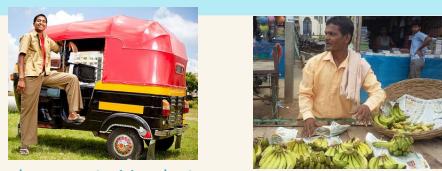


Growth and Decline of Sectors

Positive and negative impacts of economic sector shifts



Positive Impact	Description	UK Examples	China Examples
Productivity	Increased productivity and economic output, particularly in technology, finance, and services.	Expansion of the tech sector, growth in digital services.	Rapid growth in manufacturing output and technological advancement in sectors like electronics.
Employment Standards	Jobs in the tertiary and quaternary sectors often offer better working conditions, higher wages, and more career opportunities.	Increase in IT and professional service jobs offering flexible working conditions.	Expansion of urban service jobs providing better employment terms than rural factory work.
Environmental	Reduction in heavy industry has led to decreased pollution and improved air quality.	Decline in coal-based energy production, increase in renewable energy projects.	Significant efforts in increasing solar and wind power capacities, though industrial pollution remains a challenge.

Negative Impact	Description	UK Examples	China Examples
Industrial Changes	Deindustrialization has led to job losses in traditional industrial areas, contributing to regional economic disparities.	Job losses in manufacturing sectors like steel and auto industries.	Movement from rural agricultural jobs to urban manufacturing, creating urban-rural income disparities.
Skills and Labor Market	Growing skills gap between the labor force's current capabilities and the demands of new, technologically advanced sectors.	Need for re-skilling in automation and AI technologies.	Large-scale initiatives in automation reform to boost tech skills among the workforce.
Economic Stability	Increased dependence on service sectors can make the economy vulnerable to global economic fluctuations.	Reliance on financial services sector, susceptible to global financial changes.	Heavy dependence on export-led growth, sensitive to global trade dynamics.

Example: Informal Employment in Mumbai

- Mumbai's status as a financial and commercial hub has led to a wide range of informal employment opportunities, particularly in areas like construction, street vending, and home-based industries.
- A significant influx of migrants from rural India to Mumbai continues to occur. These migrants often face restrictions due to lack of formal housing and identification, pushing them into the informal sector.
- In Mumbai, the informal sector provides crucial flexibility, allowing migrants to take on multiple jobs or adjust work hours to maximise income.
- Workers in the informal sector face severe challenges such as unstable employment conditions, lack of health and safety measures, and vulnerability to economic shifts, which are exacerbated by Mumbai's high cost of living and dense population.

Informal Employment: Employment that is not formally recorded by the government

How can the right balance be achieved?

- Controlling population growth, such as family planning
- Using resources more efficiently and cutting out waste
- Using technology to discover and exploit new resources
- Ensuring that development is less based on natural resources

Causes of Informal Employment:

- Economic Development:** Rapid economic growth creates a labor demand that exceeds the capacity of the formal sector, leading many to enter informal employment.
- Rural-Urban Migration:** Migrants often struggle to access formal employment due to lacking qualifications or connections, turning instead to the informal sector.

Characteristics of Informal Employment:

Advantages:

- Flexibility:** Offers flexible hours, accommodating multiple jobs or family responsibilities.
- Income Opportunities:** Provides income for those unable to secure formal employment.
- Entrepreneurial Freedom:** Enables starting businesses with lower costs and fewer regulations.

Disadvantages:

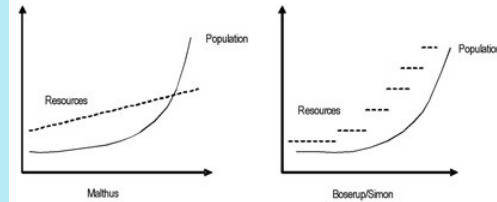
- Lack of Security:** Informal jobs often lack stability, benefits, and safe conditions.
- Lower Wages:** Typically pays less than formal employment, with unpredictable earnings.
- Limited Legal and Social Protection:** Offers little legal recourse and can negatively impact social status and well-being.

Thomas Malthus' Theory:

- Population growth will inevitably outpace food production, leading to shortages and crises unless checked by factors like famine, disease, or war.

