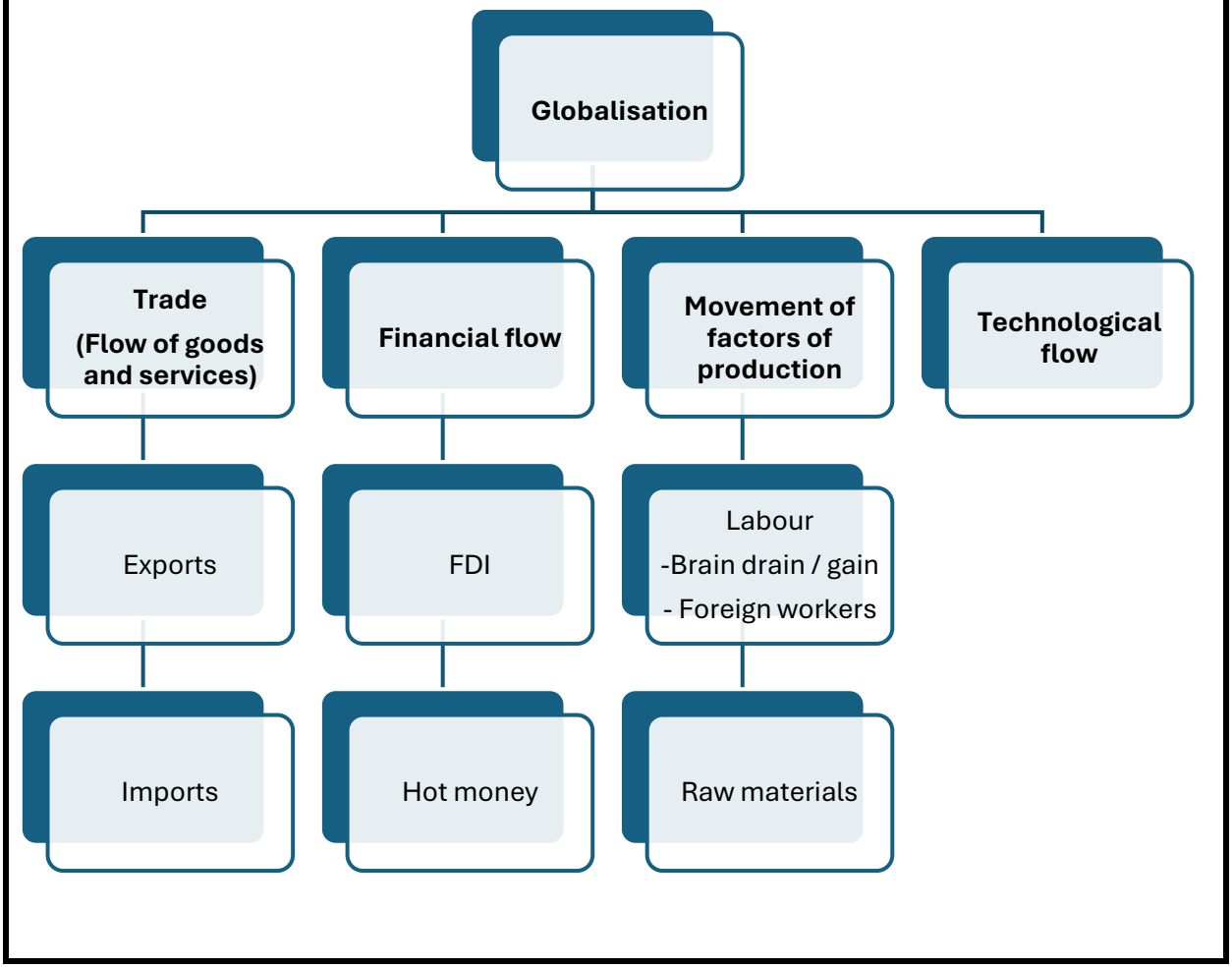
Syllabus

Theme 3.3 Globalisation and the International Economy	
Economics Content	
3.3.1 Globalisation, International Trade and Economic Co-operation	**Additional information**
a. Globalisation as the increased trade of goods and services, and flows of capital and labour between countries • Factors affecting globalisation	An understanding of the Theory of Comparative Advantage, in terms of opportunity cost, is required. Numerical illustration of the Theory of Comparative Advantage is not required.
b. Basis of free trade and specialisation	
c. Benefits and costs of free trade and flows of capital and labour on: • Consumers – Prices, choice and variety of goods and services • Producers – Size of markets, degree of competition, cost of production and innovation • Government – Macroeconomic objectives (and policy choice)	
d. Benefits and costs of protectionism	Diagrammatic analysis of the effects of tariffs is required.
e. Governments may decide to engage in economic co-operation and trade agreements between countries or impose protectionist measures to achieve macroeconomic aims	Detailed knowledge of the forms of economic integration, institutional knowledge and legislation is not required. Diagrammatic analyses of economic co-operation and trade agreements between countries are not required.

1. What is globalisation?

- Gobalisation refers to the increasing integration of national economies in terms of trade, financial flows, movement of factors of production (including labour) and technology.
    - One common measure of globalisation is the global trade-to-GDP ratio which measures the openness of an economy at a country level.
        - Global trade-to-GDP ratio = $\frac{X+M}{GDP}$ x 100%

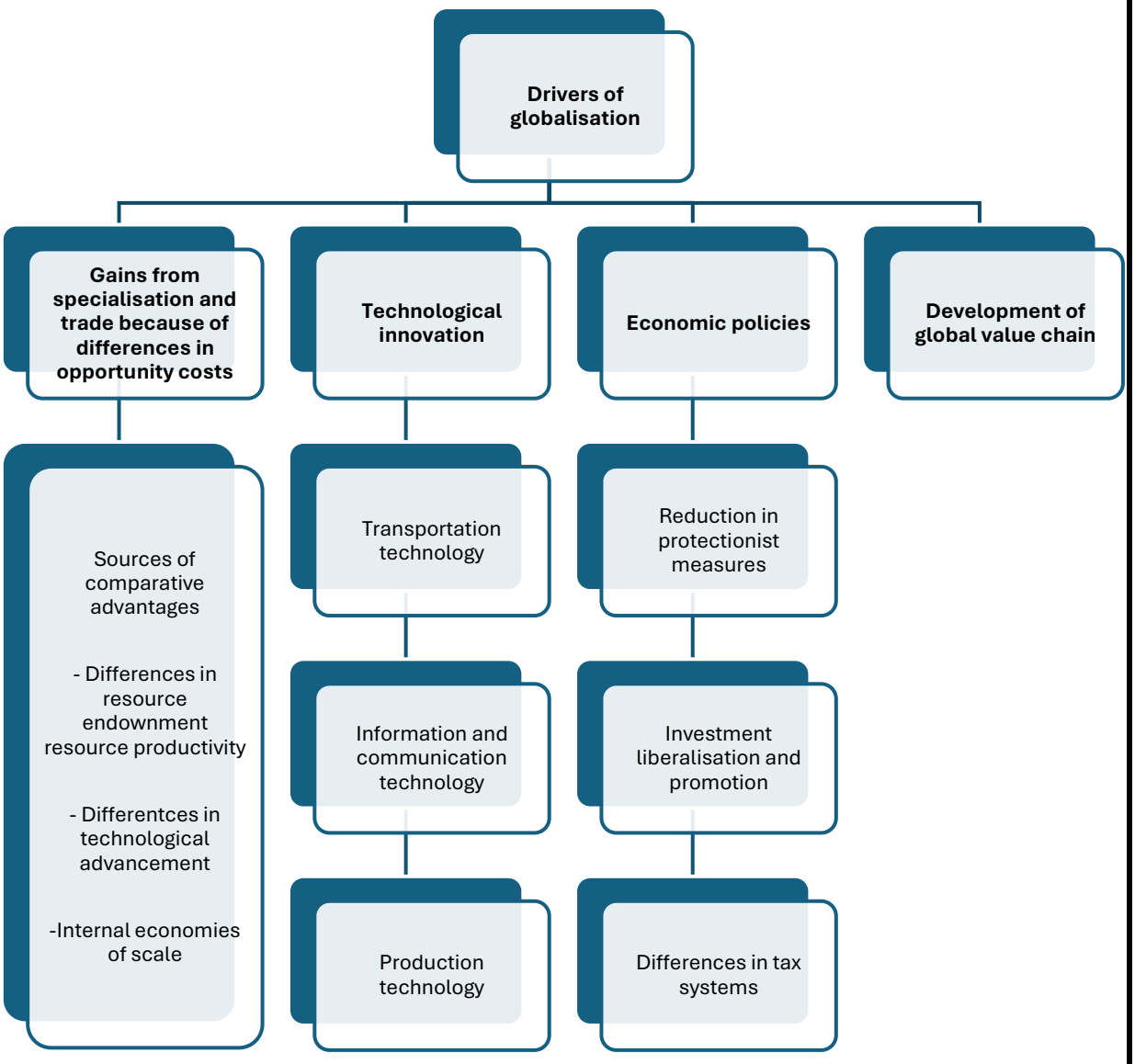
Overview of globalisation



2. Drivers of / Factors affecting globalisation

- Globalisation is largely driven by the desire of firms to increase profits and also by the motivation of governments to tap into the wider macroeconomic and social benefits that come with globalisation.

Overview



- Refer to A-Level 2019 EQ6a

a. (i) Gains from specialisation and trade – Theory of comparative advantage

- The concept of free trade and the gains from free trade drives globalisation.

Explanation without numerical illustration

- Trade occurs because nations have different resource endowments and technological capabilities.
- Because of these differences, there exist differences in opportunity costs between countries in the production of different types of goods.
    - Refer to the next subsection for an understanding of why opportunity costs differ / sources of comparative advantage.
- This in turn determines a range of terms of trade (TOT) for which trade is mutually beneficial to both countries.
    - Refer to the footnote in the numerical illustration for an understanding of TOT.
- The theory of comparative advantage states that trade can be mutually beneficial if countries specialise in the goods in which they have a comparative advantage (i.e. can produce at a lower opportunity costs than other countries) and export the goods they produced to exchange for goods in which they can produce on their own only at a higher opportunity costs (but which other countries can produce at lower opportunity costs).
- Specialisation and trade based on comparative advantage therefore allows countries to expand their consumption possibilities beyond their production possibilities → More access to goods and services to meet needs and wants → Assuming population size remains unchanged → Higher material SOL.

Extension with numerical illustration

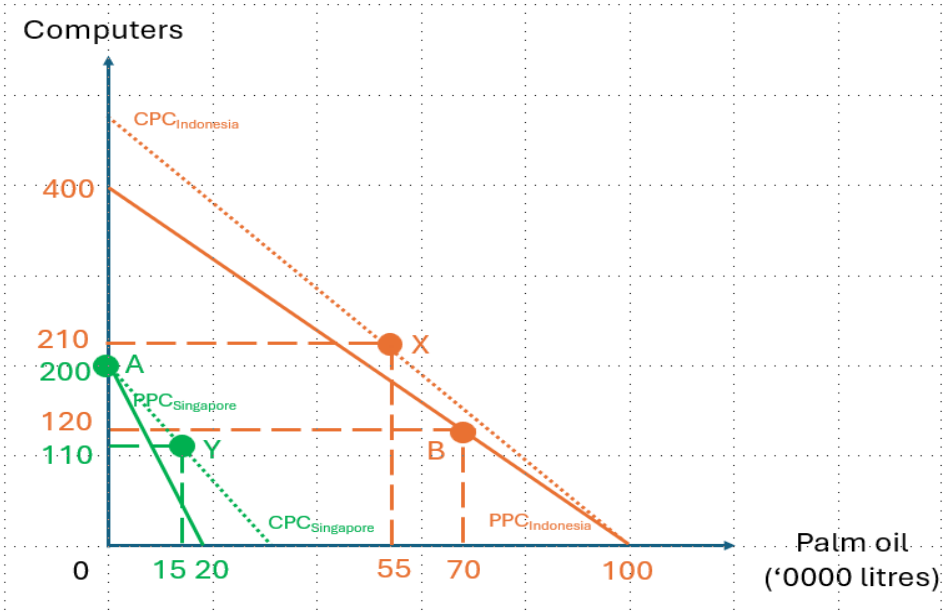


Diagram 1: PPCs of Singapore and Indonesia

- Consider the production possibility curves of two countries, namely, Indonesia and Singapore illustrated by $PPC_{Indonesia}$ and $PPC_{Singapore}$ respectively in Diagram 1.

- Indonesia, being a resource-abundant economy, would be able to produce more of both palm oil (P) and computers (C) than Singapore (i.e. $PPC_{Indonesia}$ is further from the origin than $PPC_{Singapore}$) as the maximum possible output a country can produced depends on the quantity and quality of resource endowment it has and its level of technology.

- However, Indonesia only has comparative advantage in the production of palm oil because it has lower opportunity cost in the production of palm oil as illustrated by the gentler $PPC_{Indonesia}$ i.e. Indonesia forgoes fewer units of computers to produce an additional 10,000 litres of palm oil (i.e. 10,000P = 4C) compared to Singapore (i.e. 10,000P = 10C).

- On the other hand, Singapore has comparative advantage in the production of computers because it has lower opportunity cost in the production of computers illustrated by the steeper $PPC_{Singapore}$ i.e. Singapore forgoes fewer litres of palm oil to produce an additional unit of computer (i.e. 1C = 1000P) compared to Indonesia (1C = 2500P).

- Assuming the following for simplicity:
  - Following their respective comparative advantages, Singapore fully specialises in the production of computers (e.g. by producing 200C at Point A) while Indonesia only partially specialises (e.g. 70% of on P and 30% on C) in the production of palm oil (e.g. by producing 700,000P and 120C at Point B). Without trade, countries can only consume as much as they can produce and thus cannot consume beyond their PPCs.
  - Terms of trade e.g. (10,000P= 6C).
    - Terms of trade[1] refers to the rate at which countries exchange their exports for imports.
    - For mutually beneficial trade, the terms of trade must lie between the opportunity cost ratios of the 2 countries (i.e. between 10,000P = 4C and 10,000P = 10C).
  - Singapore exports computers in exchange for palm oil from Indonesia (e.g. 90C for 150,000P).
- Therefore, after specialisation and trade, Indonesia can consume 550,000P and 210C (i.e. Point X) while Singapore can consume 150,000P and 110C (i.e. Point Y).
- The theory of comparative advantage suggests that when economies specialise and trade in accordance with their comparative advantages, they can expand their consumption possibilities beyond their production possibilities i.e. $PPC_{Indonesia}$ and $PPC_{Singapore}$ expand outward to $CPC_{Indonesia}$ and $CPC_{Singapore}$ respectively.

