Summary solutions. ECN230 exam 2025 **N=51: mean of passing grade = 72,2**
A=5; B=13; C=18; D=7; E=4; F=4

Part 1. Explain whether each statement is true, false, or whether it depends. (25 points)

1.1 Economists argue in favor of globalization because of the benefits from international exchange. If so, then labor market liberalization should lead to the biggest economic gains from globalization.

T. The main point is the importance of P-differentials. The incentive for L-flows as with trade is based on P-differentials. L-regs have historically been strictest on L movements, resulting in the biggest P-differentials between workers (i.e. wages) in North and South. If so, then the benefits from trade in workers would be greatest. Many argued about costs and benefits, but this is true of trade in goods too. It was not enough to say there could be brain drain in South – there could also be benefits from remittances from workers who are abroad. Many confused the substitutability and complementarity of labor flows and trade. L moves for various reasons: to work with immobile capital, to work in services sectors, tradable or non-tradable, to work with abundant land, etc. L flows give rise to prodvty gains, increased Q, C and possibility to ↑SW.

1.2 If the market of a country is small relative to the global economy, then the objective of a tax on its import or export could not include revenue maximization.

F. First, do not confuse max tax revenue generation from trade with max SW objective – there is not optimal tax for a small country. For a small country trade policy, revenue collection and max tax can still be an important motivation for taxing trade (and is an important part of small developing countries' use of trade policy despite it not being an effective means of generating revenue). A consumption tax would be a better means of tax collection, but this has not stopped countries from collecting taxes from X, M. Trade tax as a % of total revenue can be quite high in some developing countries.

1.3 Import substitution industrialization (ISI) is a strategy aimed at increasing domestic manufacturing. For a developing country, an effective ISI strategy would involve importing components to domestically produce a final good.

F/D. ISI is intended to encourage domestic manufacturing and to capture value added locally. For a developing country, this could mean adding value to commodities, primary products and raw materials, i.e., inputs, that are locally produced using labor-intensive methods, rather than exporting those goods in their primary form. Producing final goods that intensively use local inputs and labor would allow the country to reduce imports, add value, perhaps even contribute to the export of those final goods. The more ISI depends on imported components (particularly capital goods or sophisticated intermediate goods) the more capital intensive the technologically advanced production becomes, making the final good more challenging to compete against foreign goods, and perhaps requiring greater protection or support from trade policy. You could argue depends on the stage of ISI and the level of development of the depending country – a more developed developing country could move up the value chain and ISI could be about complementing domestic R&D with cheap foreign components – but this sounds more like a more advanced economy.

1.4 When countries allow trade in monopolistically competitive sectors, the result will be a larger market with larger firms but with more competition.

T. Focus on monopolistically competitive markets (e.g., branded consumer goods). Do not confuse monopolistic competition with oligopoly or monopoly! Free trade with firms that

have economies of scale will have lower average costs and can offer lower prices because of the bigger mkt. Despite the firms being "large", they earn higher profit margins (than under perfectly competitive markets), but still must compete on price or quality or reputation. Nevertheless, in the absence of trade those firms would have more mkt power.

1.5 If two countries have identical production possibilities frontiers and demand conditions, there would be no incentive for trade even if there were economies of scale in production.

F/D. Economies of scale (EOS) in production allows greater opportunity for trade. EOS allows for greater specialization within product sub-categories (intra-industry trade). Even if demand conditions were identical, there could be more of all product sub-categories available on the market, produced at lower cost per unit. This assumes there are no economies of scope. Demand conditions can mean that consumers have a preference for variety giving rise to IIT.

Part 2. Briefly answer the following questions or respond to the specific statements. (45 pts)

2.1 Restrictions on internationally traded goods normally come in the form of a tax (or tariff) on the traded good, or a quantitative restriction on its trade (i.e., a quota). Think about the similarity and differences, in terms of their economic effects and politics, of the policy choice when answering the following:

2.1.1 How might an economist rank the two trade policies (tax or quota) to restrict imports in terms of their economic effects on the domestic market, welfare and trade? Explain using a *list* of how the economic effects, the domestic and international politics, and the political administration of the two policies differ. (10 pts)

2.1.2 Use your list in 2.1.1 to explain whether it matters more to trading partners if the government of the country applied a quota on a good it imports or on a good it exports. (5 pts)

2.1.1 A tax on imports is preferred to a quota under most situations (quota provides more dom mkt stability):

Show a simple model of tariff/quota equivalence in trade, welfare and economic effects.

