

- Threats to Antarctica from fishing and whaling
 - Ant. Marine waters are highly productive due to Antarctic Convergence where upwelling+mixing creates waters rich in oxygen and nutrients -> highly lucrative for fishing -> over-fishing as a result
 - Whale species over-exploited, HOWEVER establishment of the IWC banned commercial whaling globally in 1982, however Japanese aren't keen on abiding by maritime laws...
 - Overfishing of krill disrupts major supply of food – low down in supply chain – popular protein food, commands high prices thus high demand for krill catching, “superfood” in the west exacerbates this, ultimately makes it unsustainable (give sustainability definition)
 - Knock on consequences, difficult to control and manage for sea sheperds and asoc, long-line fishing of toothfish caused depletion of stocks but ALSO deaths of sea birds,
 - Fishing ships responsible for ocean pollution, dumping of fishing gear and waste into the ocean – colder ocean temperatures are slow to break down pollutants. On the hull of their ships fishing and whaling bring in invasive species
-
- Modal globalisation (road, air and sea), role as a factor (look at other factors...) without transport developments scale of globalisation not possible. Shipping containers huge volumes, increased profit margins enables mass production of goods, standardised allows them to be packed efficiently onto ships,
-
- TNC's are spatial, production, linkages, trading and marketing patterns, issues with interdependence unequal flows of people, the demand for palm oil is good in the sense that it generates economic growth but monoculture, mass deforestation of tropical rainforest (INDIGENOUS LOSE OUT) coffee consumption is increasing most rapidly in emerging economies, unequal flows of money (TNC's in developing countries repatriating... funds not properly hypothecated), local consequences... boycotting,

Geo-spatial data revision!

Demographic time bomb

Famous paintings are still recognisable constable -> tourism

Qualities ascribed depend on experience of place factors contributing to character of place , endogenous location topography physical geography land use built environment and infrastructure, demographic and economic characteristics, exogenous, relationships with other places,

9:33

UN - “Arguing against globalisation is like arguing against the laws of gravity”

McLuhan -> “global village” -> “flat world” -> free rein given to economic and information flows, best reflected by increasingly international manner in which organisations operate:

- *Thinking globally, acting globally (presence world-wide), planet wide decisions*

Globalisation gives rise to the *world economy* in which PI, Qs, Qd are drastically affected by global events, unchecked globalisation, proliferation of TNC's,

Important to consider globalisation has expanded to encompass media, culture, etc.

Globalisation leads to uniformity of recognition of TNC's, homogenisation?

Core vs periphery

Core regions receive repatriation of tnc profits, receive loan repayments, labour migration

However, periphery receive, economy-stablising loans, low interest development/.disaster relief loans,

And capital flows of foreign/bilateral aid

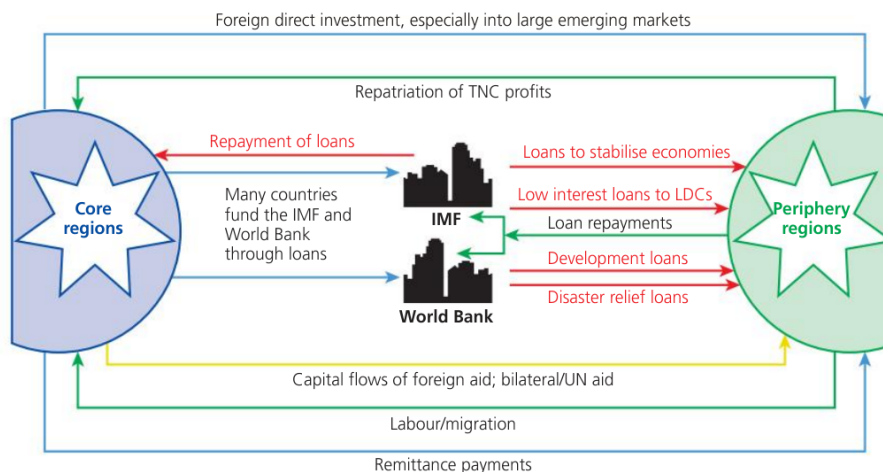


Figure 7.4 Flows of finance and capital between regions in the global economy

However, this concept is outdated?

Migration is bad as, it exacerbates disparities as the less developed nations lose their most skilled and talented labour, who are strong TAX BASES, (habitual remittance?)

