

## **Chapter 7 – The Geography of Economic Development**

### **What Economic Development Means?**

- Economic development is often discussed in terms of levels and rates of change in prosperity, as reflected in bottom-line statistical measures of productivity, incomes, purchasing power and consumption
- The term economic development refers to processes of change involving the nature and composition of the economy of a particular region
- Process can involve four types of changes:
  - Changes in the structure of the region's economy
  - Changes in forms of economic organization within the region
  - Changes in the availability and use of technology within the region
  - Changes in the region's environment
- Expected to bring with it some broader changes in the economic well-being of a region
- Important of these changes is the capacity of the region to improve the basic conditions of life and the physical framework, or infrastructure, on which the economy rests

### **The Unevenness of Economic Development**

- The single most important feature of economic development is that it is uneven.
- Unevenness takes the form of core-periphery contrasts within the evolving world system
- Global core-periphery contrasts are the result of a competitive economic system that is heavily influenced by cultural and political factors
- Referred to Developed Regions
- Other countries that make up the periphery and semiperiphery of the world system are referred to as developing or less developed
- The global periphery has developed another label which has been used to describe economically as the Third World
- **Global Core-Periphery Patterns**
  - **Gross Domestic Product** – an estimate of the total value of all materials, foodstuffs, goods and services produced by a country in a particular year
    - GDP is normally divided by total population to obtain per capita GDP
  - **Gross National Product** – similar to GDP, but also includes the value of income from abroad
    - Based on a nation's currency
  - **Gross National Income** – similar to GDP, but also includes the value of income from abroad and excludes the taxes and wages a country pays to outside interests
    - It uses a purchasing power parity conversion factor
    - International conversion dollars indicate the amount of goods and services one could buy in the US with a given amount of money
  - In effect, the PPP measured how much of a common “market basket” of goods and services each currency can purchase locally, including goods and services that are not traded internationally
  - Using PPP-based currency values in wealthy countries and higher GNP figures in poorer nations, compared with market based exchange rates provide lower figures in wealthy

countries in terms of PPP

- In almost of the core countries of North America, annual per capita GNI (in PPP) exceeds \$30000.
- The periphery has an annual per capita GNI ranging between \$1000 and \$7000
- The gap between the world's rich and poor is also getting wider rather than narrower
  - In 1970: average GNI per capita of 10 poorest countries was 1/15<sup>th</sup> of the average GNI capita of the 10 most prosperous countries
  - In 1990: Gap had doubled
  - 2005: The average of the bottom 10 was approaching one two-hundredth of the average of the top 10
- **Geography of Inequality**
  - Reflected and reinforced by many aspects of human well-being
  - For adults in the core countries, life expectancy is high and will continue to increase
    - Life expectancy at birth in North America in 2004 was 78 years
    - In Africa, it was 52 years
  - UNDP (United Nations Development Programme) created an overall index of human development based on measures of life expectancy, educational attainment and personal income
  - Index is calculated so that a country with the best scores among all countries in the world on all three indicators would have a perfect index score of 1.0
  - Many of the world's issues can be resolved if core countries reduced defence spending and used that spending on development of peripheral countries
  - Distance creates an economic space – through geography we notice that a spatial process creates spatial disparities
- **Development and Gender Equality**
  - UNDP has also created a gender-sensitive development index that adjusts the overall human development index for gender inequality in life expectancy, educational training and income
  - In no country are women better off than men
  - This is contrary to the expanding roles of women in society where they have begun to help develop and shape the global economy.
  - In many peripheral countries, women constitute the majority of workers in the manufacturing sector created by the new international division of labour
  - On average, women earn 30 to 40% less than their male counterparts at the cost of working longer hours
  - Larger firms producing for export tend to employ women in assembly-line jobs because they can be hired for lower wages than men
  - EU has seen a trend in part time job increases – 33% of women are found working part time
  - The Netherlands has seen 46% of the country's employees working part time with 75% of that 46% figure all women
  - Hungary, Czech Republic saw the lowest percentages of part time workers

