

International Trade and Policy

WEEK 5 – Trade Policy Instruments – Tariffs and Non-Tariff Barriers

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Learning Objectives

- Define tariffs and distinguish between specific, ad valorem, and compound tariffs.
 - Analyze the welfare, revenue, and redistribution effects of a tariff in a small and large country setting.
 - Explain the economic impact of quotas, VERs, and TRQs.
 - Compare and contrast tariffs and non-tariff barriers (NTBs).
 - Evaluate real-world cases of trade policy instruments.
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Glossary of Key Terms

- **Ad valorem tariff** – Percentage of import value.
 - **Compound tariff** – Mix of specific and ad valorem.
 - **Deadweight loss** – Net welfare loss due to trade restriction.
 - **Quota rent** – Extra profit from selling at higher domestic price.
 - **Specific tariff** – Fixed \$ per unit.
 - **Tariff-rate quota (TRQ)** – Low tariff up to limit, higher tariff beyond.
 - **Terms of trade** – Ratio of export prices to import prices.
 - **Voluntary export restraint (VER)** – Export limit imposed by exporter at importer's request.
 - **WTO** – World Trade Organization, regulates trade policies.
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Introduction to Trade Policy Instruments

Governments intervene in international trade for multiple reasons: protecting domestic industries, generating revenue, correcting the balance of payments, or responding to foreign trade practices. The two broad categories of trade policy instruments are the following:

1. Tariffs – taxes on imported goods.
 2. NTBs – regulations, quotas, or other restrictions not in the form of taxes.
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Why study them?

- They affect consumer prices, producer profits, and government revenue.
 - They influence domestic employment, income distribution, and global welfare.
 - They are central to WTO negotiations and trade disputes.
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Tariffs: Definition and Types

2.1 Specific Tariff

A fixed monetary amount per unit of import (e.g., \$10 per ton of steel, €5 per pair of shoes).

Advantages: Easy to administer, stable revenue regardless of price fluctuations.

Disadvantages: Protection declines if import prices rise (tariff becomes smaller as % of the price).

Example: U.S. tariff on imported tuna – \$0.02 per kilogram.

Ad Valorem Tariff

A percentage of the import's value (e.g., 15% of the customs value).

Advantages: Protection rises automatically with price inflation.

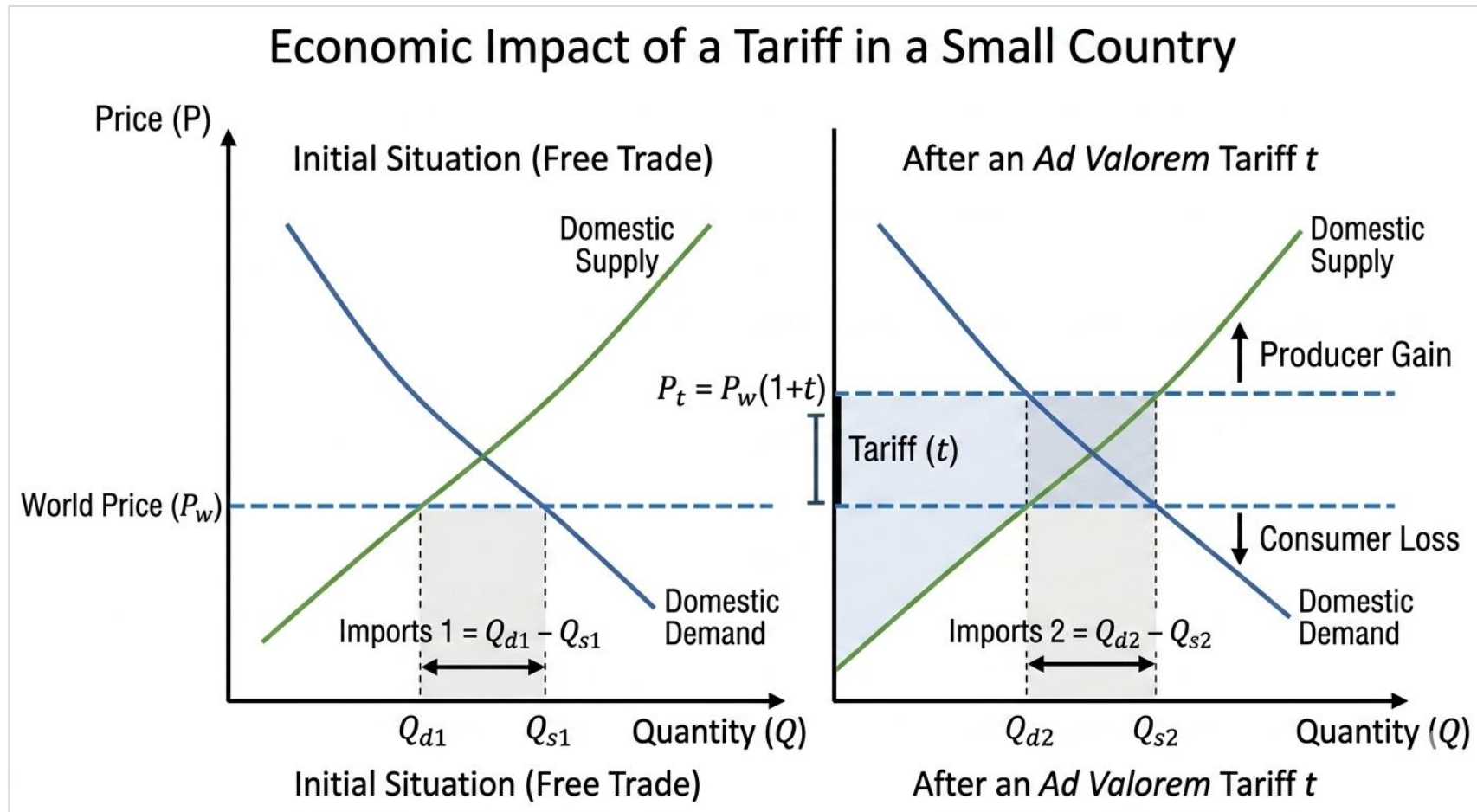
Disadvantages: Requires accurate valuation, prone to fraud (under-invoicing).