- The gains from specialisation and trade drives globalisation via increasing trade

[1] Terms of trade (TOT) = (Index of export prices / Index of import prices) x 100. TOT determines how many imports can be purchased per unit of exported goods. If the TOT is increasing, the country can buy more imports with the same amount of exports.

a. (ii) Sources of comparative advantage – Why do opportunity costs differ?

- Note that comparative advantage is not static / can be dynamic – i.e. it can change overtime.
    - For example, economies that invest sufficiently in physical capital, human capital and technology can gain comparative advantages. Comparative advantage can also be acquired by allowing or promoting targeted inflows of foreign investments and foreign labour. On the other hand, economies can loss comparative advantages if brain drain occurs.

- **Differences in resource endowment / resource productivity**
    - A country like Singapore is skilled-labour abundance[2] while a country like Indonesia is unskilled-labour abundance[3].
    - Every unit of skilled labour allocated away from palm oil (unskilled-labour intensive[4]) production to computers (skilled-labour intensive[5]) production would result in a large increase in the number of computers (skilled-labour intensive good) produced in Singapore compared to Indonesia, giving Singapore a comparative advantage in producing computers. This is due to Singapore's high productivity in skill-labour intensive production as Singapore is a skilled-labour abundance economy. Similarly, in the case of Indonesia for unskilled labour-intensive production.
    - Therefore, skilled-labour abundance countries like Singapore is likely to be able to produce and export skilled-labour intensive goods like computer at a relatively lower opportunity cost compared to Indonesia while unskilled-labour abundance countries like Indonesia is likely to be able to produce and export unskilled-labour intensive goods like palm oil at a relatively lower opportunity cost compared to Singapore.

[2] Skilled labour as a percentage of the total work force is high
[3] Unskilled labour as a percentage of the total work force is high
[4] Work by skilled labour takes up a large portion of the production process
[5] Work by unskilled labour takes up a large portion of the production process

- **Dynamic comparative advantage:**

  - Singapore resource endowment has changed over time due to:

    - Accumulation of technology and advanced physical capital from foreign investments.

    - Singapore's education and manpower (e.g. foreign talents) policies.

  - Therefore, Singapore has transformed from an unskilled labour abundance economy that produced unskilled-labour intensive low-cost manufacturing goods to its current skilled-labour abundance economy that produces skilled-labour intensive high-value-added manufacturing goods (e.g. computers, AI hardware, semi-conductors, pharmaceuticals) and advance services (e.g. finance, logistics).

  - As a result, Singapore's PPC has expanded significantly for skilled-labour intensive production and insignificantly for unskilled-labour intensive production.

  - Graphically, the slope of Singapore's PPC has become flatter from PPC_{past} to $PPC_{present}$ as illustrated in Diagram 2.

Diagram 2: Singapore's PPC

- **Differences in technological advancement**

  - Economies can have different intensity of research and development (R&D) and thus some economies have faster rate of technological advancement.

  - Even though technology does not provide the basis for comparative advantage per se, the access to newer technology to keep ahead of the technology race (i.e. technology leadership) has afforded some economies higher efficiency over economies that rely on outdated technology. Thus, the former has substantial cost advantages over the latter.

  - Therefore, an economy that has access to better technology would have comparative advantage in the production of some goods.

  - **Dynamic comparative advantage:**

    - Like the case of resource endowment, comparative advantage based on technological advancement can be dynamic.

    - An economy that initially trails another could gain comparative advantage in the production of a good through, for example, government policies that promote the adoption of technology.

    - An example would be South Korea. Known for its "Fourth Industrial Revolution" strategy, South Korea uses government-backed initiatives to gain comparative advantages in semiconductors, robotics, and digital infrastructure.

- **Internal economies of scale**

  - The theory of comparative advantage assumes (for simplicity) constant return to scale and thus assumes constant unit cost of production.

  - However, by specialising in a narrow range of goods and producing them at a large scale of production, firms can enjoy internal economies of scale and thus benefit from lower long-run average cost.

- This is particularly relevant for economies like Singapore whose domestic market is too small and thus would find it prohibitively costly to diversify across many industries to become self-sufficient as it would have to produce everything at a high average cost.

- An economy that specialises to produce at large scale would likely have lower opportunity cost and hence have comparative advantage in the production of the same good compared to an economy that does not.

- **Dynamic comparative advantage:**

  - With direct support from Singapore's government (e.g. infrastructure, tax concessions, grants) to attract multinational corporations (MNCs) to set up large-scale production facilities for semiconductor equipment and chemical products, Singapore has over time focuses on these specialised areas and become one of the top exporters of these products.

b. Technological innovation

- **Transportation technology – Improvement in transportation**

- The theory of comparative advantage assumes (for simplicity) zero transport costs. In reality, higher transport costs (e.g. shipping, air freight, land delivery) reduce gains from trade. For example, trade volume is often high with neighbouring economies but these economies may not necessarily have the lowest opportunity cost globally. This is because by trading with neighbouring countries, the savings on transport cost allow countries to retain greater gains from trade.

- Improvements in transportation (e.g. adoption of containerisation leading to efficiency gains, advanced infrastructure such the Suez and Panama Canals which eliminate refuelling stops by affording shorter distance) have led to the declining transport costs, thereby increasing the volume of cross-border trade, including trade with countries much further away. This is because the improvements have helped to bring prices of goods and factors of production in the export markets closer to the good's country of manufacture.

- Similarly, improvements in transportation (e.g. planes / jet engines with ultra-long-range capabilities affords longer distance non-stop flights resulting in shorter and more convenient international travel) have also facilitated the movement of factors of production such as labour and facilitated long-haul overseas tourism (i.e. export of tourism services across economies).

- The decline in transportation costs due to transportation technology thus drives globalisation via increasing trade (in goods and services) and increasing movement of factors of production (e.g. labour).

- **Information and communication technology (ICT) – Improvement in ICT**

  - Improvements in ICT (e.g. internet, World Wide Web, 5G, cloud computing) have massively increased efficiency and reduced the cost of transmitting and communicating information. New developments in ICT capacity, software advances and huge expansions in global data transmission infrastructure have driven down telecommunication prices while at the same time increasing bandwidth.

  - The decline in information and communication costs due to ICT technology drives globalisation via increasing trade (in goods and services).

  - **Trade in services**

    - ICT improvement makes possible the disaggregation of services (e.g. outsourcing, offshoring) and thus contributes to increasing volume of international transactions in services with more accessible but less costly information.

    - For example, afforded by ICT improvement, many companies in countries such as US, UK and Singapore (e.g. Grab, DBS bank, Singtel) outsource their call centers to English-speaking countries such as India and Philippines.

  - **E-commerce**

    - Afforded by ICT improvement, global platform services (e.g. Shopee, Amazon, Taobao) provide marketing and facilitate not only domestic but also cross-boarders transactions for even the smallest companies.

    - Afforded by ICT improvement, global logistics providers (e.g. DHL, FedEx, Ninja Van, SingPost) with a focus on the movement of packages around the world (e.g. courier, last-mile delivery, forwarding solutions) via international shipping and warehousing enables goods to be delivered from anywhere in the world directly to an international consumer.

    - For example, Chinese e-commerce firms Shein and Temu based in the US has enabled many small manufactures based in China to sell a wide variety of goods cheaply and directly to consumers based in US and Singapore.

- ICT improvements have enabled businesses of all sizes, including micro-businesses, to enjoy the benefits of the global market and thus partake in trade (in goods and services) regardless of their physical location, driving globalisation.

- **Production technology – Reaping internal economies of scale**

  - Technological advancement has given firms access to better production technology such as specialised machineries.

  - These machineries, although more expensive, are more productive thus can produce a larger quantity of output over a given period of time. Thus, the higher costs incurred are spread across an even larger increase in output to result in lower long-run average cost, enjoying technical economies of scale. Therefore, it is cheaper for many of the manufactured goods to be produced in a few key countries in the world (e.g. China, Germany, India, South Korea, Mexico) with advanced production technology to reap the internal economies of scale.

  - Internal economies of scale afforded by production technology thus drives globalisation via increasing trade.

c. Economic policies

- **Trade policies – Reduction of protectionist measures**

  - The reduction of protectionist (e.g. tariff and non-tariff) measures would reduce the costs of trade and thus increase the profit that firms could earn from trade, driving globalisation via increasing trade as firms reap the full benefits of specialisation and trade.

    - Refer to the section on tariff for explanation of how a reduction of tariffs would increase the volume and value of trade.

  - The removal of tariff and non-tariff measures can be achieved through:

    - **Trade negotiation**

      - Multilateral negotiations e.g. signing of World Trade Organisation (WTO), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

      - Bilateral negotiations e.g. signing of US-Singapore Free Trade Agreement.

- **Countries' unilateral decision to reduce trade barriers, for example:**
  - Malaysia's decision to lift its temporary export ban of live chicken to Singapore in October 2022
  - Philippines' extension of reduced tariffs on rice, corn, pork and other essential imports in December 2023 to combat supply issues and high commodity prices.

- **Investment liberalisation and promotion – Deregulation of global financial markets**
  - Investment liberalisation and promotion encourage, for example, freer and less costly flow of financial capital across national boundaries and thus drive globalisation by contributing to greater financial flows across national economies.
  - Investment liberalisation includes aspects such as:
    - Reduction in capital controls i.e. reduce restrictions on the inflow and outflow of international capital
    - Opening capital markets for participation by foreign investors e.g. $6.5 billion expansion of the Equity Market Development Programme by the Monetary Authority of Singapore (MAS)
    - Permitting greater foreign equity ownership to attract foreign direct investment e.g. Singapore allows 100% foreign shareholding in private limited companies without requiring local partners and with no restrictions on the types of business activities foreign investors can engage in.

- **Differences in tax systems**
  - With differences in tax regimes, multi-national corporations (MNCs) find it attractive to shift some of their operations to countries with lower tax rates, thereby increasing their profitability.
  - For example, Singapore's Double Taxation Agreements reduces tax burdens on cross-border income with an extensive network of over 80 countries.
  - Competitive tax regime thus drive globalisation by contributing to greater financial flows across national economies.

d. Development of global value chain

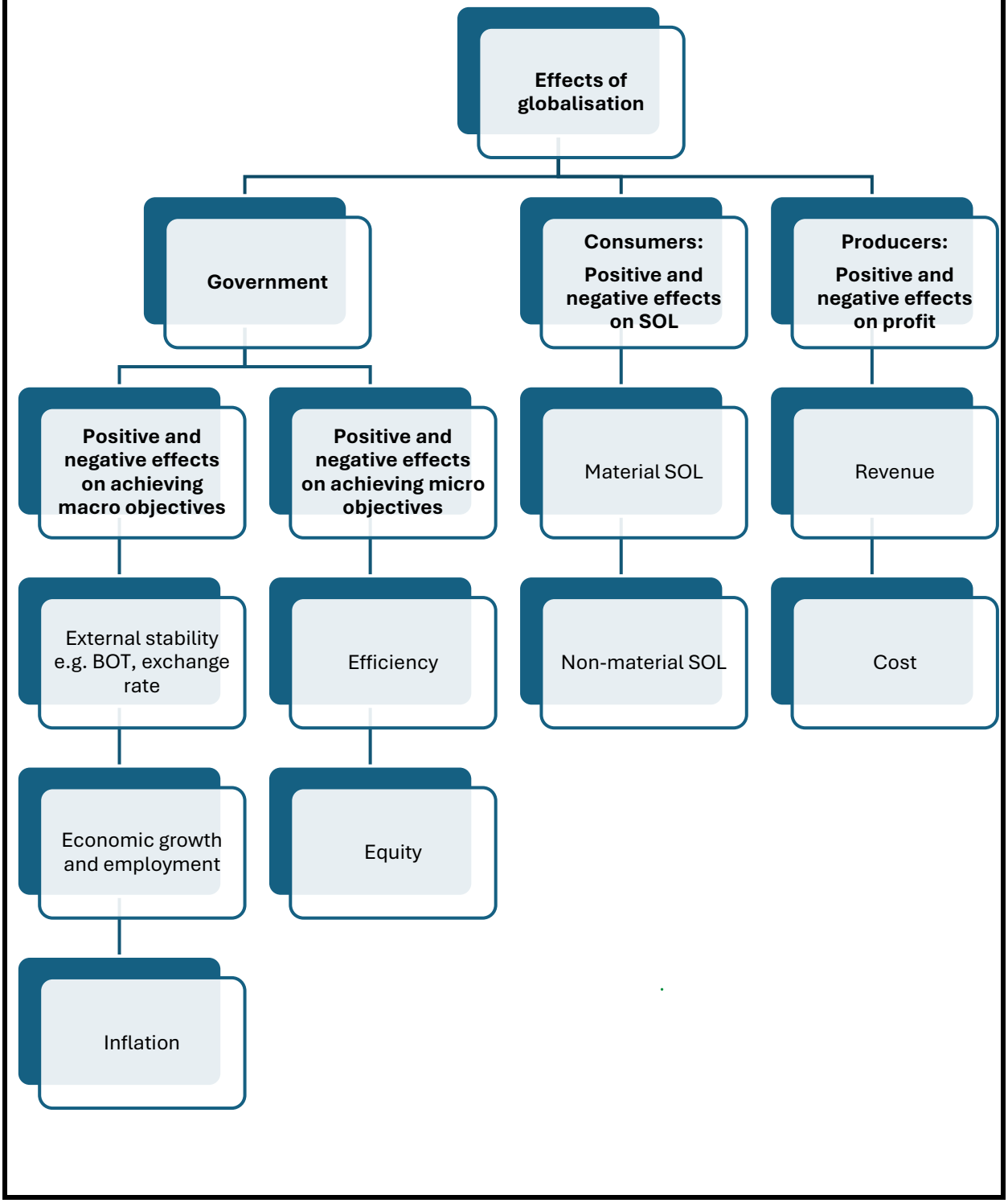
- Global value chains (GVC) break up production processes into sub-processes to be carried out in different countries with different comparative advantages. With GVCs and afforded by low transport costs and low trade barriers, a country can thus specialise in certain production activities and export goods in which it has comparative advantage instead producing a whole manufactured product in order to export it.

    - For example, GVCs enabled a large number of different unskilled-labour intensive production activities to be carried out in unskilled-labour abundance countries like China so that firms can exploit its comparative advantage. No doubt 80%-90% of iPhones are assembled in and exported by China, the high-tech components are made in, for example, Japan, Korea and Germany before exporting them to China for assembling.