- **Regional Patterns**
  - Inequality in economic development often has a regional dimension.
  - Initial conditions are a crucial determinant of regional economic performance
  - In some regions, initial disadvantages are so extreme as to constrain the opportunities of individuals born there
  - UNDP noted that “in many countries regional disparities are a major source of inequality”
  - Poverty rates are usually higher for those living in rural areas and the provision of public services are far lower

### **Resources and Technology**

- **Total Stock** – the entire amount of energy and matter on Earth, much of which is either inaccessible or unusable by humans
- Total stock is mainly inaccessible to us or in a form we cannot use
- **Resources** – that part of the total stock that is considered to be useful to humans in the same way
- **Reserves** – that part of a resource that is currently exploitable under prevailing technologies and economic demand
- Possible for a reserve to increase or decrease in size as technology or economic or cultural definitions change
- Non-renewable resources are finite in supply, but renewable (also called flow) resources are recurrent but variable over time
- Some geographers make a further distinction between those renewables that can be greatly affected by humans and those that are unaffected
- Deforestation is an exception since it can be destructive in the short run but can be restored over the long term
- Important location of key resources is key to economic development
- A lack of natural resources can be remedied through international trade
- The world's basic raw materials and sources of energy are concentrated in Canada, Russia, the US, South Africa and Australia
- Concentration of known resources in just a few countries is largely a result of geology but it is also partly a function of countries' political and economic development
- Our attitudes toward science and technology are a product of our own particular culture
- Modern Canadian society is founded by a series of economic principles that stress the importance of private ownership, profit maximization and competition
- Societies have their own perspective on how they use the land to satisfy their own needs and wants
- Significance of particular resources is often tied to particular technologies and the state of the environment
- **Technology Systems**
  - Innovations in power and energy, transportation and manufacturing processes have been important catalysts for changes in the pattern of economic development
  - They have allowed a succession of expansions of economic activity in time and space

- Many existing individual regions have grown bigger and more productive
- Industrial development has also spread to new regions, whose growth has become interdependent with the fortunes of others through a complex web of production and trade
- **Technology Systems** – Clusters of interrelated energy, transportation, and production technologies that dominate economic activity for several decades of time.
  - For example: If we look at the Industrial Revolution
    - 1790-1840: steam engines, water power
    - 1840-1890: exploitation of coal power, steel, railroads, shipping, machine tools
    - 1890-1950: internal combustion engine, oil and plastics, electrical and engineering, aircraft, telecommunications
    - 1950-1990: nuclear power, aerospace, electronics, petro-chemicals
    - 1990-present: solar energy, robotics, microelectronics, biotechnology, advanced materials
- Technology systems spread via the spread of knowledge by geographic spread or by hierarchic diffusion.

### The Economic Structure of Countries and Regions

- **Primary Activities** – economic activities that are concerned directly with natural resources of any kind
- **Secondary Activities** – economic activities that process, transform, fabricate, or assemble the raw materials derived from primary activities or that reassemble, refinish, or package manufactured goods.
- **Tertiary Activities** – economic activities involving the sale and exchange of goods and services
- **Quaternary activities** – economic activities that deal with the handling and processing of knowledge and information
- Much of the global economic sector is dominated by primary activities (primary sector)
  - In much of Africa and Asia, between 50% and 75% of the labour force is engaged in primary-sector activities
  - The world's core regions only use about 5-10% of the labour force for primary activities
- Secondary sector is much larger in the core countries and in semiperipheral countries, where the world's specialized manufacturing regions are located
- Tertiary and Quaternary sectors are significant only in the most affluent countries of the core

### Stages of Development and Geographical Divisions of Labour

- Geographical divisions of labour are national, regional and locally based economic specializations that have evolved with the growth of the world-system of trade and politics
- Countries whose economies are dominated by primary-sector activities tend to have a relatively low per capita GDP
- Oil rich countries such as Saudi Arabia, Qatar and Venezuela have higher per capita GDP
- The highest levels of per capita GDP are associated with economies that are post-industrial: economies where the tertiary and quaternary sectors have grown to dominate the workforce, with smaller but highly productive secondary sectors