Example: EU tariff on cars – 10% of value.

Compound Tariff

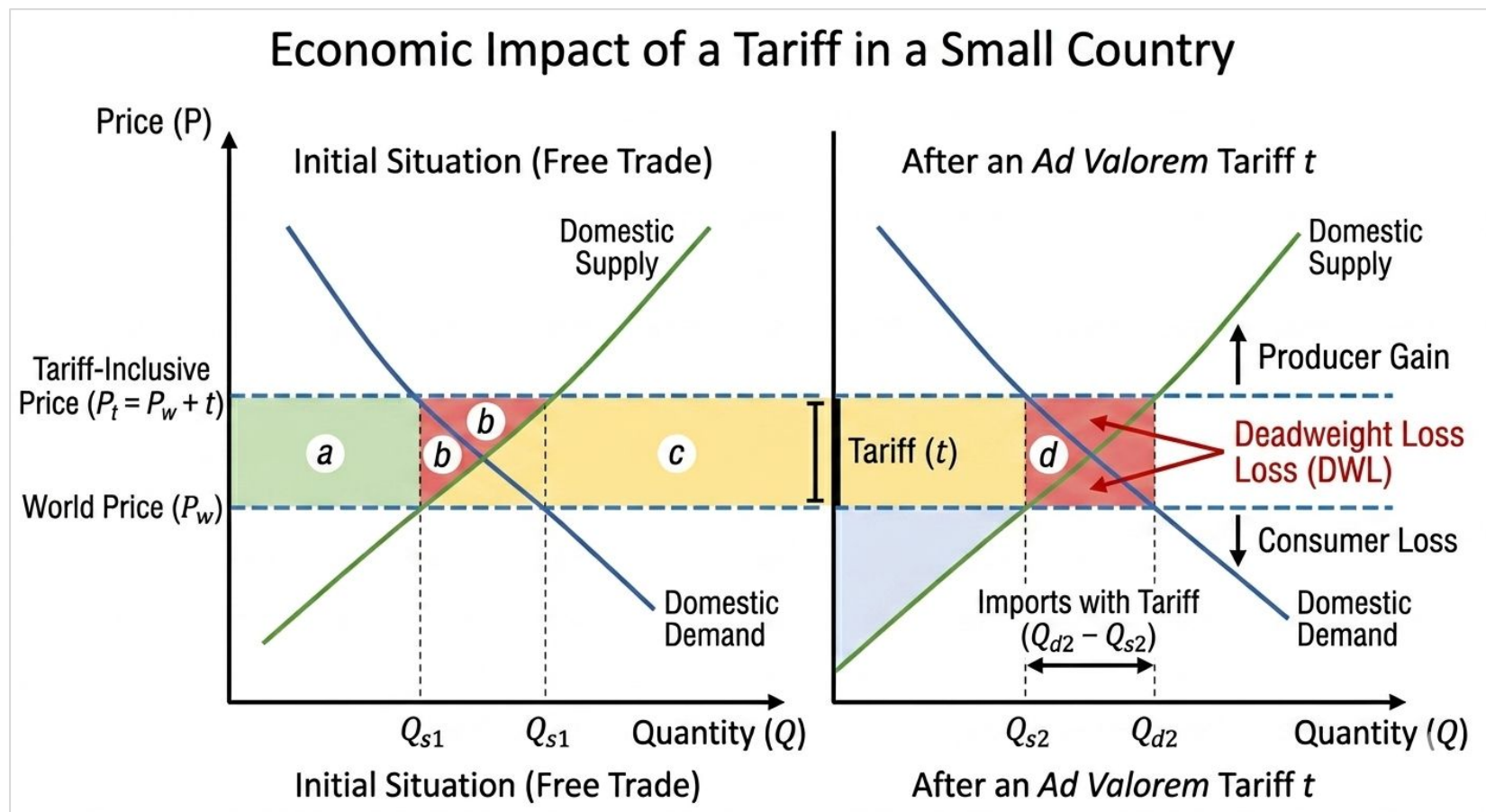
- Combination of specific and ad valorem (e.g., \$5 per kg + 10% ad valorem).
 - Used for products with wide quality/price variation (e.g., electronics, agricultural goods).
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Economic Effects of a Tariff (Partial Equilibrium) (Fig. 1)