40 percent of somalians rely on remittances to meet **basic needs**, in 2012 remittances were blocked, led to catastrophe

Flows of service

One could argue flows of service are unequal, high level services are finance, investment and advertising

Coca Cola in Senegal pays for paintwork, refrigeration units – all they ask is to display their logo and advertising

While low level services are travel, tourism, call/communication centres, think about wroclaw poland and Mumbai

Fast fashion industry giants such as zara rely on fast transport from cluster of supplier to enjoy short lead times necessary to be present in geographically disparate markets but Portugal from india

Just in time systems cut costs. Production is pulled through by specific customer orders rather than being pushed through to build stock

This has led to a spatial separation in corporation headquarters and lower-order activities (india, china)

Nafta's main aims, gradual elimination of trade barriers, nafta member countries tripled, mexico higher wage, increased sales, american jobs lost?

Imf,

- Oversees global financial system
- Financial assistance
- Lender of last resort
- Draws financial resources from quota subscription
-

World bank

- Long term investment loans for bottom up top down
- Special interest free loans to countries with low capita per income <865\$
- Encourages start-up private enterprise
- Funded by borrowing on international bond market
- Always had an american president

WTO

- Supervise/liberalise trade through barrier reduction
- Arbitrator sorting trade problems
- Stability
- Before exam look at doha and geneva talks

Outsourcing for original country often negative

- Losses of jobs, de-multiplier effect
- De-industrialisation, derelict factories
- Structural employment

Indicators suggest that globalisation is reducing global inequality through transfer of capital and income.

Paradoxically, increasing inequality,

Oecd found that average wages paid by foreign TNC's higher 50 percent,, however rural unskilled non-mega city workers MISS OUT BIG TIME

Protectionism can involve

- Import licenses
- Import quotas
- Subsidies
- Voluntary export restraints
- Embargoes
- Trade restrictions

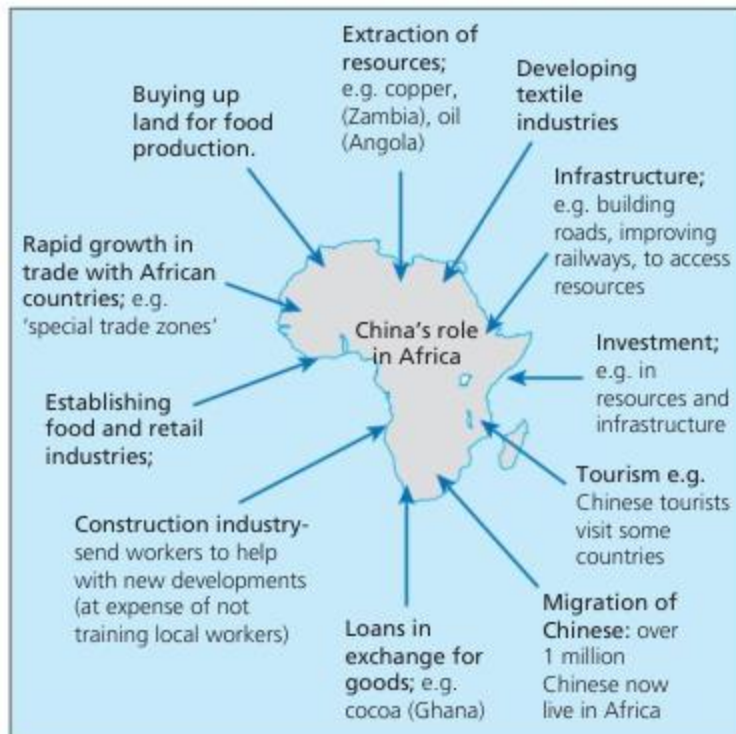
FAIR TRADE

Idea is that suppliers have little market influence are extremely reliant on the income from their goods

Assumes consumers have ethical interests in mind. Higher price markup than non free trade goods.x

- social movement

CHINA



Has over 160 members, over ¾ are less-developed countries,

- The IMF has imposed severe cuts on education and welfare, as part of debt relief strategies

Worldbank, conditions attached to loans, criticised for funding too many top-down projects rather than bottom up

Bottom up:

Good because, local people are consulted, supported in making decisions

Top down – central authority, little consultation

Differential access to markets

Special and differential treatment tackle structural handicaps, provides incentive for export diversification, enjoy privileged access to markets of developed countries, right to restrict imports to greater degree, additional freedom to subsidise exports, flexibility in respect of application of certain WTO rules

TNCs operate for selfish reasons

Nissan in Sunderland -> barrier free access to lucrative EU market

Lowest cost location -> screws over workers?