- Over relationship between economic structure and levels of prosperity makes it possible to interpret economic development in terms of distinctive stages
- Each region or country might be thought of as progressing from the early stages of development, with a heavy reliance on primary activities through a phase of industrialization and on to a “mature” stage of postindustrial development
- W.W. Rostow's model of economic development shows that:
  - Traditional Society: transition triggered by external influence, interests or markets
  - Preconditions for takeoff: installation of physical infrastructure and emergence of social/political elite
  - Take off: Development of a manufacturing sector
  - Drive to Maturity: Further investments in manufacturing leads to development of wider industrial and commercial base
  - High Mass Consumption

### **Economic Development: War, Peace and Security**

- *Poverty is both an outcome and a cause of war or violence*
  - According to the UNDP, 7 of 10 lowest countries in terms of GDP per capita have undergone recent conflict.
  - Conflicts have been shown to reduce the economic growth rate of the affected country by 2.2% per year
- *Environmental damage can be both an outcome and a cause of war or violence*
  - Deforestation and declining soil yields can lead into civil conflicts
- *In certain cases, warfare can promote economic development*
  - Expenditure on arms, military bases and resources to wage war can have the side-effect of actually promoting economic growth in areas where those resources are manufactured or provided
  - Localized civil wars can result in an increased spending of 1.8 percent of a country's GDP
- *In times of war and peace, arms manufacture is used to promote economic development*
  - Armament factories and military bases have long been used as tools to promote local economic development
  - Many of the advanced technologies that have benefited society has had its first applications in military technology
- Nearly 40% of the world's conflicts are in Africa, including several of the bloodiest of the last decade and a half
- The aftereffects of civil wars in Africa has led to further numbers of deaths due to malnutrition, disease and prevailing violence

### **Economic Development and the Environment**

- Environment cannot be overlooked when discussing economic development
- Environmental issues profoundly influence social, cultural and economic change, they provide the most valuable overall framework for understanding such changes
- Compares the Traditional Economy with the New Economy

The Traditional Economy	The New Economy
Consumes renewable and non-renewable resources	Recycles, replaces and reduces its use of renewable and nonrenewable resources
Treates the environment as a “free good”	Prices the use of the environment (through environmental audits)
Uses the environment to absorb pollution	Costs the price of pollution (through emission credits)
Considers any environmental action as a cost	Considers environmental action part of the price of doing business- “green businesses” have developed as jobs in pollution control and land remediation proliferate.
Regards “place” as simply a location	Regards “place” as a locus of interconnections at the global, regional and local scales
Regards “space” only in economic terms	Regards “space as the arena in which those interconnections operate

### **Everything In its Place: Principles of Location**

#### **Principles of Commercial and Industrial Location**

- Locational decisions in commercial and industrial life are subject to a number of key factors
  - Relative importance of accessibility to whatever material inputs are involved
  - Relative importance of the availability of labour with particular skills
  - Relative importance of processing costs. Includes cost of land, buildings, machinery and hardware, software, maintenance, wages, salaries, utility bills and taxes
  - Relative pull of the market for the product or service, which depends on the importance of being near customers
  - Relative transfer costs that would be accrued at alternative locations. These involve the costs associated with transporting inputs from various sources and transporting outputs. Also involves the process involved with transporting outputs to markets.
  - Influence of cultural and institutional factors that channel certain activities away from some locations and toward others. An example is government policies.
  - The influence of behavioural considerations that stem from the objectives and constraints affecting individual decision makers
- Proximity to a specific consumer market is almost always important – almost always because some retailing occurs through mail order or telemarketing
- Behavioural factors are likely to involve the personal values and priorities of business owners
- Large corporate retailers will seek to maximize utility and minimize uncertainty through the extensive use of market research and geographic information systems
- Decisions on where to locate manufacturing activities depend on the attributes of the inputs
- Alfred Weber developed a model of industrial location where it uses a uniform surface and lines of equal transport cost are drawn from the point on the map where the lowest transport

point is

- Where the manufacturing process adds significant bulk or weight to a product, proximity to markets is more likely to be the overriding factor
- Many different inputs exist but each with different attributes and different degrees of availability across geographical space
- Weber's model has been criticized for not factoring in any government factors, labour costs or the cachet of a particular location or product
- His model of industrial location is largely ahistorical – influences of the past are ignored
- Impacts of previous eras of industrial development and their influence on the subsequent location of industry is to argue that locational decisions occur in a temporal vacuum.