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Welfare Effects (Small Country) (Figure. 2)

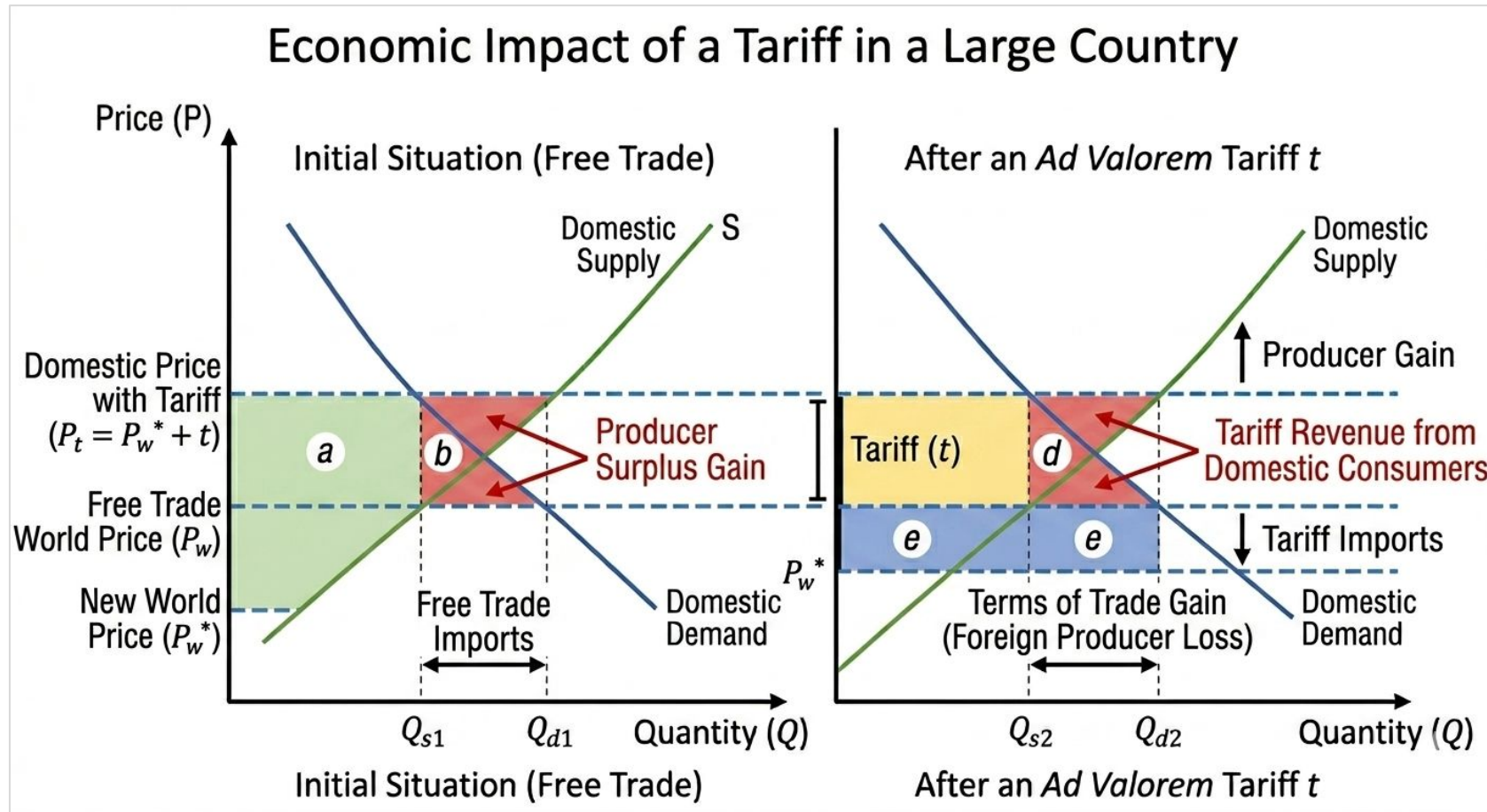


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Welfare Effects of a Tariff in a Small Country

This figure shows that tariffs create producer gain (a) and government revenue (c), but consumer loss (a+b+c+d) exceeds these. Since deadweight losses (b and d) are not offset by trade gains, tariffs always reduce national welfare in a small country.

Large Country Case (Optimal Tariff Argument) (Figure. 3)



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When Tariffs Can Improve Welfare (Large Country)

This figure shows that for a large country, a tariff lowers world prices, creating a terms-of-trade gain. The optimal tariff balances this gain against deadweight loss; beyond that point, welfare falls.