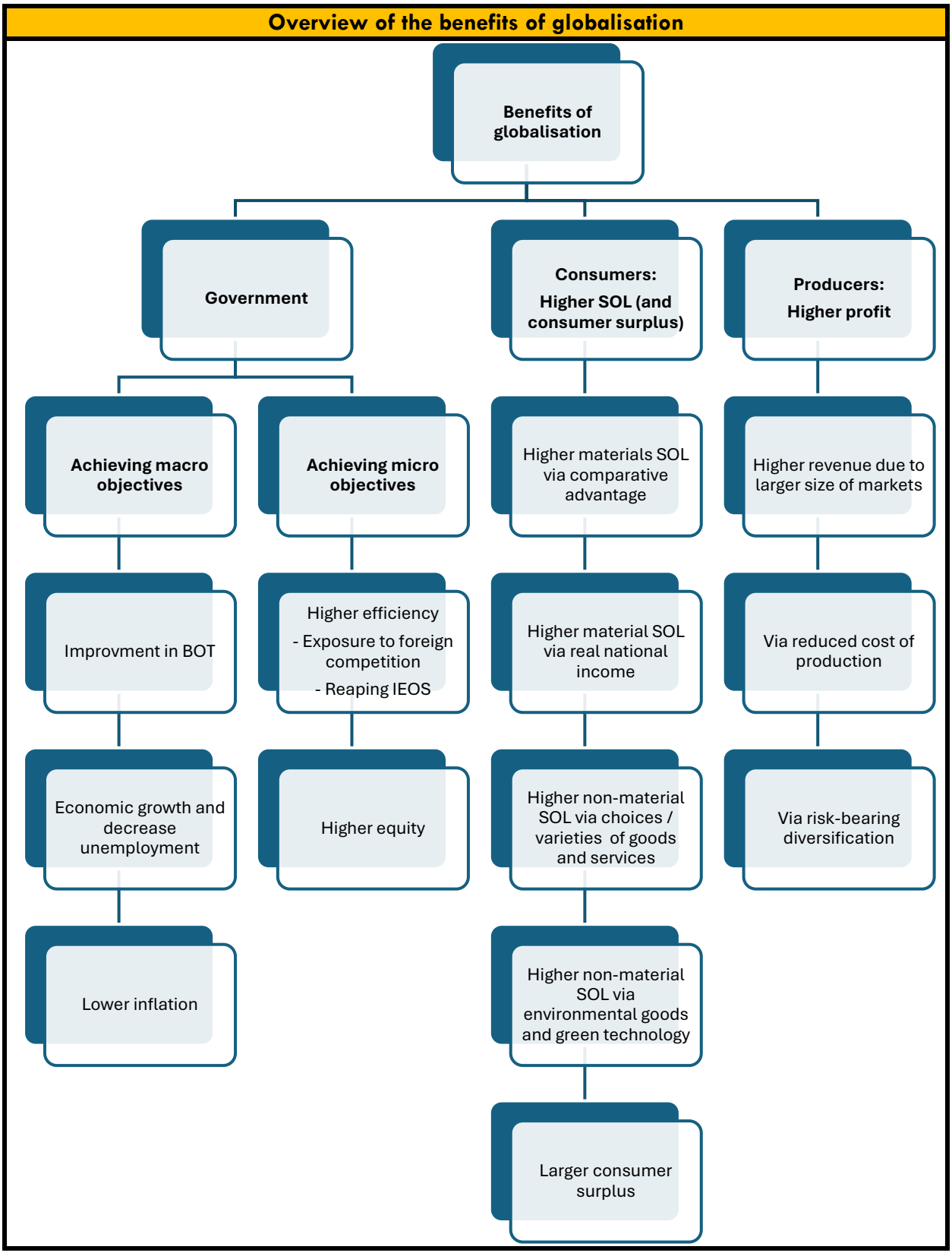
    - The development of GVCs thus drives globalisation via increasing trade.

3a. Benefits and costs of globalisation (i.e. free trade and flows of capital and labour)

Overview of the effects of globalisation



- **Benefits of globalisation i.e. arguments for globalisation**



- **Government – Achieving macroeconomic and microeconomic objectives**
  - **Balance of trade**
    - Access to foreign markets via free trade / reduction of protectionist measures → Larger consumer base due to addition of consumers from foreign markets → Increase the demand for exports → Increase in export revenue X → Increase in net export X-M → Improvement in an economy's balance of trade.
  - **Economic growth and decrease unemployment**
    - **Globalisation as an "engine of growth"**
      - Investment and trade liberalisation → Inflow of foreign direct investment (FDI) → Increase in investment expenditure I in AD, assuming there is an increase in the purchase of new capital assets → Increase I + Assuming increase in X outweighs increase in M thus increase (X-M) → Increase AD given AD=C+I+G+(X-M) → AD analysis / chunk with multiplier k and diagram → Increase in real national income → Actual economic growth and decrease in demand deficient unemployment.
        - ✓ Especially relevant for a small country like Singapore. Trade enables Singapore to increase AD beyond the size of its domestic market.
      - Increase in I +Technological transfer from FDI + Access to foreign talents / skilled labour (i.e. brain gain) due to geographical mobility → LRAS analysis / chunk with QQT and diagram → Increase in productive capacity and thus increase full employment level of output → Potential economic growth.
        - Actual growth + Potential growth = Sustained growth.

- **Lower inflation**

  - Increase quantity of capital asset (in the factor market) accompanied by higher level of technology thus have higher productivity to produce more output using the same amount of resources+ Access to cheaper factors of production (e.g. raw materials, intermediate / semi-finished products) by importing them from economies that have comparative advantages in producing them + Access to foreign labour which would increase the supply of labour in domestic labour market and thus lower wages (assuming demand constant) → Lower unit costs of production → SRAS analysis / chuck with diagram → Firms might pass on lower cost to consumers in terms of lower prices → Decrease in general price level → Lower cost-push inflation. [Note: As this is a benefit, the outcome should not be deflation because the objective of the government is to achieve low inflation]

- **Higher efficiency**

  - **Via exposure to greater competition**

    - Firms in home economy face greater competition due to reduction in trade and investment barriers that results in an increase in foreign substitutes and firms entering the home economy → Increase in market contestability → Reduce market / monopoly power → Each domestic firm would face a decrease in demand and the demand become more price elastic from D_1 to D_0 in Diagram 3 and lower marginal revenue (MR) from MR_1 to MR_0 for its goods → The profit maximising output decreases from Q_1 (where $MR_1=MC$) to Q_0 (where $MR_0=MC$) and each domestic firm is only able to charge a lower price from P_1 to P_0 → Reduce the ability to mark up prices above marginal cost (i.e. $P_0-C_0 < P_1-C_1$) → Decrease allocative inefficiency.

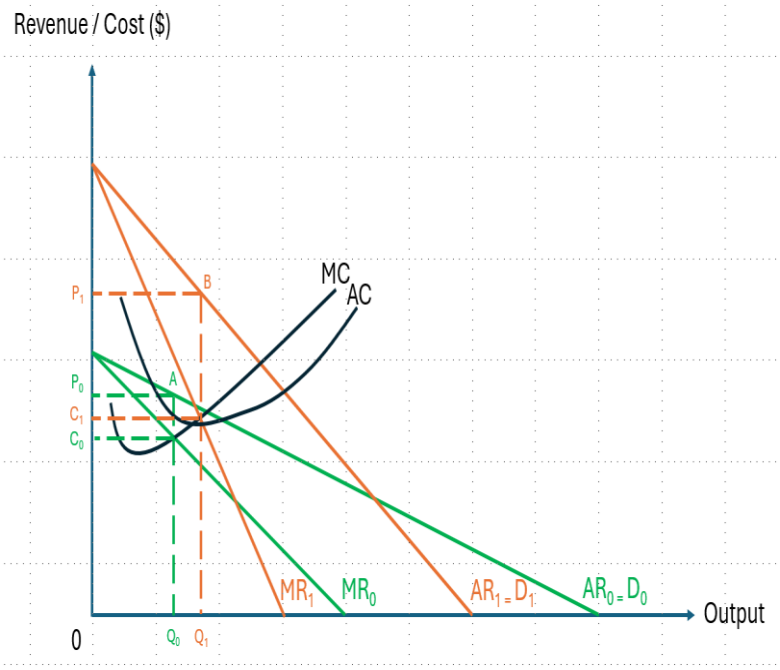


Diagram 3: Decrease in demand for a firm due to greater competition

- Greater competition would also pressure firms to engage in research and development or more rapid adoption of technology to protect their market shares → Higher process innovation would increase productivity and thus reduce cost of production which firms can pass to consumers in terms of lower prices while higher product innovation would lead to new and/or better-quality products → Increase dynamic efficiency.

- Greater competition would cause each firm to earn lesser revenue → Firms would be incentivised to check complacency and avoid profligacy to maintain profit and avoid losses → Firms will produce closer to or on the long-run average cost → Decrease X-inefficiency.

❖ **Via reaping internal economies of scale**

➢ Access to foreign markets via free trade / reduction of protectionist measures → Increase the demand for goods produced by export-oriented firms → Increase scale of production → Reap internal economies of scale, for example, by using specialised machineries or employed specialised workers who can perform tasks with higher precision and speed (i.e. dexterity) → Unit costs of production move down the long-run average cost curve nearer to the minimum efficient scale → Decrease productive inefficiency.

✓ Especially relevant for a small country like Singapore where the domestic market is not large enough to support large-scale industries.

▪ **Higher equity**

❖ According to the theory of comparative advantage, developing economies which are unskilled-labour intensive should specialise and export unskilled-labour intensive goods → Increase in derived demand for low-wage unskilled labour → Price adjustment process / Price mechanism (holding supply constant) with diagram → Increase in wages of and employment opportunities for the low-income population.

❖ Moreover, according to the theory of comparative advantage, skilled-labour abundance developed economies should import cheaper unskilled-labour intensive goods from unskilled-labour intensive developing economies → Consumers in developed economies would thus have access to cheaper imports of basic necessities such as food which disproportionately benefits their low-income population through higher purchasing power.

- ❖ In addition, with globalisation acting as an engine of growth, households are earning higher income (and spending more on big ticket items such as cars, household appliances) and firms are earning higher profit → Government would receive higher amount of income taxes (i.e. personal and corporate) and goods and services tax (GST) → If governments choose to invest more in public services such as education and/or enhance redistribution mechanism (e.g. give more education bursaries / financial aids to the poor than to the rich) → Children from low-income households would have greater opportunities for education, aiding long-term equity.

- **Consumers / Households – Higher SOL and consumer surplus**

  - **Higher material SOL via comparative advantage**

    - ❖ Trade occurs because nations have different resource endowments and technological capabilities.

    - ❖ Because of these differences, there exist differences in opportunity costs between countries in the production of different types of goods.

    - ❖ This in turn determines a range of terms of trade (TOT) for which trade is mutually beneficial to both countries.

    - ❖ The theory of comparative advantage states that trade can be mutually beneficial if countries specialise in the goods in which they have a comparative advantage (i.e. can produce at a lower opportunity costs than other countries) and export the goods they produced to exchange for goods in which they can produce on their own only at a higher opportunity costs (but which other countries can produce at lower opportunity costs).

    - ❖ Specialisation and trade based on comparative advantage allows countries to expand their consumption possibilities beyond their production possibilities → More access to goods and services to meet needs and wants → Assuming population size remains unchanged → Higher material SOL.

- **Higher material SOL via real national income**

  - Access to foreign markets via free trade / reduction of protectionist measures + Investment liberalisation and promotion by the government → Increase I and X → Increase AD + Increase in LRAS → Increase in real national income + Cheaper imports by importing from countries with comparative advantages in the production of those goods → Higher purchasing power → Higher ability to consume goods and services to meet needs and wants → Assuming population size remains unchanged → Higher material SOL.

- **Higher non-material SOL via choice / variety of goods and services**

  - In autarky (i.e. without trade), residents in an economy can only consume what the economy produces → Trade affords imports of goods that were previously not available in the home countries (e.g. without trade, consumers in Singapore would not have access to fruits such as apples, pears, grapes, cherries) and imports of differentiated goods (e.g. different brands of computers, pharmaceutical drugs) to cater to different needs and wants → Greater consumer choice → Higher non-material SOL.

- **Higher non-material SOL via environmental goods and green technology**

  - Trade provides countries with access to environmental gods and green technology, leading to reduced emission of pollution (e.g. greenhouse gases, toxic discharged into water sources) from production and consumption activities → Cleaner environment → People less likely to suffer from, for example, lung and waterborne diseases → Higher non-material SOL.

  - For example, Singapore imports liquefied natural gases (LNG) – a cleaner fossil fuel – to supply about 90% of its electricity.

- **Larger consumer surplus**

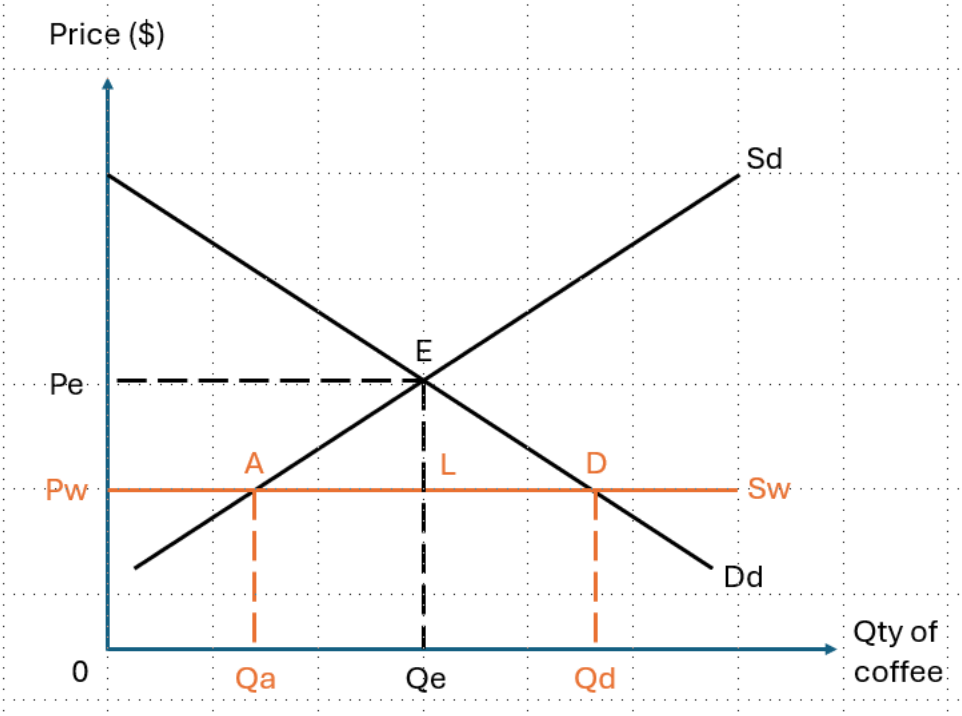


Diagram 4: From autarky[6] to free trade

- In autarky, price Pe and quantity Qe are determined by the intersection of domestic demand curve Dd and domestic supply curve Sd.

