

H2 Geography	Cluster 1: Lecture 2	TMJC
9173	Transnational Corporations	2025

(A) WHAT IS A TRANSNATIONAL CORPORATION (TNC)?

A transnational corporation (TNC) is a firm that has the power to coordinate and control cross-border operations in more than one country, even if it does not own them.

(B) WHAT ARE THE CHARACTERISTICS OF TNCs?

Although TNCs are highly differentiated in size, geographical extent and the way it operates, there are characterised by some basic characteristics:

A TNC has the **ability to coordinate and control** various processes and transactions within transnational production networks, both within and between different countries.

A TNC has the **potential ability to take advantage of geographical differences** in the distribution of factors of production (for example, natural resources, capital, labour) and in state policies (for example, taxes, trade barriers, subsidies, etc.).

A TNC is **footloose** – It has potential geographical flexibility meaning it has an ability to switch and to re-switch its resources and operations between locations at an international or even a global scale. This ability

- a. Depends on the nature of the TNC, and
- b. Changes over time.

Because of these characteristics, TNCs have profound impacts on the changing geography of the global economy through its decision to invest, or not to invest, in particular geographical locations.

(C) WHY DO TNCs ENGAGE IN TRANSNATIONAL OPERATIONS?

Although each firm may have its own reasons for wanting to engage in transnational operations, in general we can classify them into two broad categories: market factors and asset factors.

(i) Market Factors

Firms invest in overseas markets (e.g. production, marketing, sales) due to several reasons such as the (i) size, (ii) demand and (iii) accessibility of the market. A market with a large size of population having a high income level would be more attractive to a firm as they have potentially more customers. In addition, firms would also invest in markets where there is a demand for its goods. Finally, firms invest in overseas markets to improve their accessibility to the market such as minimizing the cost of transportation and overcoming trade barriers.

For example, to tap on the increasing automobile market in India, Suzuki, a Japanese automobile TNC invests in India through a joint venture with Maruti Udyog, an automobile manufacturer in India, to form Maruti Suzuki.

(ii) Asset Factors (Exploiting Comparative Advantage)

Firms also invest in overseas markets to be located near their sources of supply. These asset factors can be:

(a) Access to Natural Resources

This could be seen most clearly in natural resource industries, where firms are located near the source of

natural/ raw resources. This often occurs in the initial elements of the organisational sequence of a TNC. Often the later stages (e.g. processing of raw material) are located near other assets (e.g knowledge or labour) or markets.

An example to illustrate this would be in Shell's operation. Extraction of oil is done predominantly in Nigeria where there is abundant oil supply. However, oil refining is done in countries such as Singapore where there is available labour and knowledge on oil refinery, as well as, large markets in close proximity to Singapore.

However it is important to note that technological changes in production processes and in transportation have evened out the significance for a firm to locate nearby natural resources.

(b) Access to Knowledge

Due to agglomeration of knowledge and technological innovation processes in geographical clusters, the ability to gain traded and untraded interdependencies in these geographical clusters give incentive for firms to location their operations in such locations.

Agglomeration refers to the clustering of economic activities in an area.

Traded interdependency refers to direct and tangible transactions between firms (especially in intermediate products) Spatial proximity reduces transaction costs.

Untraded interdependency refers to less tangible benefits arising from face-face contact, social and cultural interaction, enhancement of knowledge and innovation and tacit knowledge.

(c) Access to Labour

In the case of labour, factors that firms would consider would include the knowledge and skills, wage costs, productivity of labour, labour 'controllability' and labour mobility.

(D) HOW ARE TNCs ORGANISED?

As discussed above, TNCs are geographically located according to market and asset factors. This is in part based on the *structural organisation* of TNCs. Different functions within the TNC have different locational needs hence resulting in is distinct *spatial organisation* in the world. The *structural organisation(or spatial hierarchy)* of a TNC is generally organised into three major functions:Coordinate and control: by headquarters of a TNC

1. Research and development (R&D): by R&D centres of a TNC
2. Production: by branch plants/ production units of a TNC

(E) HEADQUARTERS (HQs)

A TNC can have 2 types of headquarters: corporate headquarters and regional headquarters.

(i) Characteristics and Functions of Corporate and Regional HQs

(a) Corporate HQ

The **corporate headquarters** is the centre of overall control of the entire TNC and is responsible for all major strategic business decisions.