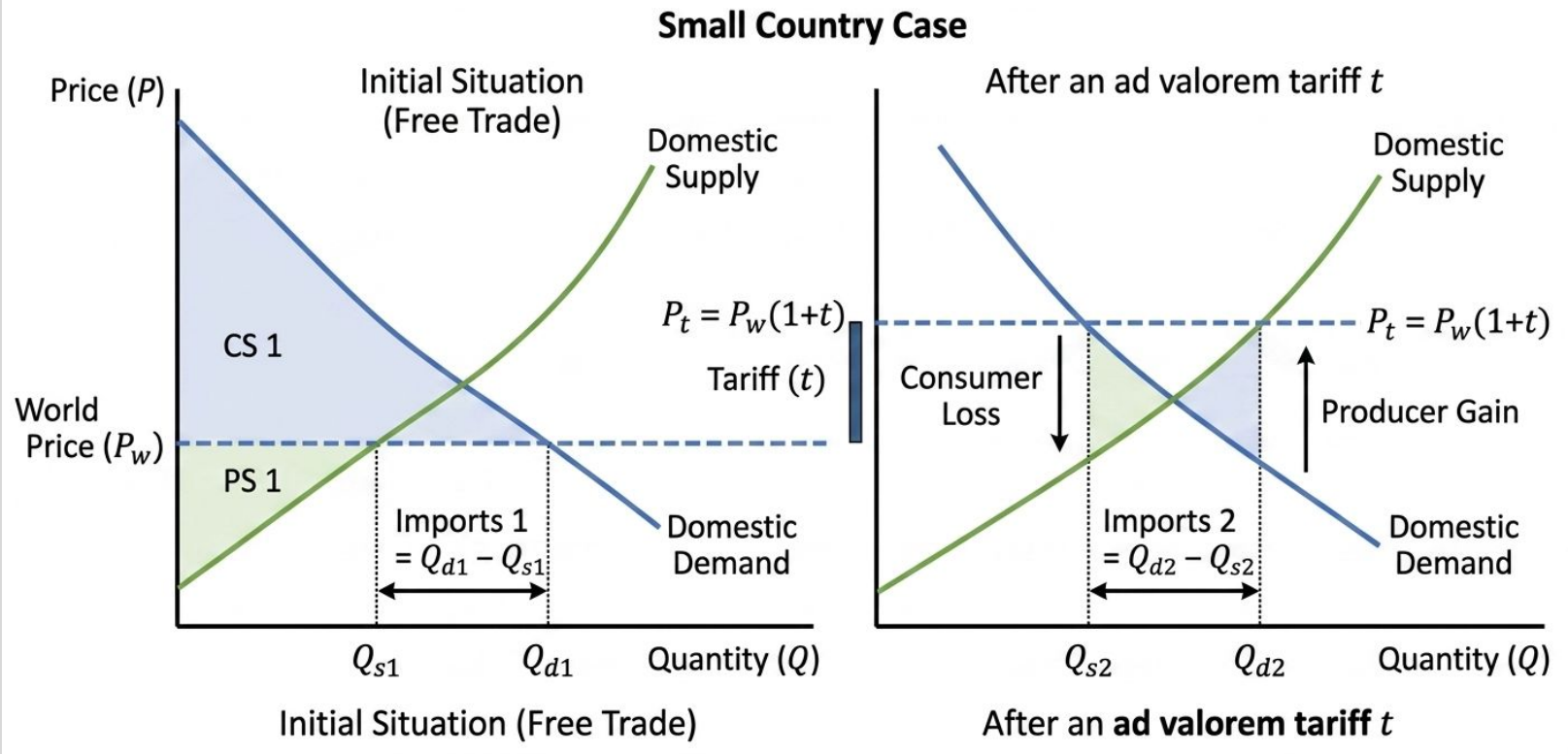
Tariff Redistribution Effects

Tariffs act as a **regressive tax** because lower-income households spend a larger share of their income on tradable goods. The redistribution flows:

- **From consumers** (higher prices)
 - **To domestic producers** (higher profits, possibly higher wages in protected sectors)