Exploit minerals/natural resources in foreign countries?

Ultimately tncs want to source raw materials at the lowest cost lithium batteries dangerous conditions

Tncs are spatial organisations production operations of tncs involved in the primary sector will be based wherever there are unexploited resources,

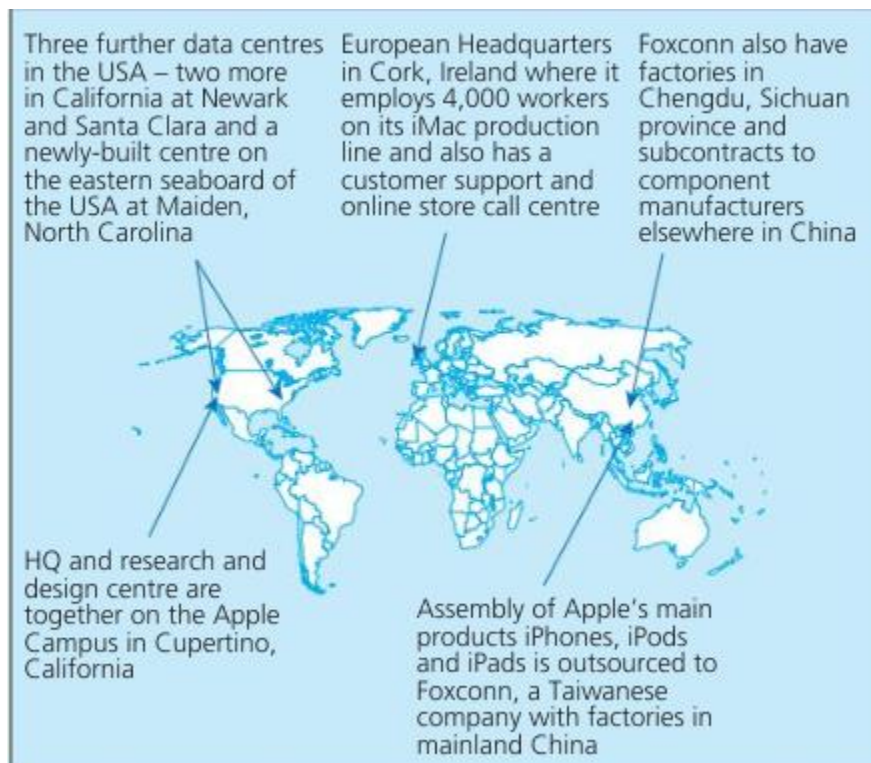
Tncs don't really help in the sense that their highest income workers, who engage in r&d, for example in India, tend to be based near centres of higher education, who take advantage of graduate labour markets or university research facilities this in no way HELPS POOR RURAL INDIA, where many migrants travel from, counter eval with remittances?

However, even if tnc's are footloose, this isn't necessarily bad assuming domestic firms can poach these workers without the sunk costs of training?

Apple case study

- Headquarters in Cupertino California
- Over 100k employees,

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Outsources production to foxconn

However apples european headquarers is based at hollyhill, COrk. Only 100% apple owned manufacturing facility, ireland 12.5% corporation tax, employs 4000 workers directly, generated 2500

jobs as part of supply chain ancillary work (necessary support) attracted other high tech firms, positive multiplier and derived demand -> "Celtic Tiger" economy

However many highly skilled workers are foreign nationals but >60% workers Irish (majority are production line workers)

Apple has subsidiary firms in other countries to declare profits thus paying lower rates of tax,

Apple in China, 200,000 shenzen workers working for >60 hours a week, 100USD a month, sweatshop conditions half of which went to rent, which was owed to foxconn, suicide nets student labour,

Green my Apple campaign -> green credentials 75% renewable energy

Companies search for lower labour costs and weaker legislation, this is called pursuing a 'race to the bottom' in terms of social and environmental standards employees usually sub contract labour