- Assume a perfectly competitive domestic coffee market in a small economy. Assume that the domestic economy is too small to affect the world price thus the amount of the good the economy imports and exports have no impact on the price of the good. Therefore, the domestic economy is a price taker and thus able to import the good as much as it wants at existing world price Pw (i.e. it faces a perfectly price elastic world supply curve Sw) and that under free trade, domestic price of the good equals the world price.

- With globalisation via free trade, consumer surplus increases from area PeAE to area PwAD (or by area PwPeED).

  - Area PwPeA is transferred from producers to consumers due to the lower price from Pe to Pw.

[6] Autarky is a state of economic independence and sel-sufficiency, where the economy operates without trade.

- Area AEL is efficiency gained from importing QaQe from foreign economies that can produce the good at lower opportunity cost.

- Area LED is gained due to higher consumption from Qe to Qd.

- **Producers (Domestic) – Higher profit**

  - **Via larger size of markets resulting in higher revenue**

    - Access to foreign markets via free trade / reduction of protectionist measures → Domestic firms gain access to overseas consumer bases → Quantity demanded increases at each and every price level → For export-oriented firms, each firm would face an increase in demand from D_0 to D_1 in Diagram 5 and higher marginal revenue (MR) from MR_0 to MR_1 for its goods → The profit maximising output increases from Q_0 (where MR_0=MC) to Q_1 (where MR_1=MC) and each firm is able to charge a higher price from P_0 to P_1 → Total revenue increases from area $0P_0AQ_0$ to area $0P_1BQ_1$ but total cost only increases from area $0C_0FQ_0$ to area $0C_1GQ_1$. Therefore, supernormal profit increases from area C_0P_0AF to area C_1P_1BG.

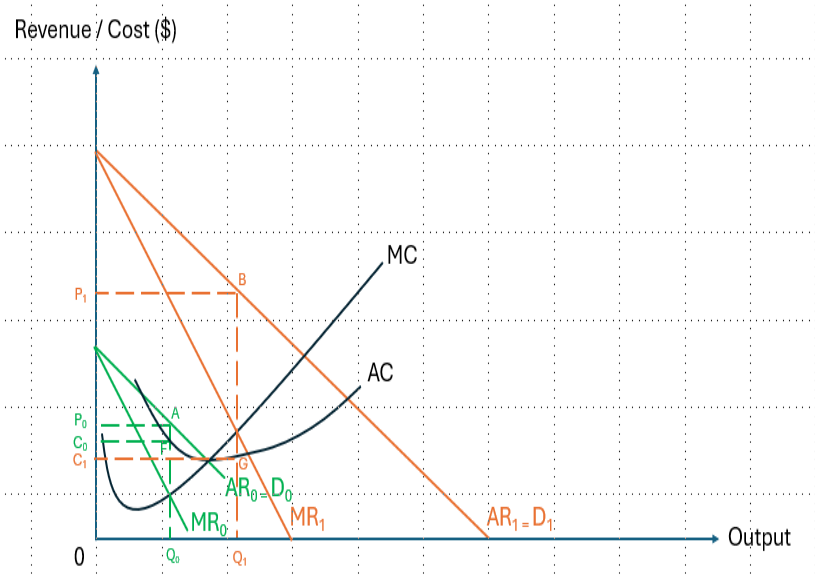


Diagram 5: Increase in demand for a firm

- **Via reduced cost of production**

  - Reduction of protectionist measure → Domestic firms that use imported inputs are able to import cheaper factors of production from countries that have comparative advantages in the production of the factors of production and/or able to employ low-wage foreign labour + Greater competition would also pressure firms to process innovate (i.e. to be dynamic efficient) and reduce X-inefficiency → Firms are likely to source for factors of production from more efficient producers globally → Lower firms' cost of production from AC_0 and MC_0 to AC_1 and MC_1 respectively in Diagram 6 → The profit maximising output increases from Q_0 (where $MR=MC_0$) to Q_1 (where $MR=MC_1$) → Each firm is able to enjoy lower unit cost of production from C_0 to C_1 → Total cost decreases from area $0C_0AQ_0$ to area $0C_1BQ_1$. Therefore, a firm's supernormal profit increases from area C_0P_0FA to area C_1P_1GB.

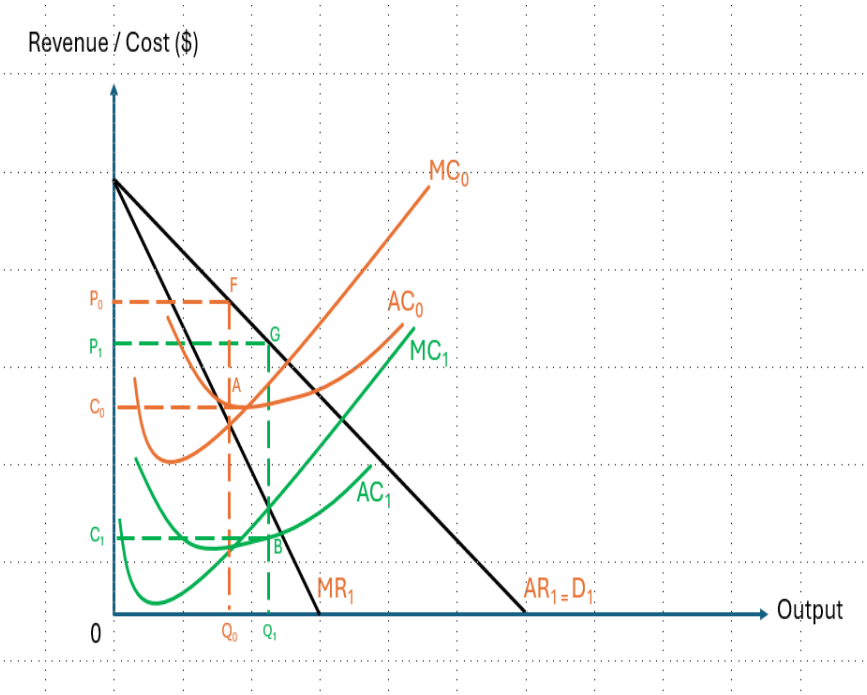


Diagram 6: Decrease in a firm's cost of production

- **Via risk-bearing diversification**

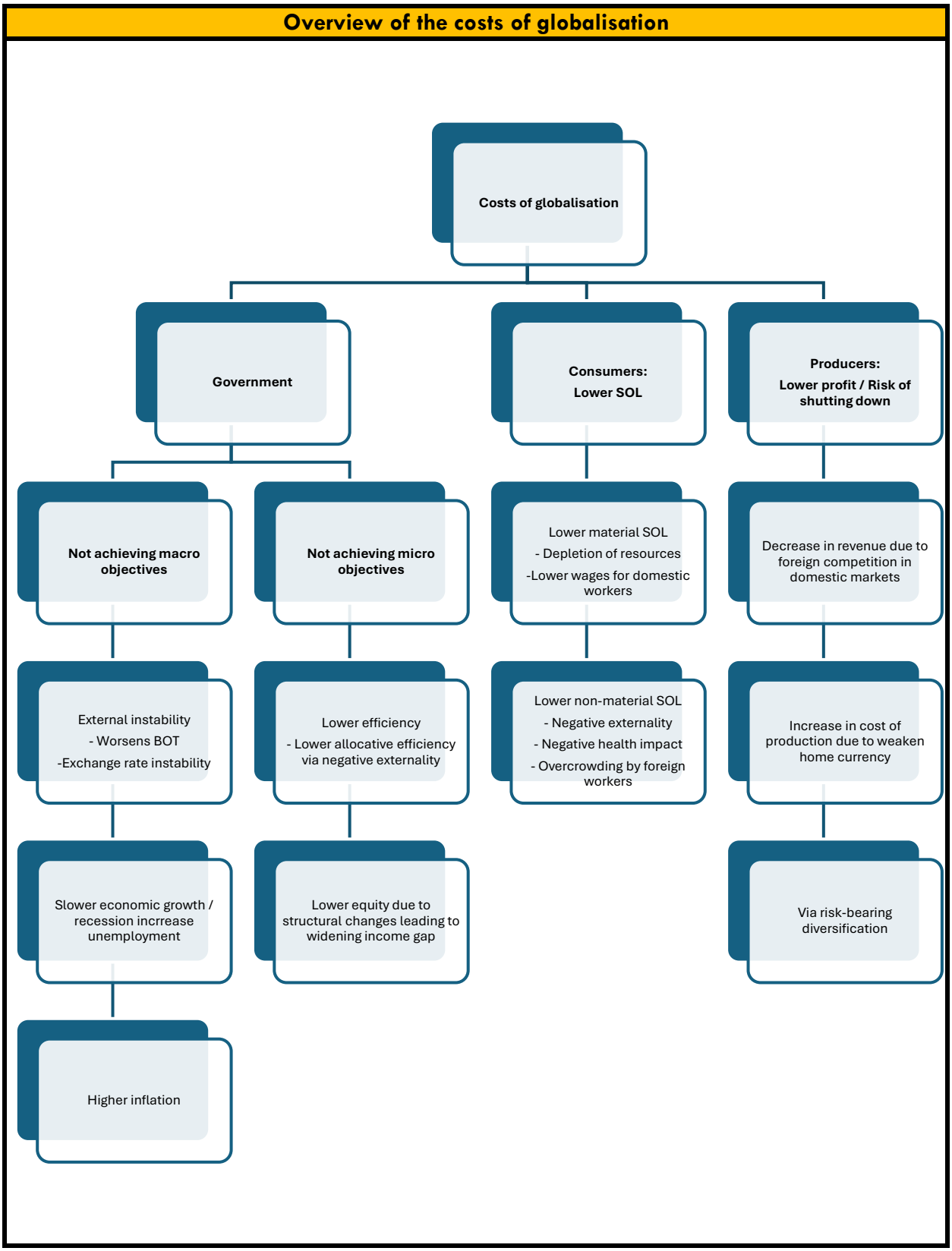
  - With the access to overseas markets and suppliers → Firms are able to diversify their risks across different markets and suppliers in different countries → Reduce uncertainties in profits.

- E.g. when there is a recession in a country thus reduces the demand for a firm's goods in that market thus causing a decrease in profit, the decrease in profit might be offset by an increase in demand for the firm's goods in other countries that are enjoying economic growth.

- E.g. To mitigate risks associated with geopolitical tensions and trade wars, Apple has been actively expanding its supplier base outside of China. It has shifted production of iPhones and other products to countries like India and Vietnam.

- **Costs of / Problems with globalisation i.e. arguments against globalisation**

Overview of the costs of globalisation



- **Government – Not achieving macroeconomic and microeconomic objectives**

  - **External instability**

    - **Worsens balance of trade**

      - With free trade, economies do not just export good but also import goods and services → Increase in import expenditure M.

      - With globalisation, home economies can be vulnerable to external shocks, for example, when its trading partners fall into recession → Income in economies of trading partners decreases thus their purchasing power decreases → Decrease in demand for domestically produced and imported goods and services, assuming these goods are normal goods with positive income elasticity of demand → Decease in export revenue X of home economies (i.e. contagion effect of recession in trading partners).

      - Increase in M and decrease in X → Net exports (X-M) would decrease → Worsen BOT.

    - **Exchange rate instability**

      - Increasing integration of financial markets → Ease of inflow and outflow of finance capital / funds e.g. sudden and large outflow of short-term capital / hot money for a home economy → Increase in supply of home currency in the foreign exchange market (i.e. FOREX) relative to its demand → Depreciation / weakening of the home currency, assuming a freely floating exchange rate system.

- **Slower economic growth / recession and increase unemployment**

  - ❖ Multinational corporations (MNCs) have no obligations to the countries that they invested in → When economies where they are based in are having recessions or when the global economy is not doing well thus their investments are no longer profitable, MNCs can pull out of these economies due to capital mobility (i.e. FDI outflow as MNCs are footloose / are fair-weather friends) → I decreases + Net export (X-M) decreases → AD decreases given AD=C+I+G+(X-M) → AD analysis / chunk with reversed multiplier k and diagram → Decrease in real national income → Slower economic growth / recession and increase in demand deficient unemployment.

  - ❖ Geographical mobility → Highly-educated labour who finds limited opportunities in their home economies (especially unskilled-labour abundance developing economies that have comparative advantages in unskilled-labour intensive products) thus are willing to move overseas to work are now able to do so → Brain drain + Outflow of FDI → LRAS analysis / chunk with QQT and diagram → Decrease in productive capacity and thus decrease full employment level of output → Negative potential economic growth.

  - ❖ Domestic firms face competition from cheaper imports → Decrease in demand for domestically-produced goods → Decrease derived demand for domestic factors of production such as labour → Increase unemployment in the domestic economy.

  - ❖ Developed economies that are skilled-labour and/or capital abundance lose comparative advantages in the production of unskilled-labour intensive production to unskilled-labour abundance economies + Developed economies might offshore unskilled labour intensive production to unskilled labour abundance developing economies → Unskilled-labour intensive industries in developed economies decline (i.e. structural changes) → Unskilled labour retrenched → Displaced workers from the sunsetting industries do not have the required skills thus lack occupational mobility to join rising industries that focus on skilled-labour and/or capital intensive production → Increase structural unemployment.

- **Higher inflation**

  - Economies (e.g. Singapore because of the lack of natural resources) that are reliant on imports of final goods and factors of production may experience cost-push and/or imported inflation when import prices increase perhaps due to global supply shocks (e.g. 2026 Iran war that caused Singapore energy prices to soar by about 11%).

  - Import-reliant economies can be vulnerable to external shocks (e.g. closure of the Strait of Hormuz which accounted for about 20% of global oil shipment) → Shortages → World prices increase → Import-reliant economies face higher cost of importing the final goods and factors of production (e.g. raw materials such as oil) → SRAS analysis / chuck with diagram → Firms might pass on higher cost to consumers in terms of higher prices → Increase in general price level → Higher imported and/or cost-push inflation (i.e. contagion effect of inflation in trading partners).

  - Weakening of currency due to outflow of hot money → More home currency is needed to exchange for foreign currencies to buy imports → Increase in cost of imports → Higher cost push and/or imported inflation.

  - Inflow of FDI → Multinational corporations (MNCs) involve in production process → Increase in demand for factors of production → Holding supply constant (for simplicity), shortages resulting in factor payments to increase → Pass on higher costs in terms of higher prices to consumers → Higher cost push inflation.