 - **To the government** (tariff revenue)
 - **To inefficient firms** (rent-seeking opportunities)
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Economic Effects of a Tariff (Partial Equilibrium) (Figure. 4)

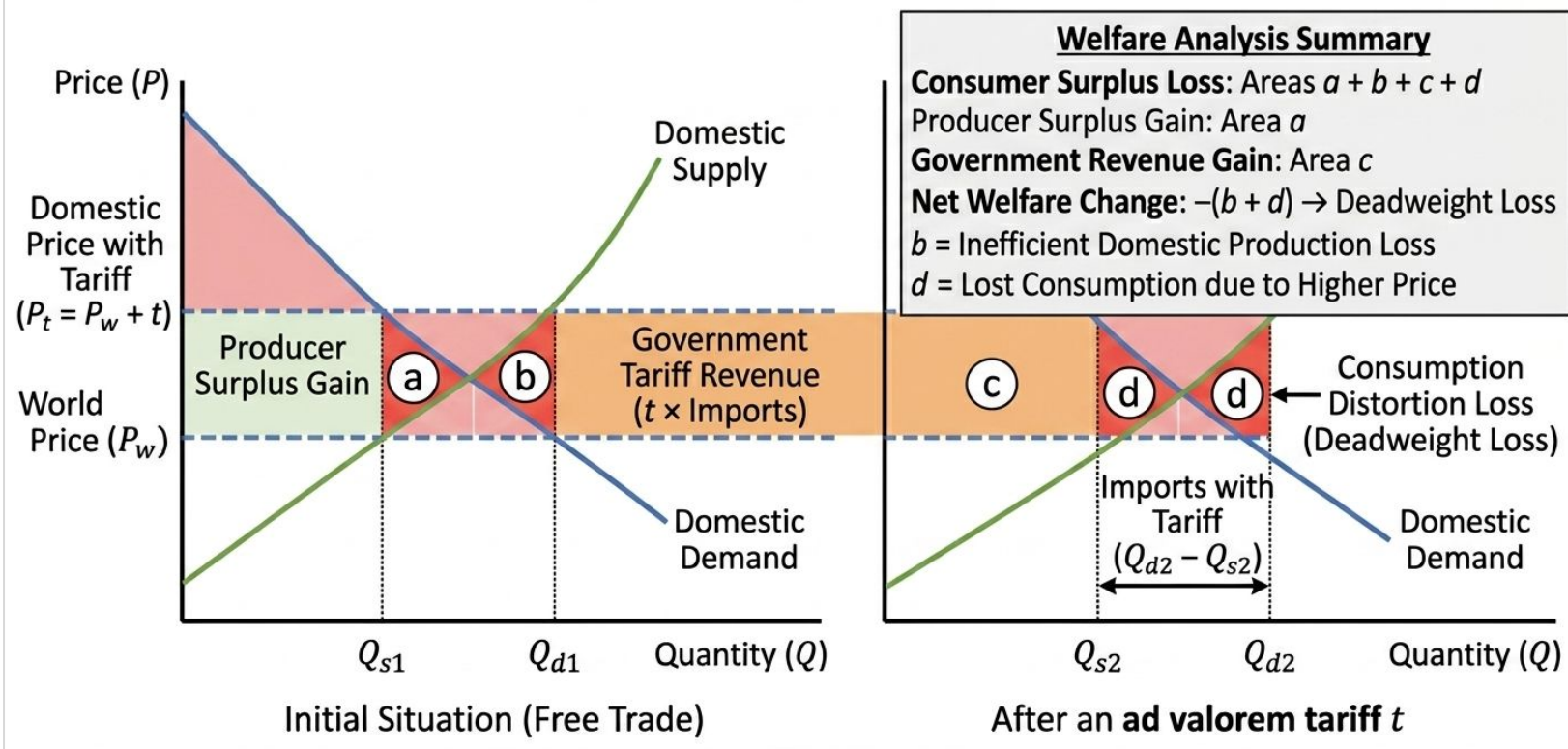
A clean, precise partial equilibrium supply and demand diagram for a single good in a small, price-taking country.