Econ effects (short-term) of tariff/quota are same
* $\uparrow P_D$, [$\downarrow P_W$ if large country], $\uparrow Q_S$, $\downarrow Q_D$
* Tariff revenue to gov't vs quota rents to different actors, domestic or foreign

Econ effects (long term): quota insulates dom mkt from ΔES (instability on world mkt) – quota better for dom mkt stability; if ROW has CA in the good in L-R, then quota is more distorting

Welfare effects (small-country case) basically the same
* ↑ PS, ↓CS, ↓ NSW (if quota, rents can go to foreigners)
* If tariff, revenue leads to ↑G, if quota it depends on administration

Trade effects: both tariff and quota reduce imports

Why economists in general prefer tariffs:
* Economic efficiency – a tariff is not a quantitative limit
* Non-discrimination - a tariff can be applied on all partners the same; quotas discriminate
* Transparency/predictability – the effects of a 10% tariff easy to understand
* Political administration – quotas require some sort of licensing or allocation mechanism
* Revenue - tariff rents go to gov't; quota rents depend on licensing system and leads to rent-seeking which often in non-competitive

* Politics – quotas and quota rents lead to lobbying as rent-seeking behavior
* Int'al negotiations - quotas must be negotiated with partners because of the discriminatory effects and the quotas serve as an "economic bribe"

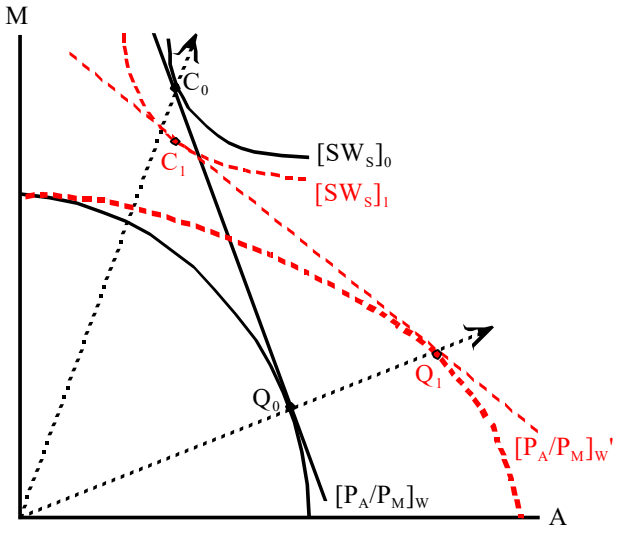
2.1.2
It could matter – think about the motive (esp of a quota), type of country (large) and type of good (strategic). An export quota would have similar effects as an import quota in terms of the economic and political effects listed above. In both cases, if a large country, TOT would be improved for the imposing country. However, under an export quota the objective of measure would likely be more about receiving the international income transfer (or to hurt importers, intended or not). The license for the import quota could be granted to exporters and the quota rents would then go to the exporting government or firms. Import quotas can be negotiated as a voluntary export restraint – bribe exporters with rents to comply with quantitative restriction. The export quota would limit supplies to foreigners reducing access. There is no good way to negotiate with importers. If no substitutes available in S-R (strategic good) it can be intended to hurt import partners.

2.2 Consider the relationship between economic growth and trade. For simplicity, assume a large country's macroeconomy consists of two sectors, an import and export sector. Think about growth and how it, in turn, might affect trade when answering the following:

2.2.1 Explain how the Rybczynski theorem might be applied to understanding economic growth. (5 pts)

2.2.2 Suppose that growth occurs in a country for some reason, but its export good is considered an inferior good by consumers in general. Explain how such preferences might affect this country's trade and welfare. (10 pts)

2.2.1 Rybczynski theorem and growth
Define growth. Growth can occur through a tech advancement that allows the economy to use existing the stock of K and L more efficiently (to produce more output from the full employment of K,L) or through an increase in the stock of K and/or L. The Rybczynski theorem relates to the latter. If there is an increase in the stock of K or L, then there will be a disproportionate increase in the ability to produce the good that uses that factor more intensively. The graph shows ↑L stock that → disproportional ↑Q_A.