- **Lower efficiency**

  - **Lower allocative efficiency via negative externality**

    - Increase trade + FDI flow → Increase in production → More waste generated especially in developing economies because their comparative advantages lie in primary products and resources extraction that cause significant environmental externalities (e.g. environmental waste, deforestation, overfishing, air pollution) but yet, they are less equipped (e.g. technology, environmental regulations) to deal with the abatement of the externalities → Firms are less likely willing and/or able to internalise the external costs of environmental

damages → Deadweight losses thus allocative inefficiency.

- ✓ **Link to negative potential growth and unsustainable growth:** More environment problems like pollution + Rapid depletion of resources → Decrease in quantity and quality of resources → LRAS analysis / chunk with diagram → Decrease in LRAS → Decrease in productive capacity and thus decrease full employment level of output → Decrease potential economic growth → Rate of growth cannot be maintained in the long term → Unsustainable growth.

- **Lower equity**

  - ❖ Structural changes due to the rise (e.g. skilled labour-intensive production) and decline (e.g. unskilled-labour intensive production) of certain industries as a result of economies gaining or losing comparative advantages → Making reference to Diagram 7, demand for skilled labour increases from D_2 to D_3 for economies that gain comparative advantages in skilled-labour intensive production (e.g. software development, product design) while demand for unskilled labour decreases from D_0 to D_1 → Holding supply constant (for simplicity), shortages of skilled labour leading to an increase in their wage from P_2 to P_3 but surplus of unskilled labour leading to a decrease their wage from P_0 to P_1 → The wage for skilled labour would increase significantly as the supply is relatively price inelastic (as illustrative by $S_{inelastic}$) due to long period of training required for specialised skills → Widening of income gap from P_0P_2 to P_1P_3, indicated by a rising Gini coefficient.

    Think logically, do you expect the initial wage for unskilled labour P_0 to be lower, equal or higher than the initial wage for skilled labour P_2? If so, your digrams must be illustrative.

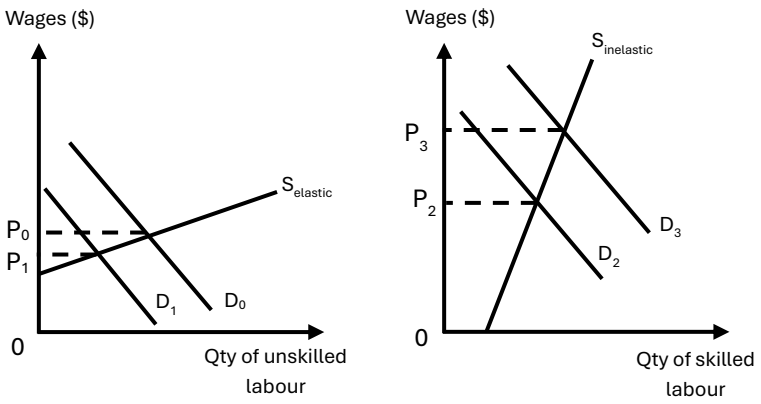


Diagram 7: An increase in wage gap

- **Link to non-inclusive growth:** Opportunities not created for all segments of the population + Benefits of increased prosperity are not fairly distributed across the society → Non-inclusive growth.

- **Consumers / Households – Lower SOL**

  - **Material SOL**

    - Unsustainable growth from depletion of resources and environmental problems due to trade and FDI flow → Lower access to goods and services in the future to meet needs and wants → Assuming population size remains unchanged → Lower future material SOL.

    - Geographical mobility → Inflow of foreign workers → Supply of labour in domestic economy increases → Holding demand constant (for simplicity), surplus of labour that leads to lower wages for domestic workers → Assuming population size remains unchanged → Lower material SOL of domestic workers.

  - **Non-material SOL**

    - Higher pollution from higher level of production due to trade and FDI flow → Negative health impacts e.g. respiratory illnesses → Better opportunities at work and social engagement → Less fulfilling life → Lower non-material SOL.

- ❖ Increase in numbers of foreign workers → Overcrowding, for example, in the use of public transport resulting in commuting inconveniences + Increase in social problems such as conflicts arising from different cultures → Less conducive environment for living → Lower non-material SOL.

- **Producers (Domestic) – Lower profit / Risk of shutting down**

  - Increased capital mobility → Inflow of multinational corporations (MNCs)

    - ❖ → Increase in the availability of imports as substitutes in consumption to domestically produced goods → Domestic firms face a higher level of competition

    - ❖ → MNCs are generally larger in size thus able to reap internal economies of scale, and also able to offer more generous remuneration packages and better career progression.

  - → Crowd out domestic firms as these firms are unable to compete with MNCs in obtaining cheaper resources and in pricing of their products → Each domestic firm would face a decrease in demand from D_1 to D_0 in Diagram 5 and lower marginal revenue (MR) from MR_1 to MR_0 for its goods → The profit maximising output decreases from Q_1 (where MR_1=MC) to Q_0 (where MR_0=MC) and the firm is only able to charge a lower price from P_1 to P_0 → Total revenue decreases from area $0P_1BQ_1$ to area $0P_0AQ_0$ but total cost only decreases from area $0C_1GQ_1$ to area $0C_0FQ_0$. Therefore, supernormal profit decreases from area C_1P_1BG area C_0P_0AF.

  - Weakening of home currency due to hot money outflow → Domestic firms in import-reliant economies face higher cost of importing final goods and factors of production → Retailers and manufacturers face higher cost of production relative to revenue → Decrease profit → If earn subnormal profit in long run → Shut down of domestic firms.

3b. Benefits and costs of globalization: An evaluation

- **On achieving macroeconomic and microeconomic objectives**
  - **Depending on the nature of the economy and on government policies**
    - Small and open economies that lack natural resources can, on balance, likely benefit from globalisation with appropriate government policies.
      - In terms of trade, small economies are no longer restricted by the small sizes of their domestic goods market. As the economies are open to trade, the demand for their exports and their demand for imports of raw materials from their trading partners become important drivers of growth.

        However, such exposure is both a boon and a bane. These economies would also be vulnerable to external shocks.

        - For example, exports revenue might decrease when their trading partners are having recession and might import inflation from their trading partners.

        Nevertheless, appropriate government policies can help minimise the costs and/or maximise the benefits of trade to help economies enjoy net benefit from globalisation.

        - For example, a strong currency can help keep imported inflation at bay. In the case of Singapore where gross exports and imports of goods and services are more than 300% of GDP and domestic expenditure has a high import content, gradual appreciation of SGD has kept domestic inflation relatively low, averaging 1.68% (1995-2025) in the last 30 years.

        - Furthermore, having strong fiscal reserve affords the government the ability to help small domestic firms to be competitive e.g. In Singapore, Enterprise Development Grant (EDG) helps local companies upgrade, innovate, and grow by supporting projects that enhance core capabilities, innovation, and market access, and Market Readiness Assistance (MRA) Grant helps SMEs expand into new overseas markets for activities like overseas promotion and business development.

- In addition, by inking more FTAs would not only provide a larger consumer base for exports and cheaper sources of imports but also help the economy diversifies, thus the economy might not be excessively affected by the problems of any one of its trading partners.

❖ In terms of capital flow, small economies are no longer restricted by the small sizes of their domestic funds. As the economies are open to capital flow, FDI becomes an important driver of growth by providing the much-needed funds to complement domestic funds to support higher levels of investment.

However, as MNCs are footloose / are fair-weather friends, FDI can outflow as quickly (e.g. when host economies are having problems) as they inflow (e.g. when there are opportunities to make profit in host economies), adding salt to wounds of host economies.

Nevertheless, appropriate government policies can help minimise the costs and/or maximise the benefits of capital flow to help economies enjoy net benefit from globalisation.

- For example, government policies that foster a pro-business competitive environment (e.g. incentives for startup and for R&D, antitrust laws) and strengthening global connectivity (e.g. inking of FTAs) and would boost confidence of investors by having positive investment climates and thus remain attractive to FDI even when the economies are facing problems. Not only would there be little FDI outflow, FDI will inflow quickly to such economies and thus aid the recovery of such economies.

❖ In terms of labour flow, small economies are no longer restricted by the small sizes of their domestic workforce. As the economies are open to labour flow, foreign labour provides the much-needed manpower to complement domestic labour to support higher levels of production and growth.

However, the above assumed that foreign labour complements domestic labour. Foreign labour might instead substitute domestic labour (and also put downward pressure on wages of domestic workers). Thus, despite the increase in the size of labour force, unemployment rate decreases only to a small extent.

Nevertheless, appropriate government policies can help minimise the costs and/or maximise the benefits from labour flow to help economies enjoy net benefit from globalisation.

- For example, in Singapore, policies are designed to control the quality and quantity of foreign labour (e.g. COMPASS Framework which is a points-based system to assess both Employment Pass applicant's qualifications and the hiring firms' commitment to local employment), enforce fair hiring practices (e.g. Local Qualifying Salary which requires the minimum wage a local worker must earn to count towards hirers' foreign worker quota) and upgrading the skills of the local workforce (e.g. SkillsFuture which is national movement to promote lifelong learning and skills mastery of Singapore's citizens to overcome occupational immobility, allowing domestic workers to move into higher growth sectors). Therefore, the inflow of foreign workers serves primarily as a buffer for local workforce i.e. meet the shortage of workers during periods of growth but bear the brunt of job losses in difficult years.

- **Depending on the nature of the goods and on government policies**

  - For example, developing economies generally export agricultural and low-end manufactured goods which are generally income inelastic in demand while developed economies generally export high-end manufactured goods and high value-added services which are generally income elastic in demand. Given rising world income over time, developed economies would likely experience a much larger increase in the demand for their goods, thereby enjoy a much larger increase in their export revenue as compared to developing economies.

  - On the other hand, developing economies are often more likely to experience trade deficits (where import expenditure exceeds export revenue) due to a structural reliance on exporting low-value goods while importing high-value goods and services.

  - Therefore, on balance, developed economies are more likely benefit from globalisation via trade while developing economies are more likely to suffer.

  - However, developing economies, on balance, might not lose out if these economies have appropriate government policies to help them minimise the costs and/or maximise the benefits of globalisation.

- ❖ Some developing economies have implemented a range of industrial and trade policies that emphasize value-addition to climb higher in global value chains and to move beyond commodity dependence. Economies like Indonesia and Thailand have adopted vertical integration where, for example, they have fostered industry clusters in electric vehicle (EV) manufacturing and semiconductors to turn minerals into high-value components before exporting these components instead of simply exporting the raw materials.

- Furthermore, in terms of job creation, developing economies with comparative advantage in unskilled-labour production might benefit while developed economies with comparative advantage in skilled-labour production might lose out. This is because unskilled-labour intensive production might offshore or outsource from skilled-labour abundance developed economies to unskilled-labour abundance developing economies to take advantage of the latter's lower cost of production. If so, unskilled labour in developing economies would gain employment while unskilled labour in developed economies would be structurally unemployed due to occupational immobility when their industries move up the value chain into more skilled-labour intensive production.

- **On achieving higher or lower SOL**

  - **Depending on behaviours of households and government policies**

    - In terms of SOL, households are likely to suffer in the short term and in the long term if growth is unsustainable and if the domestic workers are skill immobile and thus replaced by foreign workers.

    - However, whether households would, on balance, benefit or lose from globalisation depends on the behaviours of households and on government policies.

      - ❖ Households, in the long term, would more likely benefit if they adopt green habits such as reduce, reuse and recycle to reduce the depletion of resources and reduce environmental damages, and be more receptive to skills upgrading.

- Government policies also play an important role in helping households enjoy net benefit from globalisation.

    - In terms of ensuring growth that is more sustainable thus higher future SOL, Singapore government mandated a minimum 5-cent charge per plastic bag at large supermarkets in 2023, and in 2026, introduced the Beverage Container Return Scheme where plastic and metal containers ranging from 150 millilitres to 3 litres will carry a 10-cent deposit.

    - In terms of ensuring the welfare of domestic workers, SkillsFuture – a national movement to promote lifelong learning and skills mastery of Singapore's citizens – was introduced to help Singapore's citizens overcome occupational immobility, allowing domestic workers to move into higher growth sectors. Not only would such policies reduce domestic workers chances of being structurally unemployed, but the policies would also help mange income gap (indicated by a smaller Gini coefficient) by helping domestic workers move into high growth sectors.

    - In terms of ensuring the welfare of low-income households, government policies can help create opportunity for all segments of the population and distribute the benefits of growth fairly across the society. For example, in Singapore, Progressive Wage Model (PWM) provides mandatory wage increases for lower-wage workers in sectors like retail and food services. But such policies if funded by firms would hurt their profits and given free capital mobility, firms might offshore or outsource production overseas thus worsening the problem. If funded by the government, the government might be hard-pressed to raise revenue. Therefore, such policies should generally be carried out on short term basis only. A more sustainable way is through human capital development (e.g. Singapore's SkillsFuture to promote lifelong learning and skills mastery of its citizens) so as to overcome occupational immobility, allowing domestic workers to move into higher growth sectors to earn higher income.

- **On achieving higher or lower profit / risk of shutting down**

  - **Depending on behaviours of firms and on government policies.**

    - In terms of impacts on domestic firms, domestic firms might benefit from having access to larger consumers bases and cheaper factors of production, but firms might suffer due to risks of currency exchange and being crowd out by foreign competition.

      However, whether domestic firms would, on balance, benefit or lose depends on the firms' behaviours and on government policies.

      - For example, when faced with competition from cheaper imports, domestic firms that decide to match the lower prices of imports by compromising on the quality of their products might eventually loss out once consumers are aware of the lower quality. On the other hand, instead of competing in terms of price with foreign firms from countries with comparative advantages in the production of those goods, domestic firms that product innovate to make the demand for their products more price inelastic would not only face an increase in demand for their products, they could charge higher prices for their products with a less than proportionate decrease in quantity demanded and hence earn higher revenue. Assuming the increase in revenue outweighs the increase in cost, firms that innovate can benefit from higher profit.

    - Government policies also play an important role in helping firms enjoy net benefit from globalisation.

      - Innovation can be costly and thus unaffordable by small domestic firms e.g. SMEs. SMEs are also the firms that are most affected by globalisation. For example, in Singapore, there is the Enterprise Innovation Scheme (EIS) that offers tax deductions for R&D and training, and the Refundable Investment Credit (RIC) to support high-value projects related to R&D, innovation, and decarbonization. These policies would help firms keep their cost low to be price competitive while incentivising them to innovate to be quality competitive thus ensuring their survival when faced with foreign competition. Such policies are especially important for firms in developing countries to benefit from globalisation given the large technological gap between them and advanced economies. The large amount of technological transfer, knowledge and expertise from R&D would help firms in developing economies move up the value chain to higher value-added sectors to survive competitions from foreign firms e.g. China in particular is moving up the value chain. It is increasingly

competing directly with advanced economies in industries such as solar panels and electric vehicles, and is now the leader in these industries.