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Welfare Effects (Small Country) (Figure. 5)

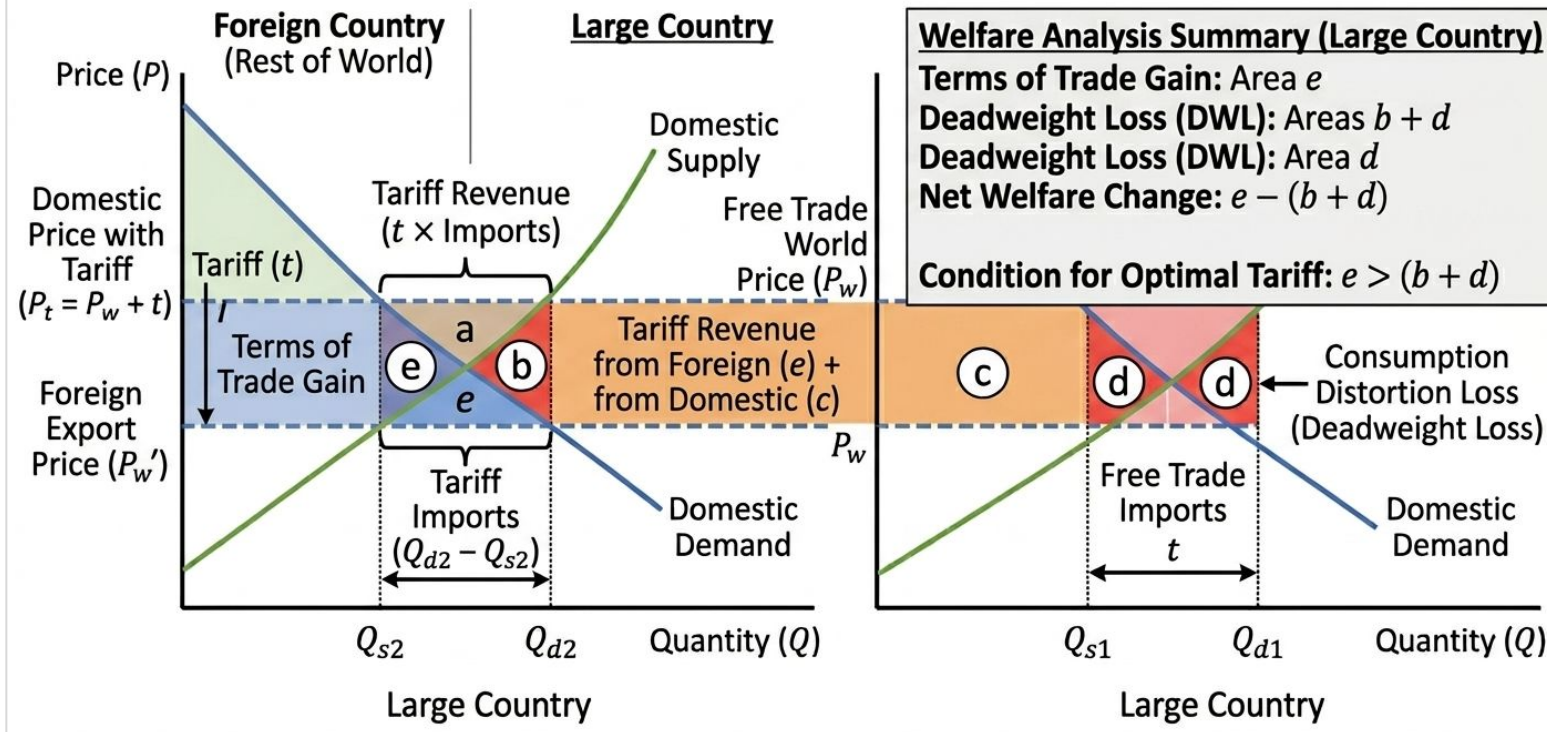
A precise supply and demand diagram based c demand diagram for a single good in a small, price-taking country.



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Large Country Case (Optimal Tariff Argument) (Figure. 6)

A precise supply and demand diagram based a large country capod a single good in a influencing world prices.