One key role of the corporate HQ is *financial*. It decides on the allocation of the corporate budget between the different divisions within the TNC. Another key role of the corporate HQ is to *handle, process and transmit information* between different divisions within the TNC, and with outside organizations such as government

departments and other business services on which the TNC has dealings with such as finance, legal and advertising.

(b) Regional HQ

The **regional headquarters** of a TNC is an intermediate level in the corporate organizational structure, whereby its influence is geographically limited to a particular region.

The key role of the **regional HQ** is to **coordinate and control the activities of the TNC's affiliates within a region** such as its manufacturing units and sales offices. Another key role of the regional HQ is that it acts as an **intermediary between the corporate HQs and its affiliates within its particular region**. Finally, the regional HQs also **gather information about the particular region for the TNC**.

(ii) Spatial Organisation of Corporate and Regional HQs

The characteristics and functions of corporate and regional HQs define their particular locational requirement.

1. **Connectivity of the Location:** Both corporate and regional headquarters need to be located in places where there is a **well-developed global transportation and communication network** in order to keep close contact with other parts of the TNC in different parts of the world.
2. **Accessibility to External Services and Skilled Labour:** Both corporate and regional headquarters need to be in places where they have **access to high-quality external services** (e.g. banks, government agencies) and **skilled labour** (particularly people skilled in information processing and strategic management).
3. **Proximity to Head Offices of Other Organisations:** The activities conducted by the corporate headquarters often involve interaction with the head offices of other organisations. To facilitate face-to-face contact to top executives in other high-level organisations, the corporate headquarters of a TNC tends to also be **located where the headquarters of other organisations are**. This results in an agglomeration of headquarters within a close geographical proximity.

Most corporate headquarters of TNCs are concentrated in their **home country** (Macro-scale).

In addition, corporate and regional headquarters of TNCs are concentrated in **global cities** (micro-scale) because of their connectivity, accessibility to external services and agglomeration. A large proportion of both corporate and regional headquarters of TNCs are concentrated in a small number of cities, mostly in the New York, London, Tokyo and Paris. Hence, global cities have become control-and-command centres of the global economy because they co-ordinate economic operations beyond their domestic boundaries.

Beyond the global cities, there is another tier of key headquarters cities in the **global triad**. The global triad consists of the three major economic regions of the world: Western Europe (e.g. Amsterdam, Brussels, Dusseldorf, Frankfurt), North America (e.g. Atlanta, Chicago, Houston, Los Angeles, Montreal, San Francisco, Toronto), and East Asia (e.g. Beijing, Hong Kong, Osaka, Seoul, Singapore, Taipei).

For example, Toyota a Japanese automobile TNC has its corporate HQ in Japan and its regional HQs are found in Belgium, USA, Singapore, Thailand and China.

(F) RESEARCH AND DEVELOPMENT (R&D) CENTRES

Research and development (R & D) centres are facilities by which scientific research and technical development is undertaken to improve the product, or to innovate new products and production processes.

(i) Characteristics and Functions of R&D Centres

(a) International interdependent R&D laboratory

It mainly does research in general for the TNC and is not geared towards serving any market in general. It operates on an international scale and is used by the TNC to keep up-to-date regarding research developments around the world. For example, the international interdependent R&D laboratory for Apple is found in Apple Campus in California, USA.

(b) Locally Integrated R&D Laboratory

It carries out product innovation and development for the market in which it is located. It is set up when there is an opportunity to develop new products based on the demands of the particular market in which it is located. For example, Ericsson, a Swedish telecommunications TNC, established locally integrated R&D laboratories in China helping to cater the GSM and CDMA systems for the Chinese market.

(c) Support Laboratory

Its primary purpose is to adapt the TNC's technology to the local market and at the same time provide technical support to the local market. It is the most common form of overseas R & D facility. It is required due to the need to cater to specific market conditions around the world.

An example would be the presence of support laboratory of PSA Peugeot Citroen, a French automobile TNC in China where it adapted cars such as Citroen ZX with tightened suspension to cater to the poorer road conditions.

(ii) Spatial Organisation of R&D Centres

Each type of R & D centre requires particular factors to be available nearby:

1. *An international interdependent R & D laboratory* would require access to universities, research institutes, trade associations, etc. in order to effectively carry out its worldwide research operations.
2. *A locally integrated R & D laboratory* would require access to a large supply of highly qualified scientists, engineers and technicians in order to carry out product innovation and development for its particular market.
3. *A support laboratory* would require access to the relevant production and marketing units in order for it to fulfill its function.