- Summarily, economies that has the most to gain from globalisation during good times are also the economies that are most vulnerable to external shocks thus negatively affected during bad times. Therefore, whether economies, on balance, gain or lose from globalisation would largely depends on the responses of their government and what the governments do with the growth dividends (e.g. in the case of Singapore, the government invest abroad through sovereign wealth funds like GIC[7] to generate returns that contribute to the national budget through the NIRC[8] etc) to minimise the costs and/or maximise the benefits from globalisation. It also depends on responses of households and firms.

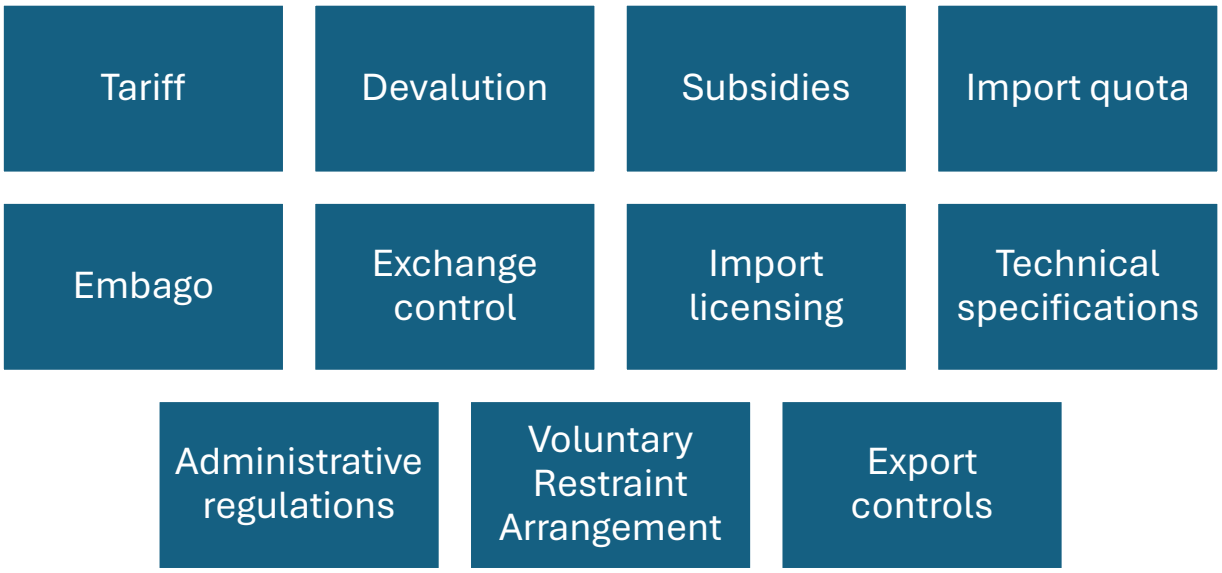
[7] Government of Singapore Investment Corporation
[8] Net Investment Returns Contribution

4. What is protectionism?

- Protectionism refers to policies (i.e. trade barriers) taken to restrict or limit free trade with the main aim of sheltering domestic producers from foreign competition.

5. Type of protectionism (a.k.a. protectionist policies / measures)

Overview on the type of protectionism



- Refer to A-Level 2018 EQ6a

Tariffs (a.k.a. customs duties): The case of a small economy

- Tariffs are taxes on imports primarily to restrict imports and to raise revenue for the government. By raising the prices of imports, tariffs are designed to protect domestic producers from foreign competition by giving domestic producers an advantage (i.e. larger domestic production that can be sold at higher price) over foreign producers and putting foreign producers at a competitive disadvantage.
    - Tariffs may be specific (i.e. a fixed amount per unit) or ad valorem (i.e. a certain percentage of the price).

Overview of the effects of tariffs (Refer to Diagram 8a)				
	Free trade	**Post-tariff**	**Effects**	
Price	Pw	Pt	Increase from Pw to Pt	
Domestic consumption	Qd	Qc	Lower	Smaller consumer surplus by area PwPtCD
Domestic production	Qa	Qb	Increase	Larger producer surplus by area PwPtBA
Imports quantity	QaQd	QbQc	Decrease	
Total spending by consumers	Area 0PwDQd	Area 0PtCQc	Uncertain. Depending which area is larger: Area QcGDQd or PwPtCG This in turn depends on the value of PED. If |PED| > 1 → Increase in price would bring about a more than proportionate decrease in quantity demanded → Decrease in expenditure due to the decrease in quantity demanded illustrated by area QcGDQd would outweigh the increase in expenditure from the higher price illustrated by area PwPtCG → Net reduction in consumer expenditure. Converse is true if |PED| < 1.	
Revenue earned by domestic producers	Area 0PwAQa	Area 0PtBQb	Increase by area PwPtBFQbQaA	
Revenue earned by foreign producers	Area QaADQd	Area QbFGQc	Decrease by area QaAFQb + area QcGDQd	
Government tariff revenue	NIL	Area FBGC	Increase	
Society	No DWL	DWL area ABF + Area GCD	increase	

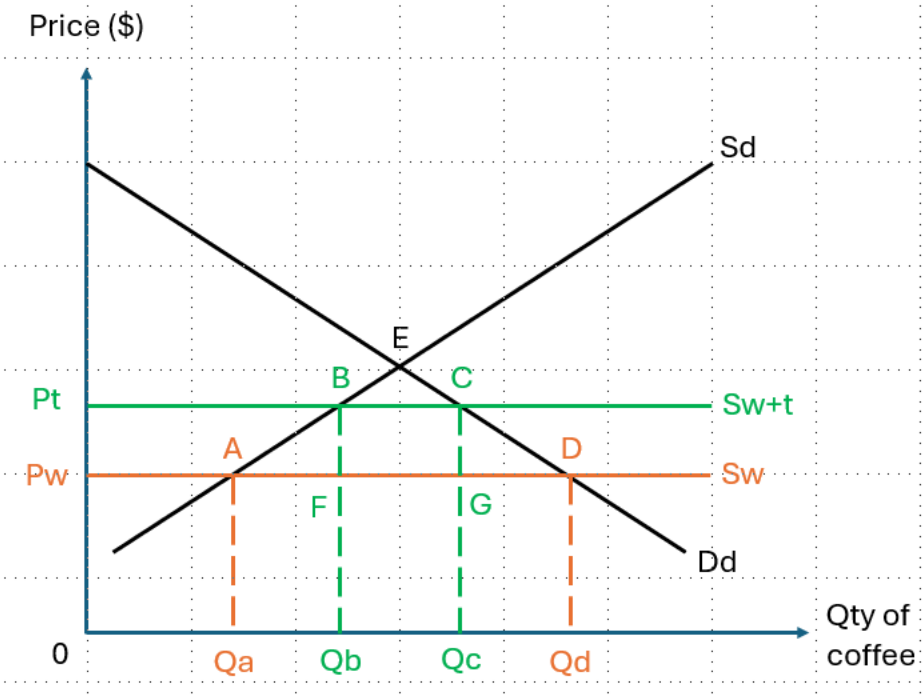


Diagram 8a: Imposition of a tariff for a small economy

- Consider a good (e.g. coffee) that can be partly domestically produced (e.g. in Costa Rica) and partly imported (e.g. from Brazil). Assume a perfectly competitive domestic coffee market. Assume that the domestic economy is too small to affect the world price thus the amount of the good the economy imports and exports have no impact on the price of the good. Therefore, the domestic economy is a price taker and thus able to import the good as much as it wants at existing world price Pw (i.e. it faces a perfectly price elastic world supply curve Sw) and that under free trade, domestic price of the good equals the world price.

    - **Free trade at Pw**

        - Domestic production: Qa
        - Domestic consumption: Qd
        - The difference between domestic consumption Qd and domestic production Qa under free trade is fulfilled by imports, thus qty of imports: QaQd
        - Total spending on the good by domestic consumers: Area 0PwDQd (derived by Pw x Qd)

- Revenue earned by domestic producers: Area 0PwAQa (derived by 0Pw x 0Qa)

- Revenue earned by foreign producers: Area QaADQd (derived by 0Pw x QaQd)

- **Imposition of a specific tariff of amount $t per unit**

  - Cost of production incurred by firms that purchase imports increases by $t per unit of the good sold in the domestic economy → Sw shifts upward to Sw+T → Domestic price increases from Pw to Pt.

- **Post-tariff at Pt**

  - Domestic production: Qb

    - The increase in domestic price raises the marginal revenue of domestic producers, allowing those units of output with higher marginal cost to be produced and brought into the market.

  - Domestic consumption: Qc

    - As domestic price increases, consumers who are constrained by their budget as less willing and able to buy the good, reducing quantity demanded.

  - Qty of imports: QbQc

    - Recall that one objective of tariffs is to restrict imports.

  - Total spending on the good by consumers: Area 0PtCQc (derived by 0Pt x 0Qc)

  - Revenue earned by domestic producers: Area 0PtBQb (derived by 0Pt x 0Qb)

  - Revenue earned by foreign producers: Area QbFGQc (derived by 0Pw x QbQc)

    - Why is the revenue earned by foreign producers not derived by 0Pt x QbQc?

- ✓ This is because PwPt is the per unit tax t that has to be paid to the government as tariff. Foreign producers only earn Pw per unit.

- Why is it that revenue earned by domestic producers based on 0Pt and not 0Pw?

  - ✓ This is because tariffs are imposed only on imports. Tariffs are not imposed on domestic production.

- Why is it that domestic producers charge Pt and not Pw for their goods?

  - ✓ This is because domestic producers are a price taker and thus able to sell their goods as much as they want at Pt and thus they would not want to sell at lower price Pw, assuming they are profit maximisers.

❖ Government's tariff revenue: Area FBGC

- Recall that one objective of tariffs is to raise revenue for the government.

○ **Effects of tariff**

▪ **On domestic consumers**

❖ Higher prices from Pw ⟶ Pt.

❖ Lower consumption from Qd ⟶ Qc.

❖ Smaller consumer surplus by area PwPtCD as part of it is transferred to domestic producers as producer surplus (i.e. area PwPtBA) and part of it is transferred to the government as tariff revenue (i.e. areaFBCG). The remaining is lost as deadweight loss (i.e. area ABF + area GCD).

▪ **On domestic producers**

❖ Higher price from Pw ⟶ Pt.

❖ Higher production from Qa ⟶ Qb.

- Recall that tariffs give domestic producers an advantage via larger domestic production that can be sold at higher price.

❖ Larger producer surplus by area PwPtBA.

- **On the government**

❖ Gain in tariff revenue by area FBCG.

- Recall that one objective of tariffs is to raise revenue for the government.

- **On society**

❖ Loss in economic welfare illustrated by deadweight loss area ABF + area GCD.

- Area ABF represents the extra costs of producing QaQb units of the good at home, rather than importing them from foreign economies that can produce the good at lower opportunity cost i.e. efficiency loss production.

  ✓ If QaQb units are imported, total cost would be area QaAFQb.

  ✓ If QaQb units are domestically produced, total cost would be illustrated by the area under the domestic supply curve which is also the domestic marginal cost of production: Area QaABQb.

- Area GCD represents the loss in consumer surplus due to the decrease in consumption by QcQd. Consumers would save expenditure illustrated by area QcGDQd but sacrifice area QcCDQd of total utility (i.e. area under the domestic demand curve which is also the marginal utility curve).

- **On the economy**

  - ❖ Decrease in import expenditure by area QaAFQb + area QcGDQd (or from area QaADQd to area QbFGQc) as consumers switch to consume cheaper domestically produced goods → Effect on BOT and thus external stability → Effect on AD → Effect on internal stability.

    - Recall that one objective of tariffs is to restrict imports.

➢ **Tariffs (a.k.a. customs duties): The case of a big economy**

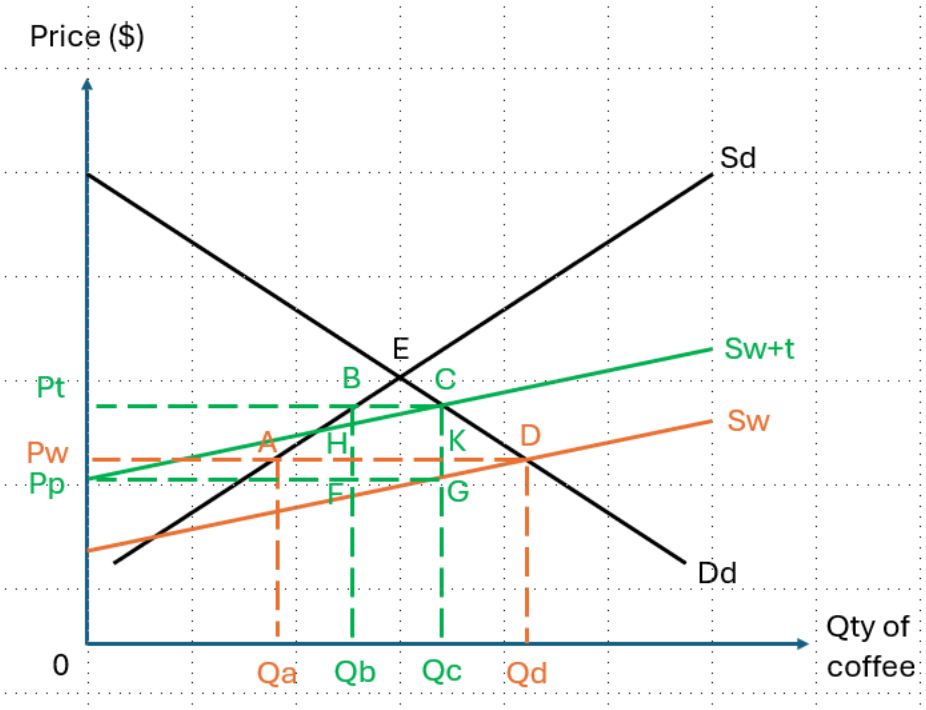


Diagram 8b: Imposition of a tariff for a large economy

- Unlike a small economy who is a price taker in the world market because it does not have bargaining power thus faces a perfectly price elastic world supply curve, a large economy with bargaining power faces an upward sloping world supply curve Sw.

- **Free trade**

  - With free trade, the large economy faces world supply curve Sw (which is the sum of Sd + supply from other countries).

- Price would be Pw. Domestic consumption Qd would be larger than domestic production Qa by the quantity of imports QdQa. Total spending on the good by domestic consumers illustrated by Area 0PwDQd (derived by Pw x Qd).