Table 7.7 Benefits and costs of free trade

Benefits	Costs
Lower prices for consumers	The injustice of free trade not giving sufficient 'protection' to emerging industries in developing economies so they cannot compete with developed countries in the free market
Greater choice	More developed economies are still protected by tariffs on agricultural imports
Access to larger, wealthy markets for TNCs	The unjust exploitation of workers and poor working conditions
Greater economies of scale through increased specialisation	Diseconomies of scale as a result of difficulties co-ordinating subsidiary companies
Greater foreign competition may weaken domestic monopolies (for example, UK supermarkets)	
Competition leads to greater innovation	
Access to cheaper raw materials for TNCs	

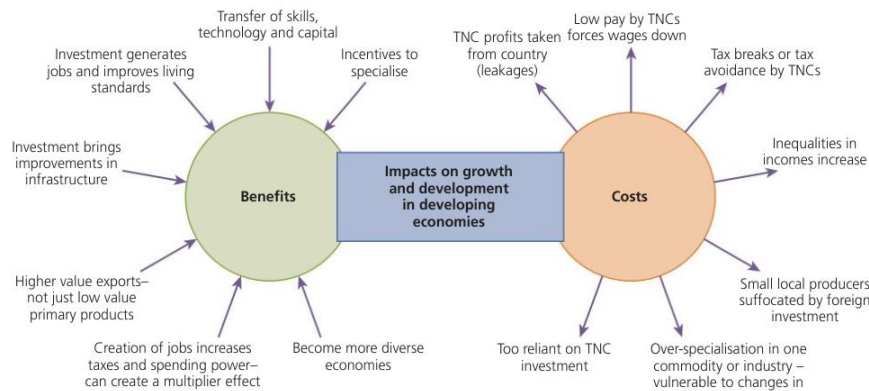


Figure 7.35 Benefits and costs of globalisation affecting growth and development in developing economies

Over-standardisation of goods leads to cultural homogeny

Glocalisation leads to tncs thinking globally but acting locally to reduce threats to cultural dilution

Global governance refers to the ways in which global affairs affecting the whole world are managed in

1992

Earth summit adopted agenda 21, a global footprint for sustainable development, it is essentially a top down approach which is trying to encourage a bottom up response as the ideas initiated in the agenda are designed to filter from un to national government to regional then local

People see it as an attack on personal liberties I.e car usage family size

Population control

Any development should have a precautionary principle, uk now have various recycling options from agenda 21

The paris climate temperature to rise of 1.5, countries will voluntarily cut emissions, long-term aim to reduce net emissions to zero, rich nations pledge 100bn each year

Global commons refers to resource domains out of political reach, -> "supra-national 'spaces'"

International law recognises 4 global commons: high seas, atmosphere, antarctica and the outer space

Some say cyberspace is a new domain

Antartica and Southern Ocean

- The continents coastline is fringed by ice shelves,
- The southern ocean extends from the coast of antartica north to 60 degrees south latitude which coincides with the antartic treaty limit at approximately the latitude cold northward flowing waters from the antartic meet with warmer sub antartic waters this is known as the antartic

convergence zone, is a zone approximately 32 to 48 km wide varying somewhat in latitude and seasonally, cold northward flowing antarctic water predominantly sink beneath sub antarctic waters, this forms associated areas of mixing and upwelling currents which are very high in marine productivity especially antarctic krill, it is a natural boundary rather than an artificial one like a line of latitude, it separates two distinct hydrological regions, areas of distinct climate, areas of distinctive wildlife, gives rise to the largest surface current in the world called the antarctic circumpolar current which flows around antarctica, this current will effectively block warmer waters travelling southwards, ACC flows eastward direction driven by westerly winds known as west wind drift, there is also opposite direction east wind drift driven by easterly polar winds, this east wind drift features prominently in Ross Sea, areas where these opposing flows meet is known as the antarctic divergence

- Whaling in the 19th century, oil and baleen, the establishment of the IWC in 1946 led to most whaling ending in 1985, in 1994 IWC established southern ocean whale sanctuary an area of 50 million square kilometres surrounding antarctica, where all commercial whaling was banned – ONLY JAPAN OPPOSED, then with Norway and Iceland formed pro-whaling lobby, Japan has continued to hunt whales inside the sanctuary in accordance with a provision in the IWC charter permitting whaling for the purpose of scientific research, but generally commercial whaling is prohibited. Japan's exception status has caused international tension, krill advertised as a superfood? The rise of Krill OIL, cartons of krill oil command very high prices, unsustainable fishing causes population crashes, antarctic fishing ships are also known to dump waste into the ocean, contaminating the water, the impact of climate change
- Large supply of fresh fish, omega 3 rich diet, 45kg per person
- Herbivore men lack of romantic relationships for 75% of men,
- Freelancers 40% of working people in irregular employment
- By 2070 elderly dependency ratio 40%, resistance in turning to migration to solve the demographic ticking timebomb
- In terms of ice loss the eastern sea ice is increasing dramatically however the western side net loss is significant