There is growing *internationalisation* of R&D centres whereby R & D centres are globally dispersed to adapt product to local markets. Asia is playing an increasingly important role as a location for R & D centres, especially in product development due to the large supply of scientists and engineers particularly in China and India, as well as, the low cost of conducting research in these countries.

On a global scale, R&D centres, like HQs, are found largely in the global triad as TNCs tend to keep high level R & D and core technologies in their home countries.

On a local scale, there is an agglomeration of R&D centres. These places tend to be in urban areas, which offer a high quality of living such as having a lot of facilities, good climate, high potential for leisure activities as well as a stimulating intellectual environment. These locations may also coincide with that of corporate and regional headquarters. Such geographical clustering occur locally due to economies of scale and the need to be close to highly-skilled labour and research institutions so as to reap benefits of traded and untraded interdependencies.

(G) BRANCH PLANTS / PRODUCTION UNITS

Branch plants or **production units** are where raw materials are converted into finished goods. They have become increasingly globally dispersed to tap on the comparative advantages of different locations.

(i) Spatial Organisation of Branch Plants/ Production Units

Unlike HQs and R&D centres which have identifiable geographical patterns (e.g mainly in global triad, global cities), branch plants do not have an easily identifiable geographical patterns as the locational requirements vary considerably according to the specific organizational and technological role the branch plant plays in each TNC. Some factors affecting the spatial organisation of branch plants include:

1. **Specific Factor Requirements:** Labour intensive branch plants tend to be located in areas where there are *cheap labour* and *low taxes*, usually in rural areas of DCs, as well as in LDCs and NIEs. In LDCs and NIEs, many of these branch plants are found in *Export Processing Zones* (EPZ), which are industrial areas that enjoy tax free status on the condition that products are destined for export and not to be sold in the domestic market. Branch plants that are capital intensive or skill intensive will be located where funds are cheap or where skilled labour is available – usually in DCs.
2. **Tariff and Non-tariff trade Barriers:** Tariff barriers raise the cost of imports into a region/country. By locating branch plants within the region/country, a TNC can lower its cost of production by circumventing the tariff. An example of this is the location of automobile manufacturing plants by Nissan, Toyota and Honda in the UK to circumvent the EU tariff.

The location of branch plants may also be affected by non-tariff barriers such as quotas and voluntary export restraints, which limit the flows of goods from one country/region to another. An example of this is the Multi Fibre Agreement in textiles, which limits the import of textiles to the US. TNCs frequently get round these restraints by locating branch plants within the country such that the goods are classified as domestic rather than foreign.

3. **TNC's Globalisation Strategy:** TNCs may adopt different strategies of globalizing. In addition to foreign direct investment in subsidiaries, TNCs may also engage in *strategic alliances*, *joint ventures* as well as *outsourcing*. Other things being equal, TNCs prefer to engage in cross border investment and locate in neighbouring countries, where languages and cultures are more familiar.

(H) WHAT IS THE COMMAND AND CONTROL RELATIONSHIP BETWEEN A TNC AND THE HOST COUNTRY?

TNCs and host country (e.g. state) attempts to gain maximum benefit from their partnership. The cooperative and competitive relationship between TNC and the host country is described as a **command and control relationship**. The negotiated outcome of this relationship depends on the bargaining process. (Table 1)

Purpose of TNC	Purpose of host country
Maximize profits by taking advantage of geographical differences across the world in the availability, quality and cost of production inputs → this allows them to be footloose to locate operations wherever most beneficial for them	Maximize the material welfare of their societies through processes such as the generation of wealth and creation of jobs → attempt to encourage TNC investment by making state attractive to TNC via developing infrastructure, comparative advantages etc

Table 1: Bargaining process between TNC and host country

(I) WHAT AFFECTS THE COMMAND AND CONTROL RELATIONSHIP BETWEEN A TNC AND THE HOST COUNTRY

In the bargaining process, both parties will try to maximize the gains received from the relationship (e.g. profit for TNCs, material welfare for states). The outcome depends on the party with greater bargaining power.

DYNAMIC POWER RELATIONS:

Factors that favour TNC	Factors that favour State
High degree of “footloose-ness”	Unique factor endowments (eg. Endemic raw materials, strategic location, political stability)
Unique propriety knowledge (technology – gives them more CA)	Skilled labour
Capital for investment (LDCs hardpressed for \$\$, hence for TNCs having the \$\$ would put them in larger bargaining power)	Well-developed infrastructure
Monopoly power: well established customer base with few competition	Market potential for TNC: population/ affluence/ degree of market saturation (whether there is potential to sell the product)

Each bargaining process is different and highly contingent on the specific circumstances involved as seen from the following 2 case studies.