- **Imposition of a specific tariff of amount $t per unit**

  - With an imposition of a specific tariff equivalent to $t, the large economy faces supply curve Sw+t. Price would increase to Pt. Domestic consumption would decrease to Qc while domestic production would increase to Qb. Quantity of imports would decrease to QbQc. Total spending on the good by consumers illustrated by Area 0PtCQc (derived by 0Pt x 0Qc). Revenue earned by domestic producers illustrated by Area 0PtBQb (derived by 0Pt x 0Qb) and revenue earned by foreign producers: Area QbFGQc (derived by 0Pw x QbQc).

  - Government's tariff revenue illustrated by Area FBGC, of which Area HBCK is paid by domestic consumers while Area FHKG is paid by foreign producers.

- **Effects of tariff**

  - **On domestic consumers**

    - Higher prices from Pw → Pt.
    - Lower consumption from Qd → Qc.

  - Smaller consumer surplus by area PwPtCD.

  - **On domestic producers**

    - Higher price from Pw → Pt.
    - Higher production from Qa → Qb.
    - Larger producer surplus by area PwPtBA.

  - **On the government**

    - Gain in tariff revenue by area FBCG.

- **On society**

  - Loss in economic welfare illustrated by deadweight loss area ABH + area KCD.

- **On the economy**

  - Decrease in import expenditure by area QaAHQb + area QcGKQd (or from area QaADQd to area QbHKQc) as consumers switch to consume cheaper domestically produced goods → Effect on BOT and thus external stability → Effect on AD → Effect on internal stability.

- **Devaluation**

  - Deliberate attempt by a government to sell its domestic currency in the forex market → Increase supply of the domestic currency (e.g. Chinese RMB) in the forex market → Holding demand for RMB constant, there would be a surplus → Downward pressure on the price of RMB in terms of foreign currencies → Devaluation of RMB → China's exports relatively cheaper while its imports from other countries relatively more expensive → Demand for China's exports increases + Quantity demanded for imports by China decreases more than proportionately because demand for imports in China is price elastic (i.e. PEDm>1) due to the availability of close domestic substitutes → China's export revenue X increases while China's import expenditure M decreases [if export revenue X and import expenditure M changes in the same direction and thus effect on (X-M) cannot be determined, apply Marshal-Lerner Condition |PEDx+PEDm| > 1 to determine the outcome of BOT] → China's BOT improves + Increase in domestic production as both domestic and foreign consumers switch to buying relatively cheaper made-in-China goods (i.e. restricting free trade and sheltering domestic producers from foreign competition) → China's RNY increases + Increase derived demand for labour in China → Unemployment in China decreases.

    - For example, US Treasury officially designated China a currency manipulator from August 2019 to January 2020, alleging China's efforts to undervalue RMB for trade advantages.

- **Subsidies**

  - Subsidies can come in the form of cash grants, tax concessions, cheaper loans, etc. They are given to domestic producers by the government to give domestic producers cost advantages over foreign producers, allowing domestically produced goods to be more price competitive to effectively compete with foreign produced goods in domestic markets and in foreign markets.

- Subsidies given to domestic firms → Lower domestic firms' cost of production from AC_0 and MC_0 to AC_1 and MC_1 respectively in Diagram 6 → The profit maximising output increases from Q_0 (where $MR=MC_0$) to Q_1 (where $MR=MC_1$) → Each firm is able to enjoy lower unit cost of production from C_0 to C_1 → Pass on lower costs in terms of lower prices to consumers from P_0 to P_1 → Domestic firms become relatively more price competitive → Restricting free trade and sheltering domestic producers from foreign competition.

    - For example, China provides significant subsidies for solar panel and electric vehicle (EV) production and this has enabled Chinese firms to dominate global markets in recent years. On the other hand, Common Agricultural Policy in EU provides significant financial support to European farmers, enabling them to compete with cheaper, non-EU agricultural imports.

➢ **Import quotas**

- An import quota restricts the quantity of a good that a country can import in any period of time.

- Import quotas are imposed when the government wishes to reduce imports, where tariffs are less effective in reducing imports because imports are price inelastic in demand.

- By restricting the quantity of imports, import quotas directly lower the supply goods, causing prices of goods to be higher than under free trade.

• **Embargo**

- An embargo is a complete ban on certain imports or exports from and to certain economies. This could be done for social (e.g. demerit goods such as commercial chewing gums in Singapore) and political reasons (e.g. US travel bans on travellers from numerous countries such as Afghanistan, Cuba, Venezuela).

• **Exchange controls**

- Exchange controls involve the government controlling the sale and purchase of foreign exchange to limit the amount of foreign exchange available to importers, or residents travelling abroad or for overseas investments.

- As international trade is carried out in terms of foreign currencies, the control over the sale and purchase of foreign exchange will therefore limit the quantity, value as well as the type of imports and exports.

- **Import licensing**
    - With import licensing, importers would need permission from the government by acquiring license to import before they are able to acquire foreign exchange or are able to import goods.
        - For example, India's agricultural import restrictions and Indonesia's use of import licenses for products like fruits and textile.
- **Technical specifications**
    - The implementation of technical specifications discriminates in favour of domestic producers, for example, in terms of safety, hygiene standards on food and agricultural products.
        - For example, EU has a set of unique standards that override international standards for products like medical devices, cybersecurity and AI so as to limit market access for non-EU producers.
- **Administrative regulations**
    - Administrative regulations, for example, unnecessary import procedures may be so bureaucratic that they delay and therefore reduce the volume of imports which are seen as threats to domestic producers.
        - For example, US Inflation Reduction Act (IRA) uses local content requirement to ensure a percentage of parts are US-made, acting as protectionism for domestic manufacturing.
- **Voluntary Restraint Arrangement (VRA) or Voluntary Export Restraints (VER)**
    - VRA or VER is self-imposed limits by exporting economies on the volume of goods to be exported to a specific economy usually enacted to avoid harsher trade restrictions.
        - For example, Australia and Argentina have implemented VERs on agricultural products heading towards European economies.

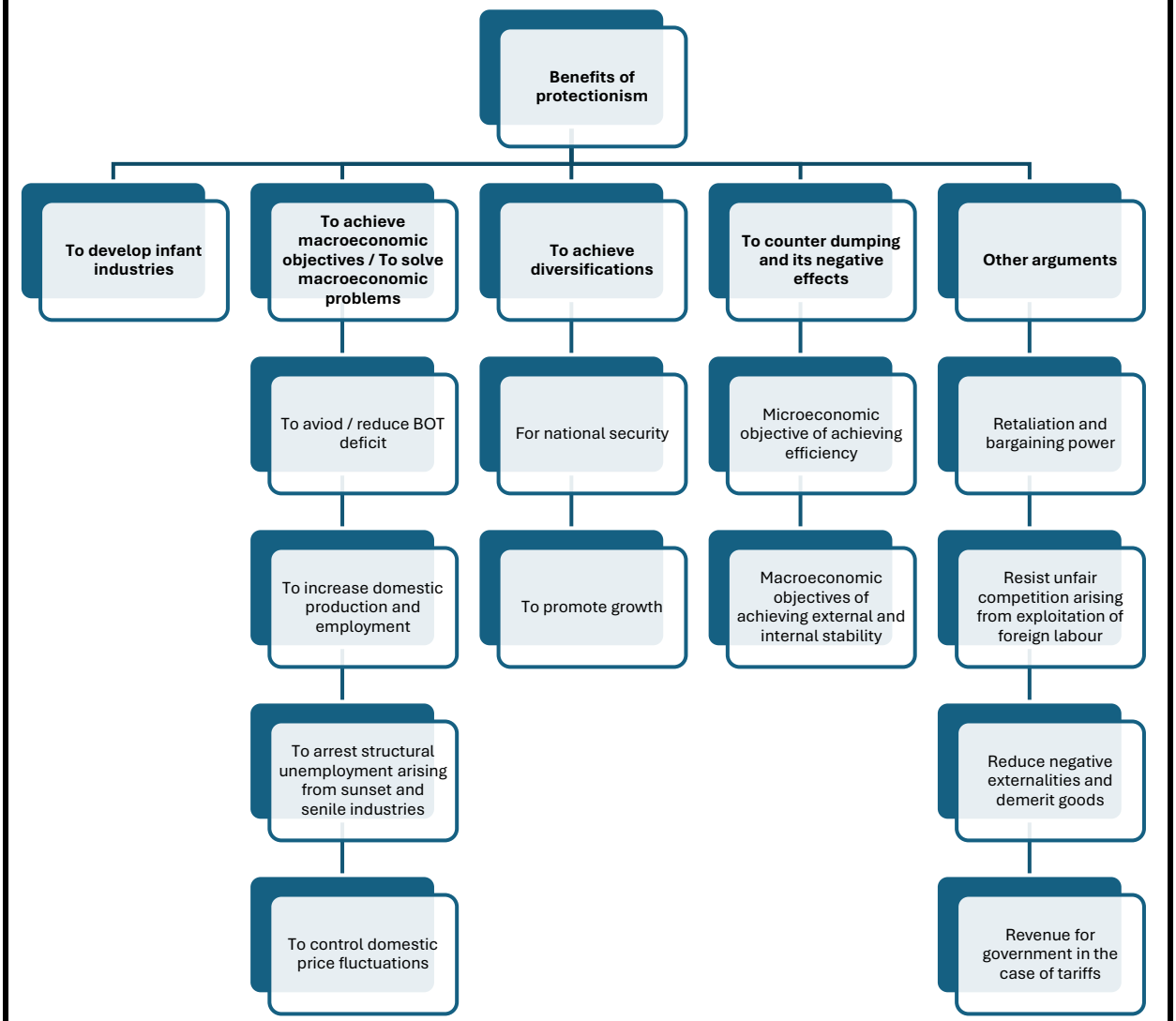
- **Export controls**
    - Export controls can take various forms (e.g. export bans, taxes, quotas, or restrictive licensing), and are applied to meet economic and non-economic objectives.
        - For example, China implemented strict export control on silver, requiring government approval for shipments and limiting to only authorised firms, aiming to secure the precious metal for domestic industrial growth in solar and EV sectors.

6a. Benefits and costs of protectionism

- Refer to A-Level 2018 EQ6b

- **Benefits of protectionism i.e. arguments for protectionism**

Overview of the benefits of protectionism



- **To develop infant industries**

  - An infant industry is a newly emerging industry in its early stage of development with potential comparative advantages to be reap in the long run.

  - However, in its early stage, it has only a small share of the domestic market and has heavy initial set-up costs that cannot be covered by its initially small output. It also lacks know-how, managerial skills, reputation, etc and is unable to exploit efficient technologies.

  - Therefore, when confronted with well-established foreign competitors, the infant industry cannot compete, thus likely to suffer short-term losses and eventually might shut down.

  - Governments impose protectionism to protect infant industries in their early stages so that over time, they can be more efficient and realize their comparative advantages to compete on equal footing when protectionism is removed.

    - **Import restrictions:** For example, a government may impose tariffs and import quotas → Keep out foreign competition → Domestic firms have a larger share of the domestic market → Domestic firms can expand their scale of production to better exploit internal economies of scale → Lower unit cost gives domestic firms the ability to lower prices of their goods to compete with goods from other countries.

      - For example, South Korean and Taiwan used protectionist measures in the mid-20th century to nurture their automotive and electronics industries, which later become globally competitive.

    - **Export restrictions:** Developing economies often seek to diversity their economies toward higher value-added activities to establish higher value-added industries that can generate new exports. For example, Indonesia deployed strict export bans on raw nickel ore to keep its domestic price low so that the country can promote the development of downstream EV battery manufacturing industry. As Indonesia's scale of EV battery production increases, the producers gain internal economies of scale and eventually developed genuine comparative advantage, transforming Indonesia into a major player on the global EV battery supply chain.

- From a government perspective, infant industry argument justifies the use of protectionism if the long-run benefits outweigh the short-run losses.

- **Evaluation:** It is difficult to identify which industries truly have infant industry potential. Industries that received protection might remain perpetually as infants and thus unable to compete internationally on their own. This is because they might lack the incentive to be more efficient and competitive due to being shield from foreign competition (i.e. moral hazard resulting in inefficiency). Thus, they need continual protection for survival (i.e. dependency). Exacerbated by the difficulty of removing protection once it is given due to vested interest and political pressure, there would be high opportunity costs incurred, for example, from the subsidies given to infant industries. If investments were made in other areas, the rate of economic growth and employment creation could be faster.

- **To solve macroeconomic problems / To achieve macroeconomic objectives**

  - **To avoid / reduce BOT deficit**

    - Refers to type of protectionism > Tariffs (including Diagram 7).

    - **Import restrictions:** Tariffs → Increase prices of imports from Pw to Pt → Decrease in import expenditure by area QaAFQb + area QcGDQd (or from area QaADQd to area QbFGQc) because consumers switch to consuming cheaper domestically produced goods → Correct BOT deficit to prevent high foreign debt or depleting foreign reserves.

      - For example, a flat 10% (later increased to 15%) tariff on most imported goods has been proposed by the US to reduce the overall US trade deficit.

❖ **Evaluation:**

- It is not a long-term solution. Affected trading partners might retaliate because protectionism would likely make the trading partners poorer (i.e. beggar-thy-neighbour) due to a decrease in their export revenue. Even without retaliation, with other countries suffering from declining export revenue, their real national income will decrease, decreasing their willingness and ability to purchase goods and services, including goods and services of the country that first imposes import restrictions. Overall, with import expenditure decreasing and export revenue also decreasing, the BOT deficit might not be effectively reduced.

- Moreover, it is also not a permanent solution as protectionism does not remove the root cause of BOT deficit which could be due to the lack of price and quality competitiveness.

- In addition, if the demand for imports is highly price inelastic (e.g. essential medicines or energy), protectionism will raise prices significantly without successfully reducing import expenditure, failing to correct a trade deficit.

- Therefore, protectionism, even if it is effective, is only a second-best solution. From a long-run consideration, the government should let the inefficient producers shut down so as to free up resources to other more productive uses. Protection would only slow down the restructuring process, depriving the other thriving industries of scare resources.

▪ **To increase domestic production and employment**

❖ **To arrest recession or slow growth**

- Refers to type of protectionism > Tariffs (including Diagram 7.

- **Import restrictions:** Tariffs → Increase prices of imports from Pw to Pt → Consumers switch to consuming cheaper produced goods thus increase in domestic production by QaQb (or from Qa to Qb) → Consumption expenditure on domestically produced goods Cd (where Cd=C-M)

increases while import expenditure M decreases + To avoid paying the tariffs, foreign producers might offshore their production to the domestic economy thus increase inflow of FDI into the domestic economy, leading to an increase in investment expenditure I if there is acquisition of new capital assets → Increase in AD given AD=C+I+G+(X-M) → AD chunk with multiplier k and diagram → Real NY increases + Increase in derived demand for labour thus demand-deficient unemployment decreases (→ Relate to SOL if necessary).