- Antarctic peninsula particularly sensitive to small rises in the annual average temperature, this area experiences air temperature increases of nearly 3 in the region last 50 years, every 1 degree increase leads to... this has led to the ice sheet thinning. The distribution of penguin colonies has changed, melting of snow ice and cover has led to succession of and colonisation by plants, decline in abundance of krill (rivet theory!)
- There is glacier retreat,

-

- Ice shelves, themselves melting doesn't add to sea level change but as they break up it increases the flow rate of glaciers behind them it is the melting of these glaciers that will cause sea-levels to rise,
- 97% is covered by glacial ice, average temperature is -49 can be as low as -89 , mean annual wind speed of 50mph, resulting from convergent katabatic wind, gales can reach 200mph, mean annual precipitation especially in the interior is low, at less than 50mm per annum, best described as a polar desert, its thick ice sheets are not the result of heavy snowfall, but accumulation of small inputs of snow+frost, far exceed ablation rates, in very long run
- Surrounding sea temperatures are warmer than land and the upwelling of cooler water from ocean depths brings nutrients which in turn will support phytoplankton, blooms of phytoplankton will act as a food source for krill.

International law is guided by the principle of "the principle of the common heritage of mankind" -> some localities belong to all humanity,

Advances in science and technology, easier access to range of resources, greater scarcity of resources -> increasing pressure

- Increasingly westerly winds around the southern ocean, caused by climate change and ozone depletion are driving the sea northwards, more rain and snow resulting from climate change are layering the southern ocean with cooler denser layer on top, storms freshening local water so it becomes LESS SALTY, thus raising the temperatures needed for sea ice to form, increased melting of continental land ice creates more floating icebergs which contribute to sea ice formation

-

- tourism in three types, camping trips for naturalists, photographers and journalists,

Ship board visits, large cruise ships, over flights.... mount eribus passengers died, planes restarted over nearly 20 years

Tourism is mainly concentrated in the short southern summer period, tourism caters mainly for a niche market of adventure travellers and natural history lovers, most of the ships are comparatively small with average capacities between 50 and 100 people BUT tourists ARE carefully **briefed** on the **code of conduct** in terms of behaviour ashore, adherence to wildlife observation.

Cruises, most of them, follow the Lindblad plan which manages itineraries in a way to ensure impacts are negligible, groups are divided into boatloads, each site may be visited only every 2 or 3 days to minimise impacts, the antarctic ecosystem is extremely fragile, disturbances leave their imprint for a long time, footprints on moss can remain for decades, summertourist season coincide with peak wildlife

breeding periods, land based installations are clustered... demand for fresh water hard to meet, over flying by light planes causes stress to breeding colonies

Storms can be intense such that they affect large areas or more localised events such as 'scouring' of benthic environment (ecological region at bottom of body of water) by icebergs, will both impact on species,

- Although these natural disasters are rare the frequency magnitude are increasing superimposed on the current trend

Antarctic treaty system main remedy for international governance of antarctica, improved scientific knowledge and more advanced equipment have allowed greater access to antarctica, as with the high seas this poses the threat of unchecked resource exploitation in antarctica,

In the 1950s permanent stations established to commence first substantial multi nation research program during the IGY, territorial positions asserted, though not agreed, this led to tensions created that threatened future scientific co-operation and potential conflict, disputes over ownership arose,

- Will the future demand for resources, exacerbated by global shocks put increasing pressure on antarctica to reverse this decision, however it is not currently economically viable to mine
- A 1988 mineral convention was adopted, but never came into force because it was not ratified by all members