Case Study : Dominance of China over TNCs in the automobile industry

The Chinese government has complete control over which foreign TNC is allowed to set up operations in China and operate there. As the Chinese consumer market is a large and increasingly affluent one, it is therefore a very attractive location for TNCs to set up production and sell their automobiles to. However, in this instance, instead of the TNCs playing off one country against another to achieve the best deal, in the Chinese case it is the state whose unique bargaining position enables it to play off one TNC against another.

In the 1980s, the Chinese government allowed foreign TNCs to enter the Chinese market provided that they set up joint ventures with Chinese companies. Such joint ventures include Shanghai Automotive Industry Corporation – Volkswagen venture, to produce the Volkswagen Passat car, and First Automobile Works – Volkswagen venture, to produce the Volkswagen Jetta car. Joint ventures are useful for Chinese companies as they are able to benefit from the transfer of technological and managerial expertise from their partners who are world leaders in the automobile industry. In addition, the foreign company would only hold a 49% stake in the venture, which means that the Chinese company will hold a majority stake and has control over key decisions to be made by the joint venture company.

Furthermore, in 2010, the Wall Street Journal reported that the Chinese government wants to force foreign automobile companies operating in China to reveal their electric vehicle technology before they are allowed to sell their products in China. Consequently, Toyota has postponed the release of its latest generation Prius hybrid in China (which has been on sale in many other market since 2009) until they get confirmation on China’s plan. While a TNC may choose not to cooperate with the new directive and withdraw from the Chinese market, this will result in a significant loss of potential income for the TNC. Thus, the measures taken by the Chinese government has shown its relatively higher bargaining power compared to the TNCs that wish to locate in China.

(J) CONCLUSION

The notion that host economies are powerless in the face of TNCs is untrue. The bargaining power of the host economy and TNC should not be generalized but instead examined on a case-by-case basis. Even then, the balance of power in the command and control of the relationship is dynamic and may change over time, depending on circumstances. China's high bargaining power in the automobile sector may not necessarily be permanent but is subject to the country being seen as a desirable location as an automobile market by TNCs from around the world. Furthermore, the balance of power between states and TNCs changes once a TNC has invested large amounts of resources into physical infrastructure, as they are more likely to stay in the host country in order to maximize gains from their sunk costs thus increasing the power of the state. Singapore's Jurong Town Corporation has sought to allay such risks faced by TNCs by setting up industrial and technoparks and providing TNCs with ready-made facilities, resulting in great amounts of investment into the country. Thus, the ability of the state to adapt to economic changes and needs of the TNCs will allow it to have a greater bargaining power or command and control over the TNC

PART 2 – IMPACTS OF TNCs

WHAT ARE THE IMPACTS OF TNCs ON HOME AND HOST ECONOMIES?

TNCs can bring both benefits and costs to the home and host economies in which they operate. These benefits and costs can be **economic, social, political and environmental**. These impacts **vary from place to place, and over time**, depending on the particular TNC and host economy involved. Host economies are not passive recipients of these impacts. These impacts are often moderated via negotiation between the TNC and the government.

(A) WHAT ARE THE IMPACTS OF TNCs ON HOME AND HOST ECONOMIES?

WHAT ARE THE ECONOMIC IMPACTS OF FDI FROM TNCs?

(i) Economic Benefits

(a) Employment

For many developing countries, inflow of FDI creates new jobs in the host countries. The establishment of new TNC activity within an economy will have multiplier effects in the region in which it is located.

The **multiplier effect** refers to the increase in final income arising from any new injection of spending. With locals employed by the TNC, it enables them to spend their income partly on locally-produced goods and services, which in turn will spend a part of their income on other locally-produced goods and services, and so on. This results in a multiple boost to the economy of the host country. For example, Nike's Oregon activities account for 16 580 jobs and a multiplier effect throughout the state, resulting in nearly US\$2 billion of economic activity in Oregon.

(b) Transfer of Technology and Working Practices

TNCs may bring in new technology or new working practices that may stimulate existing firms in the host country to adopt new technology or working methods and become more efficient.

TNCs invest a large amount of resources in R & D and are therefore major generators of technological change. Technological knowledge is passed on to the local population when the firm trains the workers it hires in specific skills and techniques. Such technology eventually transfers to local firms through labour turnover.