- ✓ For example, US imposed a strict 50% tariffs on most imported steel, aluminum and copper in 2026, aiming to promote growth to protect American jobs in these industries.

- **Export restrictions:** In the case of export ban on raw materials, foreign producers requiring those raw materials as factors of production would likely offshore their production to the domestic economy to have access to the raw materials → Increase inflow of FDI into the domestic economy, leading to an increase in investment expenditure I if there is acquisition of new capital assets → Increase in AD given AD=C+I+G+(X-M) → AD chunk with multiplier k and diagram → Real NY increases + Increase in derived demand for labour thus demand-deficient unemployment decreases (→ Relate to SOL if necessary).

  - ✓ For example, Indonesia banned the export of raw nickel ore to force foreign companies – particularly from China and South Korean – to build smelters and EV battery plants inside Indonesia.

❖ **To arrest structural unemployment: Sunset and senile industries argument**

- **Import restrictions:** Countries lose comparative advantages in some sectors due to emergence of low-cost competitors → Sunsetting and outdated senile industries decline → Output is reduced and workers are retrenched → Workers who are occupation immobile thus unable to gain employment in rising industries will be structurally unemployed i.e. mismatch of skills and job requirements

→ Countries might practice protectionism to slow down the decline of sunsetting and senile industries during such period of structural changes and to buy time to train the workers with new set of skills to overcome occupational immobility → Arrest structural unemployment (→ Relate to SOL if necessary).

- **Evaluation:** While it may save jobs in a specific industry in the short run, the trade-off might be job losses in other sectors e.g. in the export-oriented industries due to retaliation or in industries that use import raw materials due to higher cost of obtaining the imports. It also prevents the reallocation of labour to more efficient, growing sectors of the economy.

❖ **To control domestic price fluctuations**

- **Export restrictions:** When faced with a negative supply shock that led to the world price of certain goods to increase significantly, countries might ban or restrict the export of those goods → Increase in domestic supply of those goods → Dampen the increase in the domestic prices of those goods.

  ✓ For example, during the 2026 Iran war that led to significant decrease in global oil supply, Russia announced a 4-month gasoline export ban while China ordered an immediate ban on refined fuel exports to prevent shortages in the domestic markets.

○ **To achieve diversification for national security and to promote growth**

- Countries that specialise and trade according to the theory of comparative advantage might overspecialise in a narrow range of goods and services, and are thus overly reliant on the production and export of these goods and services to drive growth and employment. Given the vulnerability posed by over-specialisation, countries might want to diversify their economies.

- Therefore, some countries might impose protectionism to ensure the survival of certain industries for strategic purposes despite these industries do not have comparative advantages.

- ❖ **Import restrictions:** For example, to ensure survival of domestic farmers so that the economy can have higher self-sufficiency in terms of food, some countries (e.g. Japan, South Korea, India, Indonesia) impose import restrictions to keep domestic price of food crops (e.g. rice, corn, barley, wheat) high.

- ❖ **Export restrictions:** For example, the US is aggressively restricting China's access to advanced semiconductors and manufacturing equipment from the US to prevent China's military modernisation and to support is own military modernisation, particularly in AI and supercomputing. Key measures (2022–2026) include limiting high-end chip sales (from Nvidia and AMD), blocking advanced fabrication tools, and requiring licenses for semiconductors crucial to artificial intelligence and weapon systems.

- **Evaluation:** Despite being a powerful argument for truly strategic industries, "national security" can be broadly interpreted to include many industries that are not genuinely strategic. This would lead to excessive protectionism and thus divert resources away from more productive uses.

- **To counter dumping and its negative effects**

  - Dumping occurs when foreign producers sell their goods below their marginal cost of production in overseas markets, either by making short-term losses or with the assistance of their governments (e.g. subsidies for selected export-oriented industries).

  - The objective is to "dump" their goods in overseas markets by undercutting domestic rival firms abroad in terms of prices to drive the rival firms out of their own domestic markets so as to monopolise the markets.

  - **Microeconomic analysis (To prevent inefficiency):** If successful, demand curves of each foreign producer would become more price inelastic because they face fewer competitors in the markets due to closure of domestic rival firms → Monopoly power is gained by foreign producers → Foreign producers exploit their market power by restricting output to charge high prices thus maximise long-term profits → High mark-up of price over marginal cost → Larger extent of allocative inefficiency → Contrary to a government's microeconomic objectives of achieving economic efficiency and maximizing economic welfare + Foreign producers would gain long-term profits at the expense of the survival of domestic firms and consumers welfare (e.g. higher prices with less varieties).

- Using Diagram 3,
  - Are you able to explain how dumping might lead to higher prices and allocative inefficiency / explain why a government wants to prevent dumping?
  - Are you able to explain how dumping might threaten the survival of domestic firms?

- **Macroeconomic analysis (To achieve external and internal stability):** Lower prices of imports → Consumers switch away from buying domestically-produced goods to buying imports → Decrease consumption expenditure on domestically-produced goods Cd + Increase in import expenditure M if the demand for imports is price elastic thus lead to a more than proportionate increase in quantity demanded → Worsens BOT (e.g. from surplus to deficit or increasing deficit) + AD decreases → AD analysis / chunk with reverse multiplier k effect and diagram → Recession / Economic slowdown + Increase unemployment due to decrease in derived demand for labour when production decreases (→ Relate to SOL if necessary).

- Governments impose punitive tariffs as an anti-dumping protectionist measure to counter the negative effects of dumping.
  - For example, to protect local steelmakers, the US government imposes anti-dumping duties on steel from several countries, including China. On the other hand, EU imposes anti-dumping duties on solar panels form China in bid to level the playing field for European producers.

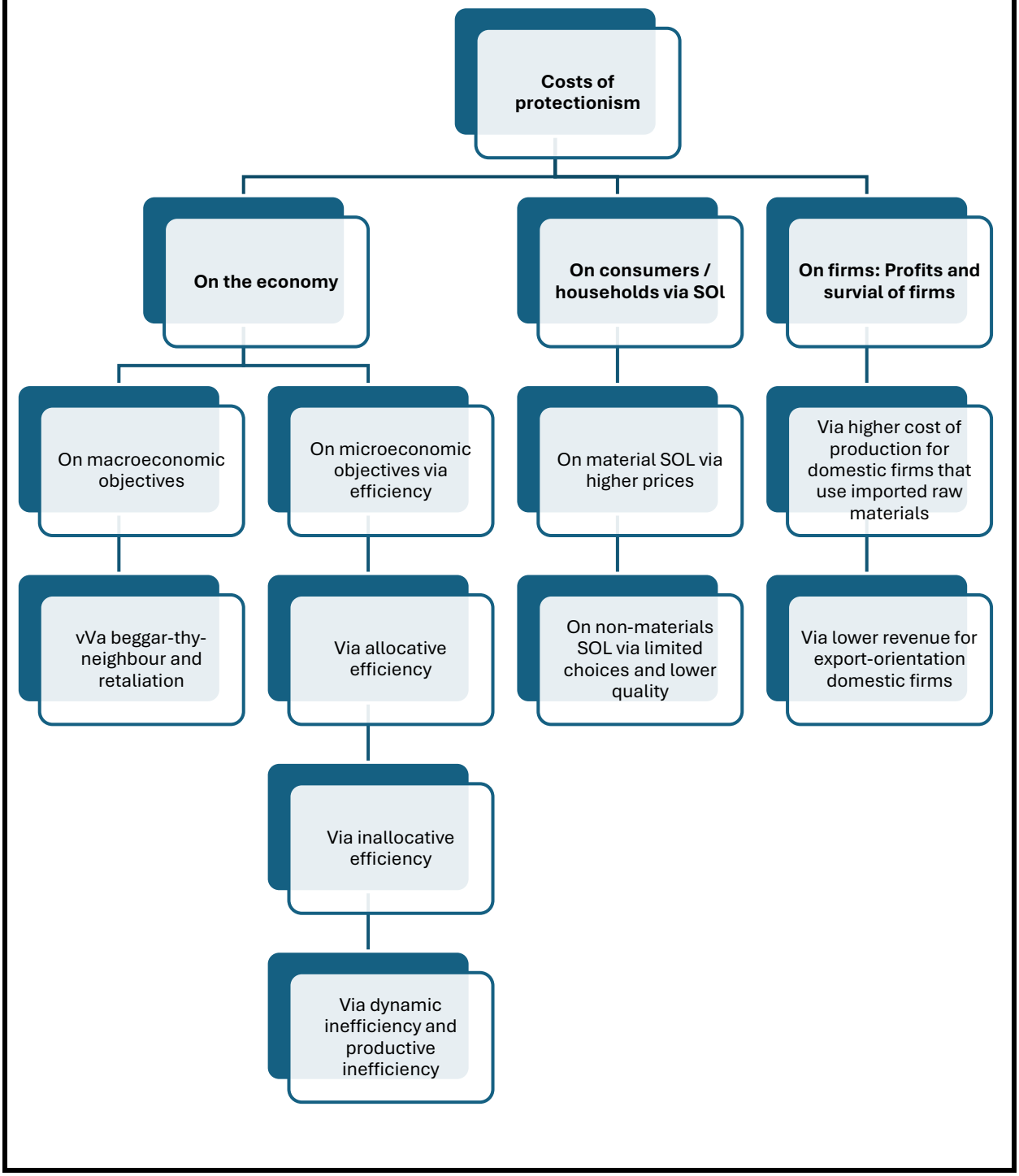
- **Evaluation:** It is difficult to determine whether dumping has occurred. Low prices could reflect genuine comparative advantage. Anti-dumping measures might thus be abused to reduce legitimate competition. While it might protect domestic firms, it is done at the expense of buyers who would otherwise benefit from cheaper goods.

- **Other arguments**

- Retaliation and bargaining power.
- Resist unfair competition arising from exploitation of foreign labour.
- Reduce negative externalities and demerit goods.
- Revenue for government in the case of tariffs.

- **Costs / Unintended consequences of protectionism i.e. arguments against protectionism**

Overview of the costs of protectionism



- **On the economy**
  - **On macroeconomic objectives via beggar-thy-neighbour and retaliation**
    - Domestic economy imposes protectionism → Increase domestic economy production at the expense of its trading partners: Decreases import expenditure (M) of domestic economy thus decrease export revenue (X) of trading partners → Beggar-thy-neighbour → National income, employment, BOT of trading partners worsens → Lower purchasing power of trading partners and trading partners might retaliate by imposing protectionism against the domestic economy (or even without retaliation, declining purchasing power means declining demand for exports from the country that first imposes protectionist measures) → Protectionism becomes self-defeating because it worsens national income, employment and BOT of the domestic economy.
      - A prominent real-world example of "tit-for-tat" retaliation to protectionism is the US-China trade war that began in 2018. US announced tariffs on solar panels, washing machines, and a 25% tariff on steel and 10% on aluminum imports from various countries, with China as a primary target → China retaliated by imposing 15–25% tariffs on US$3 billion worth of US imports, including agricultural products like soybeans, pork, and industrial products → Escalated into a trade war where multiple rounds of tariffs and counter-tariffs.

- **On microeconomic objectives**

  - **Efficiency**

    - **Via allocative inefficiency:** Protectionism → Instead of importing the goods from foreign economies that can produce the goods at lower opportunity costs, the goods are produced domestically despite higher opportunity cost incurred + Consumers cut back on their consumption of these goods in response to higher prices → Resources are diverted from more efficient industries with comparative advantages to the less efficient protected industries → Increase deadweight losses (i.e. Area ABF + Area GCD in Diagram 7 thus increase allocative inefficiency.

    - **Via dynamic inefficiency and productive inefficiency:** Protectionism → Shield domestic firms from foreign competitions → Domestic firms might become complacent → Less incentive for domestic firms to innovate / R&D + Less incentive to have tight cost control → Lower dynamic efficiency + Higher X-inefficiency thus increase in productive inefficiency.

      - ✓ Japan's highly-protected agricultural sector, despite being high-tech, remains relatively inefficient and uncompetitive globally due to a lack of competition, leading to higher food prices for consumers in Japan.

      - ✓ The case of Malaysia's Proton car project highlights that protected industries can become permanently dependent on subsidies, failing to mature into competitive entities.

- **On consumers / households: SOL**

  - **Via higher prices**

    - Protectionism → Higher prices as the availability of the goods decreases → Lower purchasing power → Reduce ability and willingness to consume → Lower access to goods and services to meet needs and wants → Assuming population size remains unchanged → Lower material SOL.

- **Via limited choices and lower quality**

  - Protectionism → Shields domestic firms from foreign competition → Domestic firms might become complacent → Less incentive for domestic firms to innovate / R&D → Less choices available to fulfil different needs and wants + Lower quality of goods when the firms try to skimp on materials to save cost→ Lower non-material SOL.

- **On firms: Profit / Survival of domestic firms**

  - **Via higher cost of production for domestic firms that use imported raw materials**

    - Protectionism → Higher cost of production for firms that use imported raw materials as their prices would increase because, for example, the firms would have to pay for tariffs when importing the raw materials → Decrease in profits, assuming revenue is constant → The firms might shutdown if they make subnormal profit.

  - **Via lower revenue for export-oriented domestic firms**

    - Protectionism → Higher cost of production for firms → Pass on the higher costs in terms of higher prices to consumers to protect profit margin → Increase prices → Export becomes less price competitive → Assuming $PED_X > 1$ due to availability of close substitutes → Quantity demanded for export would decrease more than proportionate to the increase in the price of export → Decrease in revenue for export oriented firms → Decease in profit, assuming cost constant → The firms might shutdown if they make subnormal profit.

6b. Benefits and costs of protectionism: An evaluation

- Protectionism offers short-term sector-specific gains (e.g. protected industries such as infant industries, sunset and senile industries) and gains in limited strategic contexts (e.g. for national security and infant industries) but at the expense of long-term broad-based costs to the economy (e.g. worsening of macroeconomic objectives especially when there is tit-for-tat retaliation and worsening of microeconomic objectives when protected firms become complacent), consumers (e.g. lower SOL) and producers that are dependent on trade (e.g. firms that are imported raw materials dependent and export-oriented firms). Moreover, the gains can be wiped out if trading partners retaliate.

- Protectionism is thus more of a temporary quick fix to domestic problems and rarely an optimal long-term solution. Therefore, protectionism is rarely the best solution but more of a second-best policy.

    - For example, rather than using tariffs to solve structural unemployment and issues arising from the lack of competitiveness, a better policy would be supply-side measures (e.g. education and retraining) which do not distort trade but help workers move to new industries.

- In the case of developing economies, selective protectionism may be more justified where industries need time to develop themselves to become competitive but even so, protectionism is only justifiable if it is targeted, time-limited and used to correct specific issues rather than as a permanent policy stance. For developed economies, the long-term costs explained earlier are usually greater.