The issue of sovereignty was resolved in December 1959, when 12 nations

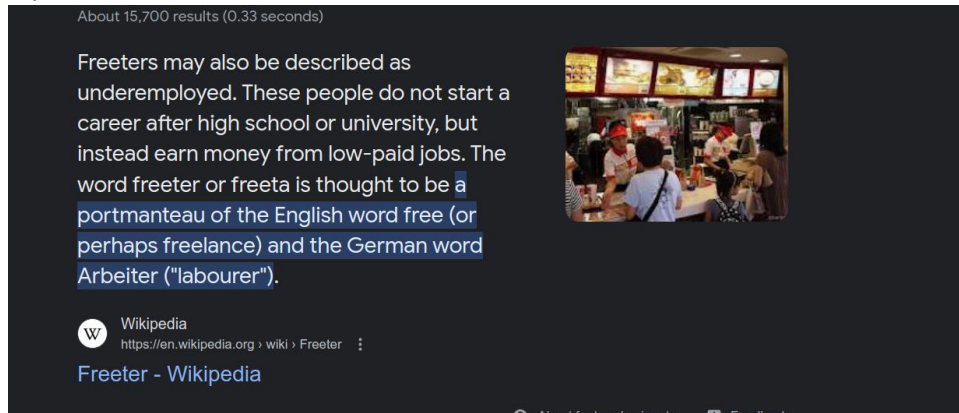
- Treaty means that, stipulates antarctica should be used exclusively for peaceful purposes, guarantees continued freedom to conduct scientific research, promotes international scientific co-operation, results of research to be made freely available, sets aside the potential for sovereignty disputes, between treaty parties, no new or enlarged claims are to be made,
- Prohibits nuclear explosions,
- There is a provision of inspection by observers to ensure compliance within the treaty,
-

The main duty of the IWC, is to keep under review measures laid down by the whaling convention, protection of certain whale species, southern ocean whale sanctuary, established limits on the numbers and size of whales, open and closed seasons for whaling, prohibition on capture of suckling calves and females accompanied by calves, compilation of each catch report and other statistical record

Population and environment

- Outline the causes of erosion, waterlogging, salinisation, structural deterioration occurs in soils
- Explain the management strategies,

- Latosols infertile topsoil, leaching of nutrients, brazil thin main nutrient store vegetation, small crop productivity REQUIRES slash and burn
- Semi arid spotty seasonal rainfall, low npp, overculivation and nomadic
- Hook more sunlight...
- Topogoraphy, flat water stagnant water anaerobic water, ganges, flooding health reisks, flat relief...
- Japan herbivore men



Red/yello latosols found in tropical regions such as amazon rainforest, brazil, soil is thin and lacking nutrients as main nutrient stores in vegetation, can only support small crop production and small population through shifting cultivation, slash and burn - efforts to expand arable of livestock in trf proved unsustainable J

Migrants

The gendered nature of labour markets (demand & supply) is context and sector specific, changes over time. Take for instance, young women who migrate because of the expansion of service seectors, preferences of export industries and cultural factors. Migrants, may not be from the poorest regions, remoteness makes migration relatively difficult,

Fiscal drag? Dependents?

TNC's

TNC's can sponsor worker education and training? But what if they hire from developed nations? Salary discrimination between branches,

THE UN

Several "sustainable development goals -> to transform *our* world"

- No poverty, decent work and economic growth peace justice and strong institutions, partnership for the goals
- Permanent members with veto rights are china france russia uk usa,
- The security council ha the primary respnisibility within the un of maintainign international peace and security, the onlyORGAN that has power to make decisions member states are

obligated to implement, the most frequently elected security council members that are non permanent are japan brazil and argentina

- Is not a world government mainly is an advisory role, which fosters cooperation

Are developing countries “kicking away the ladder” such that they are applying policies wholly unsuited for their economic condition and contrary to their economic interests

Global governance manifests itself in three ways, one through

- Institutions which discuss form, pass and enforce agreements/laws
- Norms: accepted standards of behaviour nuclear non proliferation
- Laws: international agreements which legally bind countries, (exclusive economic zone 1982 “laws of the sea” no-

Patterns in investment

Global fdi, fell by 13 percent to 1.3 trillion, the decline, third consecutive year on year fall in fdi – caused by large-scale repatriations of accumulated foreign earnings by MNE's, following tax reforms, furthermore fdi flows to developed economies would reach the lowest point due to fund repatriation, flows, but flows to developing countries rose by 11 percent to africa, resource-seeking inflows,

Continued dynamism? Greenfield project announcements,

Fdi flows to structurally weak and vulnerable economies account for less than 3 percent of global total.