Another way in which technological transfer can take place between the TNCs and the local firms is through inter-firm linkages. Inter-firm linkages occur when TNCs and local firms conduct business with each other, such as the supply of materials or components by local firms to the TNCs. Technological transfer takes place when TNCs pass on the required information that local firms need in order to produce the supply of materials or components required by the TNCs.

For example, with 9 out of the top 12 smartphone manufacturers being located in China, it has led to a rise of Chinese smartphone manufacturers such as Xiaomi, Huawei and ZTE. Such transfer of technology, with local support, has allowed Xiaomi to overtake Apple as the leader of the Chinese smartphone market in 2015.

(c) Tax Revenues

When TNCs are established, there will be a flow of tax revenues that will be generated as the firms pay their taxes in the host country. However, this may be partially offset by the tax reliefs that were offered by governments in the first place to attract TNCs to invest in the host country.

For example, according to Shell's 2014 report, Shell paid over US\$90 billion to governments, with Nigeria gaining tax revenue of US\$2290 million from Shell's investment.

(d) Diversification of Industrial Base

If TNC sets up an entirely new operation producing new products, the range of products in the host countries' economic bases is broadened. It is beneficial for a country to have a broad economic base with a diversity of industries present, as this will spread the economic risks for the country. During periods when demand for certain products is low, the country's economy would not be severely affected as it could depend on other industries to support the economy.

(ii) Economic Costs

(a) Economic Vulnerability

TNCs are footloose in nature and have the geographical flexibility to take advantage of geographical differences in the distribution of factors of production and in state policies. Thus, TNCs can re-locate to other countries, causing job losses and hardship in their current host countries. Furthermore, in times of financial crisis overseas branches are often closed first. For example, cheaper labour in Malaysia has led to the shutdown of Panasonic retrenching 700 workers in Singapore and stopping its manufacturing of refrigeration compressor in Singapore.

(b) Repatriation of Profits to the Home Country

The host country faces leakages of profits to the home country should the TNCs decide to repatriate profits back home instead of further investing into the economy of the host country. This will have a dampening effect on economic growth of the host country.

In addition, TNCs may use transfer pricing to avoid paying large amounts of domestic taxes. Transfer pricing refers to the internal prices set by the TNCs for the provision of goods and services within the firm itself (i.e. how much it charges its affiliates in different parts of the world for goods and services provided by the parent company). TNCs may use transfer pricing to avoid paying large amounts of taxes in the host countries by charging higher prices to its affiliates in countries which have a higher tax rate on profits, thus minimizing the amount of profit the host countries can tax. On the other hand, TNCs will charge lower prices to its affiliates in countries which have a lower tax rate on profits, thus enabling the firm to retain a large amount of its profits. NGOs estimate TNCs 'avoid' paying an estimated US\$50 billion taxes per year. Lost tax revenues mean LDCs are less able to fund public and merit goods.

(c) Repression of Domestic Industry in the Host Country

Due to their capital might and technological advantage, TNCs are able to out-compete local firms in the host country. This will result in the possible squeezing out of existing local firms from the market and also the suppression of new domestic enterprises.

For example, Del Monte has progressively been able to out-compete many small holdings in the Philippines due to its *economies of scale* in logistics and marketing.

WHAT ARE THE SOCIAL IMPACTS OF FDI FROM TNCs?

(i) Social Benefits

The provision of employment and income to residents of the host economy may lead to improved standards of living as residents now have more income and are able to access improved healthcare and education facilities.

TNCs may also provide better infrastructure for the local population through the construction of power stations, roads, railways, etc.

(ii) Social Costs

The main social cost is the exploitation of workers in the host country. While TNCs do provide employment, workers often work long hours and are poorly paid. There is little health and legislation protection for the workers and the population living nearby the facilities set up by the TNCs.

This was evident in the case of the Bhopal disaster in India in 1984, where an industrial accident at a plant owned by the Union Carbide Corporation (UCC) resulted in large volumes of toxic gases being released into the atmosphere and resulting in nearly 4000 casualties, as well as the death of thousands of farm animals. Investigations have revealed that workers were working in a dangerous environment as numerous safety devices were not working at the plant due to poor maintenance. This was compounded by the lack of safety enforcement by government officials.

WHAT ARE THE POLITICAL IMPACTS OF FDI FROM TNCs?