2.2.2 Suppose growth occurs from an increase in L and L is used intensively in Q_A as in the figure. The large country experiencing growth has two effects: a positive real effect and a negative TOT effect. The growth → ↑Q_A but ↑Q_A → ↓P_A relative to P_M (the TOT effect). If A is an inferior good, then the decrease in price of A relative to M will be even more pronounced and could result in immiserizing growth. Despite the real effect (increase in income), if A is an inferior good, then as income goes up demand for the good goes down. The inferiority of A r.t. M can also contribute to the worsening SW.

2.3 Factors flowing across countries is a form of economic globalization. Think about the implications to a domestic economy of capital inflows in the form of foreign direct investment (FDI) when answering the following:

2.3.1 *List* reasons why FDI inflows might occur in the receiving country. (10 pts)
2.3.2 How might the items on your list under 2.3.1 differ if the FDI-receiving country were a mature economy or a developing country? Be specific. (5 pts)

2.3.1 Potential reasons for FDI
* K moves to where it is scarce (and returns are greatest)
* K moves to work with specific L (cheap, skilled, immobile L)
* K moves to work in specific sectors: services, mining, manufacturing, K-int sectors
* K moves to avoid trade restrictions in foreign mkt
* K moves to avoid taxes or regs in the firm's domestic mkt
* K moves to improve a firm's global supply chain:
  - for a value-adding firm to be closer to key inputs/resources/raw materials/commodities
  - for an input-supplier (car parts) to be closer to the manufacturer (car maker) it supplies
  - for a manufacturer/provider to be closer to its end users (consumers)
* K moves to manage/control for political/economic/business risk
* K moves to transfer tech: innovation, R+D, business organization, etc

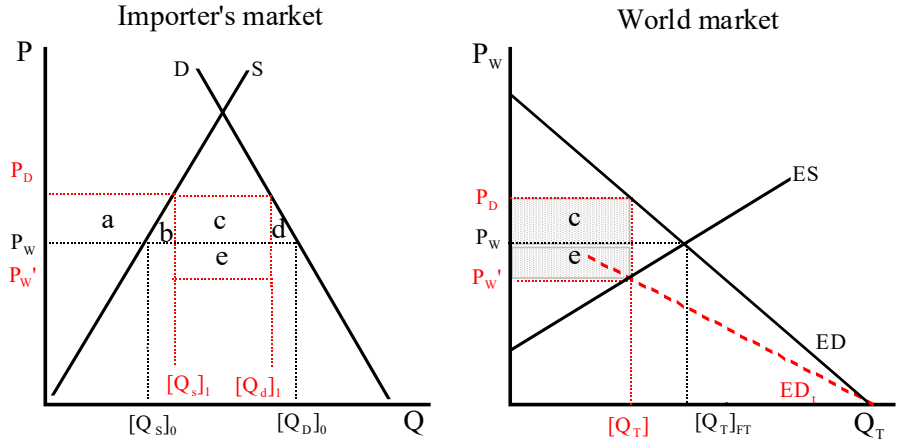
2.3.2 Relate list to FDI in a mature or developing country – depends on the list
Mature economy: K-scarcity is less an issue, advanced tech (R&D) and improving global supply chain; issues related to intra-industry trade and product differentiation and imperfectly competititve mkts might be stressed; FDI could be a means around trade restrictions; location to high-Y consumers or skilled-L
Developing country: K-scarcity might be more impt; extraction of minerals or processing or refining natural resources or commodities might be K-int; FDI might be a means around taxes or regs in the firm's domestic mkt.

Part 3. Answer the questions related to the trade situation described below. (30 points)

As a candidate for president, Mr. Trump indicated his intention to apply tariffs across all goods and trading partners. As president, the US has increased tariffs across countries, but some sectors were excluded. The US is a large country importer of many goods whether as commodities, components (inputs), or final products. The Trump administration has stated on record that tariffs will bring in billions of dollars in revenue, which will be paid by foreigners. He also made the point that a trade war is easy to win because exporters to the US have "ripped off" the US, essentially making the US poorer.