Indonesia plans to limit foreign ownership of its mines, sell stakes so assets are 51pc owned by Indonesian entities, “the aim is the state has to get more”, what attracts fdi is plentiful natural resources, large and accessible consumer markets, financial services

Economic freedom refers to the ability for businesses to operate and trade with minimal interference from government, economic freedom is important 4 of top 5 are free or mostly free

Economic liberalisation such as deregulation of financial markets and reduced tariffs

Search what G20 in Montreal are good global G

The “unchecked expansion” of globalisation

Golden arch's theory of conflict

Analyse questions:

- Identify key trends (time) and patterns (space)

- Draw links/relationships
- Identify anomalies
- Containerisation refers to the use of container units that are multi-modal (shipping, rail road) which has increased efficiency and brought down costs, therefore increasing trade, better aircraft size, permitted by jet engines and integrated air traffic control systems has reduced costs increased volumes of tourism, greater cultural exchanges Japanese people in Dedham Vale and also just in time systems,

Globalisation is heavy in McDonalds but not Apple, it accelerates consumerism and cultural homogenisation,

Antarctica

- Glacier retreat, continental shelf
- Ice-shelf collapse
- Sea-ice loss
- Ocean acidification, carbon sequestration
- Shifting species
- Ocean warming, ecosystem changes,

This leads to,

- Global sea level rise, changing sea surface temperature
- Altered fisheries productivity, loss of critical habitat and biodiversity,
- Reduced ocean carbon uptake, increased ocean acidification, changes to species abundances and ranges
- Altered weather ranges

“Building southern ocean resilience to climate change,

Reduce greenhouse gas emissions across sectors and geographies to avoid near term tipping points resulting from continuation of current emission levels, establish proposed southern ocean marine protected areas MPAs, to protect biodiversity, maintain ecosystem functioning and restore ecosystem services, updating regional management strategies incorporating climate change widely to strengthen existing ecosystem based fisheries management policies

Re-emphasising a precautionary approach to decision making in southern ocean to prevent irreversible changes

Evidence which suggests approach of imminent tipping points, which in turn set in motion irreversible rapid and substantial changes to Antarctic biogeochemical cycles and its role in regulating climate change

Antarctic convergence zone – a curve continuously encircling Antarctica where cold northward flowing Antarctic waters meet the relatively warmer waters of the sub Antarctic this is a natural boundary which is dynamic and lies between the 48S and 62S

Antarctic treaty limit – a line which is 60S everything beneath this latitude line falls under the treaty and it is the non natural boundary of the southern ocean

When inversion winds of sinking dense air converge meaning more air is being compressed into a smaller channel space increasing pressure and therefore increasing speeds up to 200mph katabatic

Upwelling is the natural process which brings cold nutrient rich water to the surface this happens at the antarctic convergence zone where waters of different temperatures mix it is vital in providing nutrients for the base of the food web phytoplankton which krill feed on

Albedo the fraction of radiation that is reflected the amount is higher over ice and snow than over bare ice or open oceans this is actually key in determining the temperature of polar regions and possible feedback loops

Circular polar current is the largest surface ocean current in the world flowing in an eastward direction circulating the entirety of the antarctic continent it blocks warmer water entering the southern ocean and is also known as the west wind drift (closer to the land mass an east wind drift circulates which largely affects the ross sea and weddell sea)

Most of the world's natural materials are in politically unstable regions global warming makes difficult extraction easier? 4

COMPOSITE

Assess the role of international trade in causing inequality

The eqa collected at different points along a transect analysed using rose diagrams on arcgis to show change in environmental quality throughout a local change proximity to roads and green space using census website to examine choropleth maps of local area see difference in key demographic data such as ethnicity and data linked to quality of life income education level any of many social media ideas geotagged tweets or instagram posts google maps review, gives an idea of place identity culture community conflict or tension, house prices crime index so many other approaches here,

Compare the survey results of individual areas to the averages at the bottom specific about the variations addressed the fundamental points

Figure 4 highlights the importance of creating a consensus across different players when attempting to influence place meaning the information is being led to by a charitable trust which is described as a movement giving the impression of a bottom up approach perhaps trying to counter the prevailing image of london, local government in the form of mayor of london and a prominent inspiration expert

are used to ADD WEIGHT to the attempt to promote London's identity as one that is greener, healthier and wilder there is also

A call for individuals to make their own contribution

It is a campaign in its infancy, place meaning has been successfully shaped before by tourist boards specifically the imagery of John Constable's paintings and the concept of rural idyll, I believe that this example will struggle to alter perceptions!