### **Economic Interdependence: Agglomeration Effects**

- recognizing that in the real world, the various factors of commercial and industrial location all operate within complex webs of functional interdependence
- Webs are based on linkages and relationships that tend to follow certain principles
- Agglomeration is the clustering together of functionally related activities such as the cluster of high tech firms in the technology triangle of Guelph, Kitchener-Waterloo and Cambridge.
- **Agglomeration effects** – Cost advantages that accrue to individual firm because of their location among functionally related activities
- Advantages are sometimes known as external economies
- **External Economies** – cost savings that result from circumstances beyond a firm's own organization and methods of production
- In relation to any given industry or firm, backward linkages are those that develop with suppliers
- Backward linkages can be seen as connections to suppliers, which assist the company in producing a particular product
- Forward linkages can be seen as exports to the market, where they will use that particular product to produce their own product
- **Ancillary activities:** Such activities as maintenance, repair, security, and haulage services that serve a variety of industries
- **Localization Economies:** Cost savings that accrue to particular industries as a result of clustering together at a specific location
- External economies of scale are firms collectively supporting ancillary activities that can operate efficiently only in setting where there are enough different customers to ensure a continuous demand
- Accessibility to these ancillary services helps make all firms more efficient
- External economies of scale can also be found through the atmosphere that results from the clustering of functionally related activities
- Frequent, easy contact among producers also helps minimize uncertainty
- Another source for economies of scale is the fixed social capital that is generated by clusters of activity
- **Fixed social capital (Infrastructure)** – the underlying framework of services and amenities needed to facilitate productive activity

- Comes from a mixture of public and private investment, and it includes roads, highways, railroads, schools, hospitals, shopping centres, and recreational and cultural amenities
- Agglomeration allows the costs of providing this infrastructure to be shared and more extensive and sophisticated infrastructures to be supported
- **Urbanization Economies** – external economies that accrue to producers because of the package of infrastructure, ancillary activities, labour, and markets typically associated with urban settings

### Pathways to Development

- Patterns of economic development are the product of principles of location and economic interdependence, but they are also historical in origin and cumulative in nature
- Economic geographies that were shaped by certain principles of spatial organization during one particular period were inevitably modified as the same principles work their way through new technologies and new actors
- **Geographical Path Dependence** – The historical relationship between the present activities associated with a place and the past experiences of that place
- Dynamic relationship exists between past and present geographies
- **Initial Advantage** – The critical importance of an early start in economic development; a special case of external economies
- Other things being equal, new phases of economic development will take hold first in settings that offer external economies: existing labour markets, existing consumer markets, existing frameworks of fixed social capital and so on.
- For places and regions with a substantial initial advantage, the trajectory of geographical path dependence tends to be one of persistent growth
- Geographers recognize there is no single pathway to development

### How Regional Economic Cores Are Created

- Regional cores of economic development are created cumulatively, following some initial advantage, through the operation of several of the basic principles of economic geography
- Agglomeration effects can be triggered by any kind of economic development
- Backward linkages are the growth of local firms and plants that supply goods needed for production into the industry
- Forward linkages are the growth of firms that use the products being produced by the industry
- Growth in these linked industries helps to create a threshold of activity large enough to attract ancillary industries and activities
- Interrelated activities establishes a pool of specialized labour with the kinds of skills and experience that make the area attractive to still more firms
- Linkages among all these firms help to promote interaction between professional and technical personnel
- Local economic growth can also lead to an increase in population represented by the families of employees
- Their presence creates a demand for housing, utilities, physical infrastructure, retailing, personal services which help create additional jobs