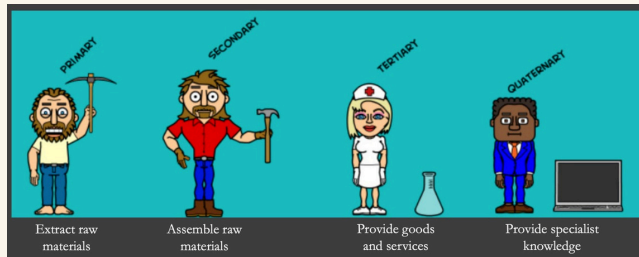
Ester Boserup's Theory:

- Agricultural innovation is driven by population pressure; as populations grow, societies innovate in farming to feed their larger numbers.



Employment Sectors:

- Primary Sector:** Involves the extraction and harvesting of natural resources. Jobs include agriculture, mining, forestry, and fishing.
- Secondary Sector:** Focuses on manufacturing and processing activities. Workers in this sector turn raw materials into finished goods and products. Examples include construction, manufacturing, and processing industries.
- Tertiary Sector:** Involves the provision of services rather than goods. This sector includes roles in retail, entertainment, financial services, hospitality, and healthcare.
- Quaternary Sector:** A subset of the tertiary sector that involves knowledge-based activities involving services such as information technology, financial planning, education, and research and development.



Reasons for Changes in Employment Numbers in Economic Sectors

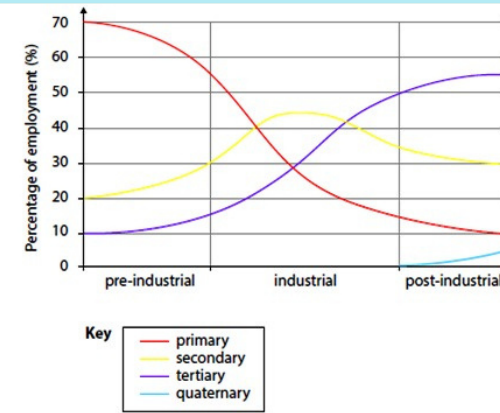
- Raw Materials:** Fluctuations in availability can either increase the need for labor in mining and agriculture or reduce it, depending on whether alternatives or imports replace domestic production.
- Globalization:** Has generally led to a shift of manufacturing jobs from developed to developing countries, while service and knowledge-based jobs are becoming more global.
- Mechanization and Automation:** While these reduce the number of traditional jobs like manufacturing and primary industries, they also create jobs in tech sectors.
- Demographic Changes:** Including aging populations, urbanization, and educational attainment, reshape job markets by shifting where and in what sectors jobs are needed.
- Government Policies:** Play a critical role in supporting or hindering job growth through subsidies, tariffs, regulatory environments, and direct investments in sectors.

Economic Sectors

Reasons for Differences in Employment Structures in Countries at Different Levels of Development

The structure of employment in a country often reflects its level of economic development. Here are key reasons why employment structures differ between more developed countries (MDCs) and less developed countries (LDCs):

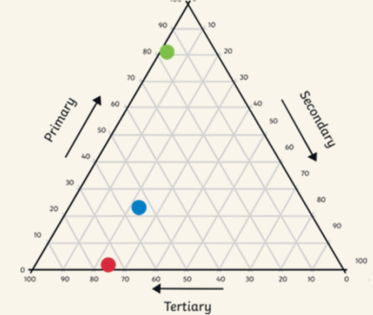
- Economic Development Stage:** Countries in earlier stages of development typically have a higher proportion of their workforce in the primary sector, focusing on agriculture and resource extraction. As countries develop, they transition through stages where manufacturing (secondary sector) and then services (tertiary and quaternary sectors) become dominant.
- Industrialisation:** More developed countries have usually undergone significant industrialisation, leading to a decline in the proportion of agricultural jobs and a rise in manufacturing and service industries. In contrast, less developed countries may still be transitioning from agriculture to manufacturing.
- Technological Advancement:** Advanced technology in MDCs leads to automation and productivity improvements, particularly in manufacturing and agriculture. This reduces the need for labor in these sectors and shifts employment towards service and knowledge-based jobs in the tertiary and quaternary sectors.
- Education and Skills:** Higher levels of education and specialized skills in MDCs support employment in the tertiary and quaternary sectors, which often require more education and technical skills than jobs in the primary and secondary sectors.
- Economic Policies and Investments:** Government policies and investments also play a role in shaping employment structure. MDCs often invest more in technology, infrastructure, and education, promoting growth in sectors like information technology and finance. LDCs may have limited resources to invest in such areas, impacting the development of these sectors.
- Globalisation:** Global trade and international business influence employment structures. MDCs often outsource manufacturing to LDCs due to lower labor costs, while focusing domestically on service and high-tech industries.