Globalisation refers to increased interconnections of different places around the world, such places are connected by different flows. Flows of ideas, knowledge, flows of people, flows of investment or services, secondly I need to think about transform in a positive sense but really means a dramatic change and improvement, globalisation has undoubtedly had an impact on Dedham Vale, however the language of transformed is too extreme and is debatable as to whether or not it has improved the area, John Constable has transformed its fortunes, Japanese tourists are visiting the area just because of one man's paintings which have been harpooned on by Essex Tourist Board which creates jobs and money and tourists visiting for example eat as in people create a place for cultural exchange however it may also lead to tension as there may be too much tourism, much of the UK has become clone towns or even suffered from placelessness, perhaps this investment actually worsens a place, yet Dedham Vale has resisted this change, therefore globalisation has been resisted,

Dedham Vale, rural area with not many jobs hasn't experienced immigration as East London has, talk about the Cockneys of Newham documentary, much of the UK has become a clone town, this has not happened in Dedham Vale

Think about the key words in the question before answering, gaslight the examiner with your plan

The THREE tasks:

Tncs show responsibility to shareholders in the form of dividends any stability caused by tncs is secondary and indirect enabling them, however there are regional effects which may cause inequalities, look up what endogenous means,

The UN seven as peacekeepers permanently stationed in the border of Uganda's airport,

The World Bank has funded over 4000 development projects with spending over 300bn, WTO stimulates economic growth by reducing tariffs, which now average less than 5 percent globally, pandemic global trade reduced by 5.5 global GDP would fall by 3.3 percent, cheap labour is no longer the driving force as protectionism on the rise – demultiplier effect

OVER-FISHING

A third of fish stocks are overfished globally, situation is worsening in the global south

Global seafood production has increased five fold since the 1950s with an estimated 4.6 million boats

Three-fold increase, in overfishing since 1970

Unsustainable fishing will in the long run deplete fish stocks, disrupt ecosystems, ultimately leading to oceans being less abundant and productive in the future.

Consumers are also to blame, consumers must be responsible

Consume less seafood?

<https://www.globalcause.co.uk/wildlife/overfishing-is-a-fixable-problem-so-lets-fix-it-now/TJ>

<https://www.globalcause.co.uk/wildlife/challenging-the-illegal-wildlife-trade-around-the-globe/>

The illegal wildlife trade

IAM Amsterdam – promoting the city very successful, differential access 2 market, the EU,

Less reliable rainfall patterns such as the monsoon, food insecurity, energy 1 degree up, wheat down 5 percent, I

There is variation within countries of risk of CHD

Infringes encroaches

East burgough protests!

In stratford you can eat so many different kinds of food,

Representation of place

- **Tenure** (rent, council, private) -> Where they went
- **Retrofitted** (Bollards, canal clean, streetlight, pavement etc) -> Where else?
- **Editing?** (Exposure, saturation etc) -> Positive light?
- **Source** (Eyewitness, police reports, census data, broadband speed)

Source

Time

Objectivity (Author + Purpose)

Change

Scale

Qualitative data generates meaning to places. **Quantitative data** can mask important **inequalities, complexities, power dynamics and personal stories**.

Quantitative data can be conducted with inaccuracies or problems with the **scale of representation** (time or spatial), what to **include** in the **quantitative data** is in itself a subjective choice,

Untrue to say **qualitative data** is driven by **personal subjectives** are therefore **biased** and therefore unreliable – they possess the **advantage of depth**.

Qualitative data provides the 'whole picture', post 1970s geography emphasises the importance of human experience, phenomenological approach,

Lens of viewer, further nuanced by varied time and spatial scale, frames window of insight.

Intensive farming -> much as possible

Extensive farming -> less impact on the environment provides better animal welfare -> low capital and labour input

Podzols are acid because of the acidity water travelling through the soil is more able to dissolve

Latosol rainfall higher than evapotranspiration causing a soil moisture surplus

Each 1 degree rise in mean temperature, reduces yields of wheat by 6% rice by 3.2% and maize by 7.4%, increased temperature leads to heat stress in livestock, exacerbates malaria,