**
3. **Economic concentration**
4. **Tax Evasion**
5. **Inequitable distribution of the means of production**
6. **Capital-intensive technology**
7. **Unemployment and Under-employment**
8. **Low Productivity**
9. **Population Growth**
10. **Inflation**

Measures for reducing inequalities

- 1. Land Reforms**
- 2. Employment Opportunities**
- 3. Wage Policy**
- 4. Price Policy**
- 5. Social Security**
- 6. Population control**
- 7. Labour-Intensive Techniques**
- 8. Fiscal Policy**
- 9. Reducing Concentration**
- 10. Backward Areas**