Clark Fisher Model

The Clark-Fisher model is a theoretical framework used to describe the transition of employment sectors within an economy over time as it develops and modernizes.

This model outlines how the emphasis of employment shifts from the primary sector, through the secondary sector, to the tertiary and eventually to the quaternary sector.



Data can be plotted on a triangle graph.

Factors Affecting the Location of Economic Activity in Each Economic Sector
The location of economic activities within different sectors is influenced by a variety of factors. These factors can change over time as economies evolve and technologies develop.

Economic Sector	Factors Affecting Location	How Factors Can Change Over Time
Primary Sector	- Natural Resources - Climate and Soil - Topography	- Technological advancements in extraction can lessen dependency on location. - Climate change may alter the suitability of land for agriculture. - Improved machinery can make difficult terrains more accessible.
Secondary Sector	- Access to Raw Materials - Infrastructure - Labour Supply - Energy Supply	- Globalization can shift sourcing to international suppliers. - Developments in transport infrastructure can open up new locations. - Automation may reduce the need for local labour. - Shifts to renewable energy sources may influence factory locations.
Tertiary Sector	- Market Access - Technological Infrastructure - Educational Facilities	- Digital markets reduce the need for physical proximity to consumers. - Advances in technology enhance remote service capabilities. - Online learning platforms can spread educational resource access.
Quaternary Sector	- Innovation Ecosystems - Capital Availability - Highly Skilled Workforce	- Remote collaboration tools can decrease the need for physical proximity. - Global financial integration can make capital more accessible. - Global education opportunities can broaden the talent pool.

Energy Gap

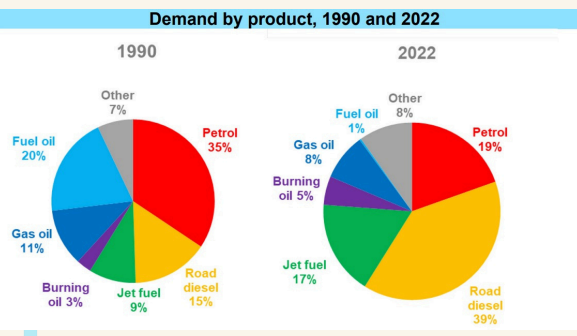
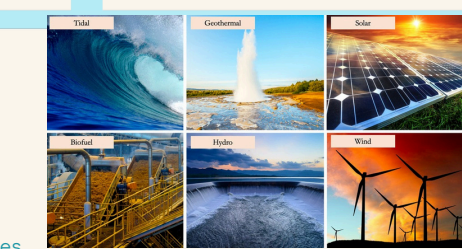
Why Does Energy Demand Vary?

- Population Growth:** Regions with rapidly growing populations tend to have increasing energy demands to support more residential energy use, transportation, industry, and infrastructure development. Increased wealth: As nations develop and their wealth increases, their energy consumption typically rises. Wealthier populations tend to consume more energy through higher usage of electronic devices, more frequent travel, and greater overall consumption of goods and services that require energy in production and delivery.
- Technological Advances:** Technological improvements can both increase and decrease energy demand. While new technologies often require more energy input, advancements in energy efficiency and renewable energy technologies can significantly reduce the energy needed for the same level of output.

Factors affecting global energy supply
Cost to exploit energy. E.g. oil requires a huge investment to pay for pipelines and rigs
Geology of the area and availability of fossil fuels. Coal is formed millions of years ago
Political factors such as instability of government, conflict and subsidies
Technological advancements. E.g. we can now exploit North Sea oil and gas. Fracking is now also possible
Economic activity. E.g. for the production of geothermal energy. Average energy bills in Iceland are £100 per year.
Climate. Without the right climate solar power will be impossible. The correct conditions are also needed for tidal energy and HEP