(i) Political Benefits

The resultant economic growth and improvements in the standard of living as a result of a TNC's foreign direct investment into the host country can serve as a tool of legitimacy for the government, whereby a government can claim that it has the authority to run the country due to the improved living conditions under its rule.

(ii) Political Costs

A high level of dependence on foreign enterprises potentially reduces the host country's sovereignty and autonomy, where its ability to make and implement its own decisions is reduced. It may be extremely difficult for the host government to pursue a particular economic policy if it has insufficient leverage over the dominant firms.

As mentioned earlier, TNCs wield massive power through their capital and technological resources and can reduce government sovereignty and even topple governments. An example of this is the contribution of ITT (a US TNC) to the overthrow of President Salvador Allende's government in Chile in 1973, by providing funds for the government's opponents who were preparing for a coup.

WHAT ARE THE ENVIRONMENTAL IMPACTS OF FDI FROM TNCs?

(i) Environmental Benefits

The import of foreign technology and standards could lead to improvements in the environmental standards of the host economy. For example, Tesco introduced a standard in 1991 called Tesco Nature's Choice which is applied to all its supply farms around the world. The standard ensures that chemical usage for growing crops is controlled and that the growing of crops is environmentally sustainable. However, such measures are s the exception rather than the norm.

(ii) Environmental Costs

The activities of TNCs often cause environmental pollution. This is because the environmental laws in many LDCs are weak and even if they were stringent, enforcement of the laws is frequently lax.

A case in point is that of Shell (a petrochemical TNC) in Nigeria. There have been over 4,000 oil spills since 1960 leading to the contamination of food supplies and the destruction of natural habitats in the Niger delta area. There was also widespread deforestation due to the need to clear the land to produce oil and gas.

(B) WHAT ARE THE IMPACTS OF TNCs ON HOME COUNTRY?

The impacts of the TNCs to the home country varies from place to place and over time. This is because the functioning and operations of the TNC evolves. However, like the host economies in which they operate, TNCs have impacts on the home countries in the following areas:

	Specific area of impact
Economic	(+) Tertiarisation (increase employment in service industry) due to presence of R&D and HQ present in home country. (-) Deindustrialisation (-) Repatriation of investment/ production/ services overseas
Social	(+) upskilling of locals to cater to needs of TNCs (-) Polarisation of social groups, competition between locals and foreigners for jobs if locals are unable to develop skills required for the jobs
Environmental	(-) Environmental degradation especially if waste not properly managed

(F) CASE STUDY OF OPERATION AND IMPACTS OF SHELL

Name of TNC	Royal Dutch Shell
Category of Industry	Petrochemical
Home Country	Netherlands
Brief Info of TNC	It is the largest energy company and the second largest company in the world measured by revenues. It has employs 94 000 people in more than 70 countries worldwide, produces around 3 million barrels of oil equivalent per day and has 43,000 service stations worldwide.

SPATIAL ORGANIZATION OF TNC			
What	Where	Type of Transnationalisation	Reason(s) for Location
Central HQ	The Hague, Netherlands	-	Incorporated in the Netherlands.
Regional HQ	1. London, UK 2. Rotterdam, Netherlands 3. Houston, Texas, USA 4. Singapore	Wholly-owned subsidiaries	Houston: an oil-town in the oil production capital of the US (Texas). London, Houston, Rotterdam and Singapore are all 1 st or 2 nd tier global cities. - Communications: all possess international airports and well developed broadband communications network. - Labour: all possess a pool of labour skilled in business, management and other administrative skills. - Supporting agglomerating industries: London, Singapore are global/regional stock markets and the location of many TNC regional headquarters. - Houston is a town built on oil in the oil rich state of Texas in the US. Many small but niche market oil producers are headquartered in Houston.
R & D Centers	1. Amsterdam, Netherlands 2. Houston, United States of America 3. Bangalore, India	Wholly-owned subsidiaries	Amsterdam is in Shell's home country and being in a DC allows it to tap on skilled labour, especially scientists trained in petrochemicals. Houston: an oil-town in the oil production capital of the US (Texas). Labour In the area are oriented towards the oil industry. Bangalore, despite being in a LDC, is home to many of the most well-recognized colleges and research institutions in India, earning it the name, the Silicon Valley