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Tariff Redistribution Effects

Tariffs act as a **regressive tax** because lower-income households spend a larger share of their income on tradable goods. The redistribution flows:

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Non-Tariff Barriers (NTBs): Overview

NTBs are trade restrictions that do not involve explicit taxes. Since the WTO tariff reductions, NTBs have proliferated. They include:

- Quotas
- Voluntary Export Restraints (VERs)
- Tariff-Rate Quotas (TRQs)
- Technical barriers to trade (TBT)
- Sanitary and phytosanitary (SPS) measures
- Subsidies and countervailing duties
- Local content requirements
- Customs delays and red tape

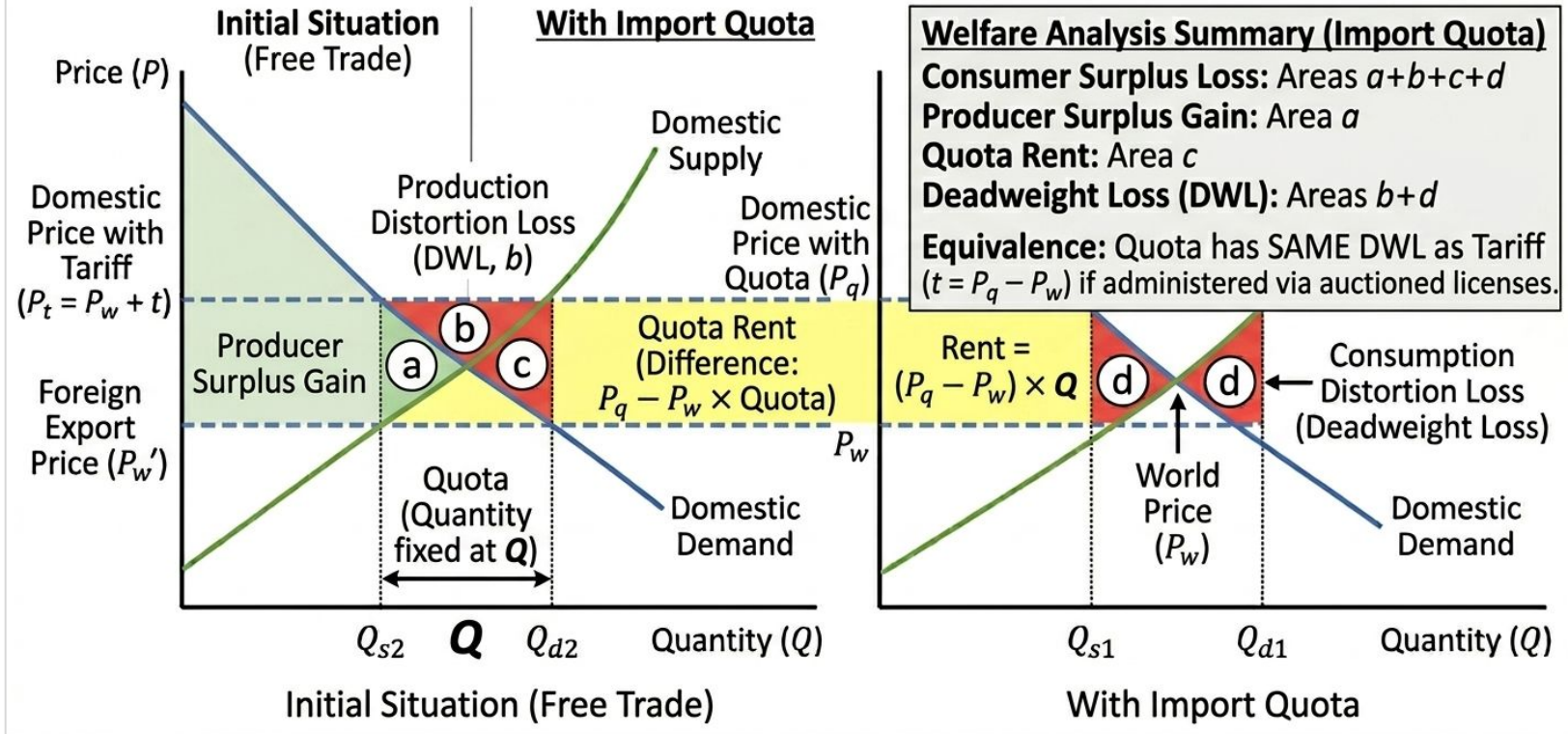
We focus on quantitative restrictions: quotas, VERs, and TRQs.