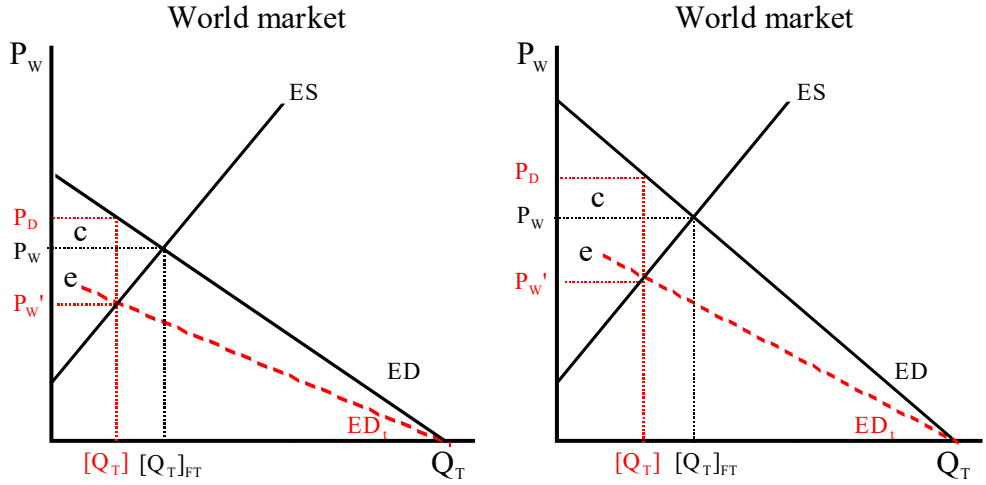
Note: though the scenario is inspired by what the Trump administration is doing, the answer does not require you to use the US as a specific example.

3.1 Construct a detailed, two-country model of an ad valorem import tariff by a large country. Show and interpret the meaning of the welfare changes to the importing country. Graph the importer's market and the world market, i.e., just a two-panel diagram. (10 pts)



ΔCS = -(a+b+c+d) tax equivalent to consumers
ΔPS = + (a) support equivalent to producers
ΔG = + (c+e) gov't revenue from tariff
ΔNSW = (e) – (b+d) where (b+d) are DWLs – efficiency losses to society

3.2 Use your model in 3.1 to reflect on the statement that the tariff will raise billions in government revenue given that higher tariffs are being applied across a wide range of goods. Which economic actor(s) might pay the revenue that is collected by the government? What determines how much is paid by the different economic actor(s)? Be specific - you could show a different model of the world market to help explain your answer. (10 pts)



The two graphs have the same ES which is more price inelastic that shown in 3.1. The revenue is the value of areas (c+e). Area (c) is the part of the revenue that is collected from domestic consumers in higher domestic prices, i.e., a tax on consumption. Area (e) is the part of the revenue that is an income transfer from foreigner. This is the result of the change in world price, i.e., a TOT advantage gained by the large-country importer. If area (e) is larger than (c), then a bigger share of the revenue would, in fact, be collected on the foreign firms. However, this would have to happen across many sectors in which goods are imported. This would require ES to be relatively more P inelastic as shown in both cases, and/or for ED to be relatively P elastic (as shown in the left-side-panel) for all imported goods.

3.3 Think about what other goals there might be by increasing import tariffs across various goods. How would you respond to the argument that a trade war is easy to win if all that is used were higher import tariffs? Defend your answer. (10 pts)

Depends what you argue. Tariff could be to increase manu, employment. You could have cited Lerner symmetry – that a tax on imports is like a tax on exports. If imports and exports are highly correlated, then a tax on imports would affect exports. The tariff might increase jobs and economic activity in the import sector, but it would hurt the country's export sectors. Retaliation by trading partners is another possible outcome and would reenforce this effect.
If the cost of imported components were to rise (as expected), then the desired increased in economic activity might not happen because costs increase and the higher prices might put off consumers. This could hurt the desired "re-industrializaiton" and not → $\uparrow Q_M$, L_M. If tech Δ is the cause of de-industrialization, then tariffs will not anyway. The more the country depends on trade (export and import), the more the policy will move the country to autarky, lowering income and growth.