- Expansion helps create populations large enough to attract an even wider variety and more sophisticated kinds of services and amenities
- Local employment growth can create a larger tax base
- **Cumulative causation** – a spiral buildup of advantages that occurs in specific geographical settings as a result of the development of external economies, agglomeration effects and localization economies
  - Term coined by Swedish economist Gunnar Myrdal
- Spiral of local growth would tend to attract people and investment funds from other areas
- Flows tend to be strongest from nearby regions with the lowest wages, fewest job opportunities, or least attractive investment opportunities
- In some regions or places, this outflow of people and resources is sufficient to trigger a cumulative negative spiral of economic disadvantage.
- Less capital, less innovative energy, and depleted pools of labour, industrial growth in peripheral regions tends to be significantly slower and less innovative than in regions with an initial advantage
- **Backwash effects** – the negative impacts on a region (or regions) of the economic growth of some other region
- Negative impacts can be seen from out-migration, as it forces outflows of investment capital and the shrinkage of local tax bases

#### **How Core-Periphery Patterns are Modified**

- **Spread Effects** – The positive impacts on a region (or regions) of the economic growth of some other region
- Growth creates levels of demand for food, consumer products, and other manufactured goods that are so high that local producers cannot satisfy them
- Demand gives investors in peripheral regions the opportunity to establish a local capacity to meet the demand
- Entrepreneurs who attempt this are also able to exploit the advantages of cheaper land and labour in peripheral regions
- Spread effects can enable peripheral regions to develop their own spiral of cumulative causation, changing the interregional geography of economic patterns and flows
- Peripheral regions or countries can develop their own spiral of cumulative causation through a process of import substitution
- Goods and services previously imported from core regions are replaced by locally made goods and locally provided services
- Many products and services can be copied by local entrepreneurs, thus capturing local capital, increasing local employment opportunities, intensifying the use of local resources and generating profits for further local investment
- **Agglomeration diseconomies** – The negative economic effects of urbanization and the local concentration of industry
- Effects include higher prices that must be paid by firms to compete for land and labour, costs of delays resulting from traffic congestion, increasing unit costs of solid waste disposal, etc

- **Deindustrialization and Creative Destruction**
  - Fundamental cause of change in the relationship between initial advantage and cumulative causation is to be found in the longer-term shifts in technology systems
  - Innovations associated with successive technology systems and in the competition among states within the world-system
  - Innovation associated with successive technology systems generate new industries that are not yet tied down by enormous investments in factories
  - **Deindustrialization** – a relative decline in industrial employment in core regions
    - As regions lose their ability to provide those resources or products that populated the region, they begin seeing a loss of jobs and work
  - Capital made available from disinvestment in these core regions becomes available for investment by entrepreneurs in new ventures based on innovative products and innovative production technologies
  - **Creative Destruction** – The withdrawal of investments from activities (and regions) that yield low rates of profit to reinvest in new activities (and new places)
  - Antiquated industrial processes have often led to years of toxic accumulations in factory sites, and part of the challenge of creative destruction is generating ways to remediate such properties so that the redevelopment of this valuable real estate proceeds
  - **Brownfield site** – abandoned, idle, or underused industrial and commercial land on which redevelopment is hindered by the effects of contamination
  - Many brownfield sites are located in urban locations which already has a basic infrastructure – their redevelopment offers the possibility of renewed investment in housing and a substantial amount of inner city and older suburban lands being made available for parks
- **Government Intervention**
  - Special government agencies have been established to promote regional economic development and reduce core-periphery contrasts
  - Some governments have sought to help industries in declining regions by investing in infrastructure and providing subsidies for private investment
  - Others have sought to devise tax breaks that reduce the cost of labour in peripheral regions
  - **Growth Poles** – Economic activities that are deliberately organized around one or more high-growth industries
  - Not all industries are equal to the extent to which they stimulate economic growth and cumulative causation
  - Ones that generated the most pronounced effects are known as propulsive industries
    - Examples: 1920s saw the development of shipbuilding, 1950s saw the development and mass production of automobiles, today sees the growth of biotechnology