		of India. The Indian Institute of Science , India's leading scientific research institute is located in Bangalore. Bangalore thus provides, not only skilled labour at a fraction of the cost of DC employees, but also allows the Shell Technology Centre Bangalore (STCB) to partner local institutes and benefit from untraded interdependencies.
Branch Plants	Global manufacturing base in more than 90 countries in 6 continents. 2 main types of branch plants: a) Oil extraction b) Oil refining and processing	Oil extraction is principally raw material oriented. Main extraction is done in Orgoni region, Niger Delta, Nigeria. Refining and processing locations is dependent on locational assets. The biggest Shell Refinery is located in Pulau Bukom, Singapore because: • Accessibility: Extremely accessible by ship. Allows for easy transport of crude oil from extration plants to refinery. Also because after refining, crude oil becomes many different fractions (products) which can then be easily distributed from Singapore. • Political Stability: Extremely important as refineries are very capital intensive and are long term investments for the company. • Availability of suitable site/ land: important as oil refining poses fire hazard and thus needs to be isolated from residential communitites. Singapore maks an offshore island, Pulau Bukom, a dedicated site for petrochemical industries. 

IMPACTS OF THE TNC ON HOST COUNTRIES		
Host Country	Nigeria	
History	Shell started business in Nigeria in 1937 as Shell D'Arcy. In 1938, the company was granted an exploration license. In 1956, Shell Nigeria discovered the first commercial oil field at Oloibiri in the Niger Delta and the oil export started in 1958. Royal Dutch Shell accounts for more than 40% of Nigeria's total petroleum production (899,000 barrels per day (bpd) in 1997) from more than eighty fields.	
Category	Positive Impacts & Examples	Negative Impacts & Examples
Economic	The operations of Shell in Nigeria have an important direct impact on the economy. Example: In 2009, Shell awarded contracts worth almost \$892 million to Nigerian companies.	Although not directly caused by Shell, there has been increasing disparity in wealth between the elites of the country and the local population. This is due to the oil wealth not being distributed and used to improve the local communities but instead used by the government and elites of the country for their own ends. Example: According to Amnesty International 70% of the six million people in the Niger River Delta live off of less than 1\$ US per day even though oil from places such as Ogoniland has provided approximately \$30 billion to the economy of Nigeria.
Social	- Created jobs for locals. Example: Shell employs 6000 workers and 90% of them are Nigerian. Shell's projects also help create tens of thousands more jobs with contractors and in supporting industries. - Developed numerous initiatives to help Nigerian society in terms of health care, youth development and education. Example: Currently supports 27 health facilities in the Niger Delta which employs more than 800 staff to provide basic healthcare and help deal with health issues such as HIV/AIDS and Malaria. Furthermore, in 2009, Shell awarded about 2,730 secondary school and 850	Devastation of the way of life for communities living around oil extraction areas, especially in Niger Delta. Example: Since Shell began drilling oil in Ogoniland in 1958, the people of Ogoniland have had pipelines built across their farmlands and in front of their homes, suffered endemic oil leaks from these very pipelines, been forced to live with the constant flaring of gas. This environmental assault has smothered land with oil, killed masses of fish and other aquatic life, and introduced devastating acid rain to the land of the Ogoni. For the Ogoni, a people dependent upon farming and fishing, the poisoning of the land and water has had devastating economic and health consequences. Furthermore, in 1995 several leaders of the Movement for Survival of the Ogoni People (MOSOP) such as Ken Saro-Wiwa were framed

	university scholarships in the Niger Delta region and other parts of the country.	by the authorities for murder and sentenced to death, due to them raising international attention to the plight of the Ogoni people.
Political	- Helped to boost the funding of the Nigerian government through its economic contributions through the taxes and royalties. Example: Nigeria depends on the oil industry for approximately 95% of export earnings and 80% of government revenue. Shell contributes to half of this. Shell has paid \$40 billion to the government from 2005 to 2009 - Attempted to make public governance more transparent in Nigeria, a country renowned for rampant corruption. Example: Shell initiated, and was a leading sponsor of, the Nigerian Extractive Industry Transparency Initiative (NEITI), which openly publishes payments made to the government by the international oil companies and other players in the energy industry as well as the allocation of money to states by the Federal Government and Shell companies in Nigeria. This is to make the government accountable to the public with regards to how the oil revenue received was being used.	Shell has a disproportionate influence on government policies due to its huge contribution to the government budget. This results in the government complying with Shell's demands and requests, sometimes to the detriment of Nigerians. Example: In 1990, Shell specifically requested that the Nigerian military protect its facilities from nonviolent protesters in the village of Umeuchem. 80 villagers were killed in two days of violence. Houses and vital crops were also destroyed. A later judiciary panel determined that the villagers posed no threat against Shell.
Environmental	Innovated new technologies to reduce harmful effects on the environment Example: Usage of Carbon Capture and Storage (CCS) technology to store carbon dioxide produced from power plants and refineries. This reduces the amount of carbon dioxide being released into the atmosphere. The	Shell's activities have resulted in severe environmental degradation, especially in the Niger Delta. The environmental costs of oil production have been extensive. They include destruction of wildlife and biodiversity, loss of fertile soil, pollution of air and drinking water, degradation of farmland and damage to aquatic ecosystems, all of which have caused serious health