Advantages and Disadvantages of Energy Sources

Energy Type	Description	Advantages	Disadvantages
Coal	A combustible black or brownish-black sedimentary rock commonly burned for energy.	Abundant and cheap, reliable energy source	Major source of CO2 emissions, air pollution, landscape disruption
Oil	A liquid fossil fuel used primarily for transportation fuels and heating.	High energy density, easy to transport and use	Pollution and oil spills, CO2 emissions, non-renewable
Natural Gas	A fossil fuel used for heating, cooking, and electricity generation, consisting mainly of methane.	Cleaner than coal and oil, abundant	Methane leaks contribute to greenhouse effect, non-renewable
Uranium	A heavy metal used in nuclear reactors to produce electricity through nuclear fission.	High energy output, low greenhouse gas emissions	Radioactive waste, high initial costs, public opposition
Shale Gas/Oil	Hydrocarbons trapped within shale formations, extracted through hydraulic fracturing (fracking).	Abundant in some regions, reduces dependence on oil imports	Environmental concerns over fracking, water contamination risks
Solar	Energy harnessed from sunlight using photovoltaic cells or solar thermal systems.	Renewable, low operating costs, environmentally friendly	Intermittent, requires large areas for large scale, high initial costs
Wind	Energy generated by converting wind flow through turbines into electricity.	Renewable, minimal operating costs, can be built on existing farms	Intermittent, visual and noise impact, impact on wildlife
Hydroelectric Power (HEP)	Power generated by moving water through turbines, typically in large dams.	Renewable, consistent energy supply, can provide flood control	Environmental impact on ecosystems, high initial costs, location specific
Geothermal	Energy from the heat stored beneath the Earth's surface.	Renewable, stable, low emissions	Geographically limited, high initial costs, sustainability if overused
Biomass	Organic materials used as fuel, especially in a power plant for the generation of electricity.	Renewable, can reduce waste, carbon neutral option	Requires large land areas, can compete with food production, emission of particulates



Case Studies: Energy Resource Management

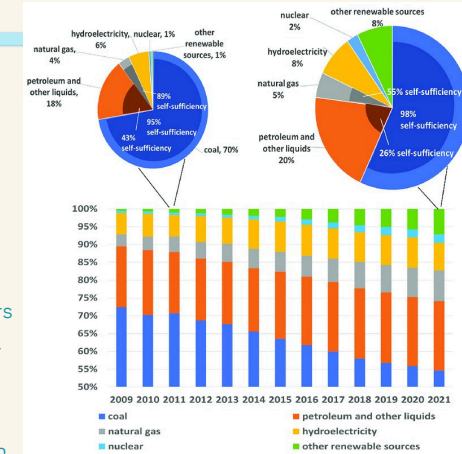
UK

Energy Mix: Has made significant shifts in its energy mix, moving away from coal and towards renewable energy sources such as wind, solar, and nuclear energy.
Government Policies: The government has implemented various policies to encourage the transition to renewable energy. These include subsidies for renewable energy projects, carbon pricing mechanisms, and stringent regulations on greenhouse gas emissions.
Investment in Renewables: Global leader in offshore wind energy, with substantial

investments aimed at increasing the capacity of offshore wind farms. This is part of a broader strategy to decrease dependency on fossil fuels and increase energy security.
Energy Efficiency Measures: Strong focus on improving energy efficiency across various sectors including residential, commercial, and industrial. Initiatives include funding for energy-efficient home improvements and stricter building regulations to ensure better energy use.
Challenges and Future Plans: Aims to achieve net-zero carbon emissions by 2050. This ambitious goal requires ongoing adjustments in energy policy, infrastructure upgrades, and increased public and private sector collaboration.

China

Energy Mix: The world's largest producer and consumer of coal, but it is also rapidly expanding its renewable energy sector, particularly in solar and wind energy.
Government Policies: The government has launched several initiatives to promote green energy, such as the Renewable Energy Law, which mandates grid companies to purchase all the electricity produced by renewable sources.
Investment in Renewables: China leads the world in terms of installed capacity of solar and wind power. It is investing heavily in new renewable energy projects as part of its commitment to increase the share of non-fossil fuels in its energy mix.
Energy Efficiency Measures: Efforts are also being made to improve energy efficiency, particularly in industrial processes, which are a major part of China's economy. The government has set strict targets for reducing energy consumption per unit of GDP.
Challenges and Future Plans: China's enormous energy needs and its ongoing reliance on coal present significant challenges. The country has set a target to peak carbon emissions before 2030 and achieve carbon neutrality by 2060, requiring extensive policy shifts and investments in clean technology.



Data source: Energy Institute - Statistical Review of World Energy (2023); Smil (2017)
Note: In the absence of more recent data, traditional biomass is assumed constant since 2015.
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Economic Activity and Energy