	carbon dioxide can then be used for other purposes such as farming and the production of soft drinks.	problems for the inhabitants of areas surrounding oil production. Pollution is caused by gas flaring, above ground pipeline leakage, oil waste dumping and oil spills. Example: In 1970 an oil spill occurred that affected affected 255 hectares and the Ejama-Ebubu community in the Rivers State. Around 2 million barrels worth of crude oil were spilled. It permanently polluted the only stream serving the community, as well as fish ponds, and farm lands. This caused a cessation in the availability of drinking water, food supply and disrupting the way of life of the locals. In July 2010 the Federal High Court of Nigeria ordered Shell to pay a compensation of US\$ 100 million to the community. According to a study conducted by a Nigerian university in 2011, a total of 2.4 million barrels have leaked into the delta. In at least 10 Ogoni communities, drinking water is contaminated with high levels of hydrocarbons, public health is seriously threatened.
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IMPACTS OF THE TNC ON HOST COUNTRIES		
Host Country	Singapore	
History	Shell set up its first oil refinery in Singapore in 1961 The company has more than 2,600 employees and is one of Singapore's largest foreign investors. Shell's 500,000 barrels-per-day Bukom refinery is today the largest Shell refinery in the world in terms of crude distillation capacity. This makes Singapore a key regional supply and trading centre for the Group in the East. Some 90 percent of Bukom's products are exported to countries in the region and beyond.	
Category	Positive Impacts & Examples	Negative Impacts & Examples
Economic	Shell contributes significantly to Singapore's economy. Example: According to Servcorp, Shell is Singapore's top company by sales with a sales turnover of SGD 141.7 billion and with over SGD 2 billion in profits.	Although not directly caused by Shell, there has been increasing disparity in wealth between the elites of the country and the local population.
Social	Shell supports educational activities in Singapore. Example: Shell Traffic Games and the Shell-Singapore Youth Science Festival have become an integral part of the national school curriculum through programmes involving road safety among children, the teaching of entrepreneurial skills among Singapore's youth, and other programmes focusing on science and technology. Shell also supports tertiary programs such as through provision of grants for the Masters of Science Environment Management Programme.	Lax workplace safety regulations for workers Example: A fire that broke out in August 2015 caused injury to 6 workers of which 3 were critically injured. In September 2011, more than 100 firefighters helped to put out a fire that raged for 32 hours at the Pulau Bukom refinery. Shell was fined \$80,000 the following year for lapses in workplace safety that led to the fire.
Environmental	Shell attempts to reduce its carbon emissions through improvement of its oil refinery technology Example: In 2015, Shell successfully upgraded its Singapore ethylene cracker complex (ECC), bolstering the company's	The operation of Shell has resulted in localised air pollution Example: According to the 2014 SO₂ emission inventory by National Environment Agency (NEA) in Singapore, Shell

	largest refining-chemicals integrated site. The project on Bukom Island, has boosted production of ethylene by more than 20%. Also, every tonne of ethylene made now uses 7% less energy and produces 11% less CO2 emissions. • Shell supports community projects that focus on environment sustainability. Example: Shell contributes to the Nature Nurtures Program which reaches out to teens from difficult backgrounds and builds up their skills and self-confidence through fun, challenging activities in Singapore's parks and nature reserves. Shell also partnered with National Parks Board and Raffles Museum for Biodiversity and Research sees Shell Singapore contributing through staff as volunteer surveyors as well as providing resources for capacity building through the expertise of global scientists to the first ever National Marine Biodiversity Survey in Singapore which contributes to research on Singapore's marine ecosystem, species diversity and distribution.	contributed 25, 818 tonnes of SO₂ emission, the highest contributor of SO₂ emission in Singapore. The major health concerns associated with exposure to high concentrations of SO₂ include effects on breathing, respiratory illness, alterations in pulmonary defences, and aggravation of existing cardiovascular disease.
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