NTBs at a Glance

NTBs are trade restrictions without explicit taxes that have grown in use since WTO tariff reductions, and they include measures such as quotas, VERs, TRQs, technical standards, subsidies, and customs red tape. This presentation focuses specifically on quantitative restrictions, namely quotas, VERs, and TRQs.

Import Quotas (Figure 7)

A precise supply and demand diagram based a small price-taking country. In ports of influencing world prices.



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Quota vs. Tariff: Key Differences (Table 1)

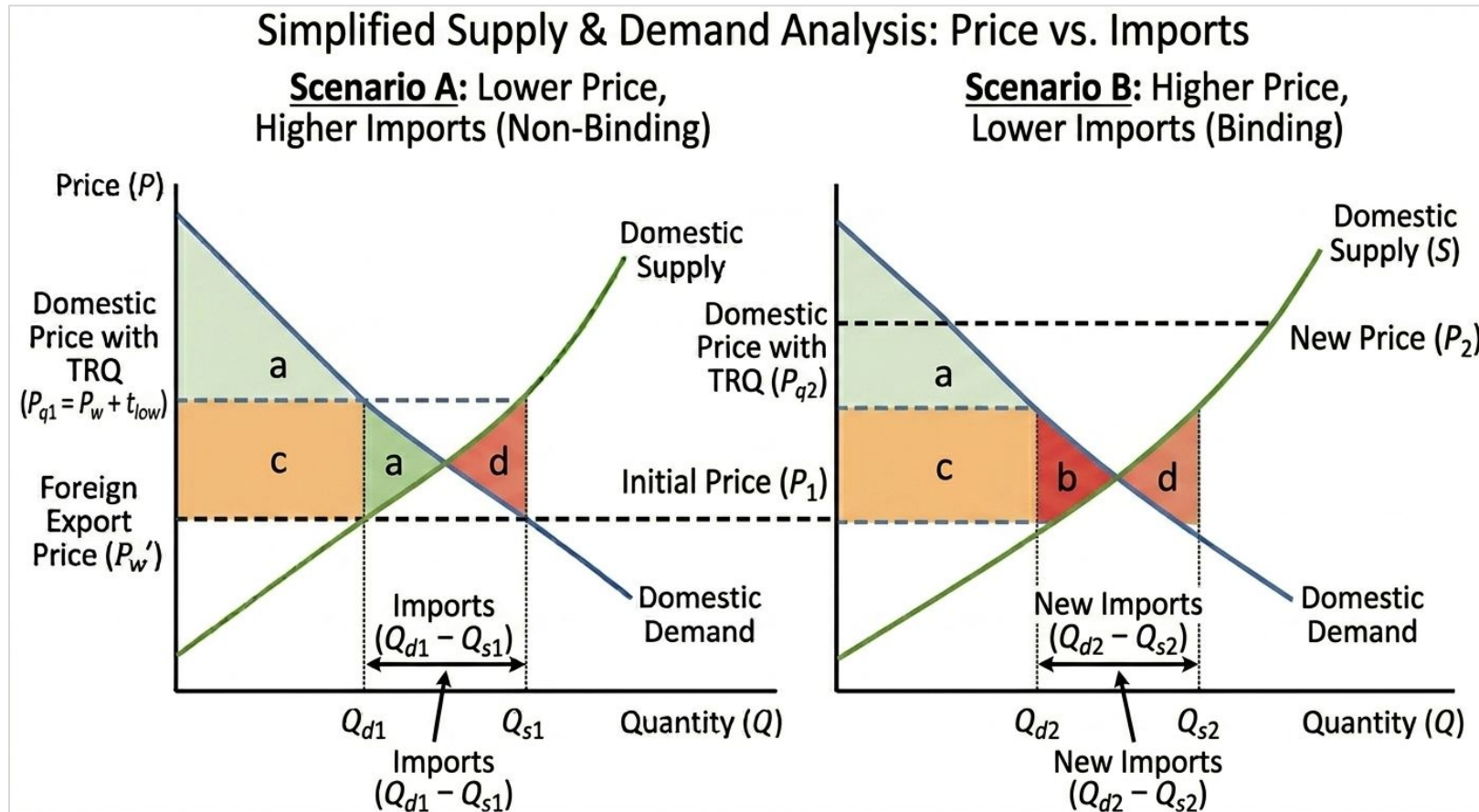
Feature	Tariff	Quota
Price effect	Determined by tariff rate	Determined by supply/demand
Government revenue	Yes (tariff receipts)	Only if licenses auctioned
Certainty of import limit	No (imports vary with demand)	Yes (absolute limit)
Corruption potential	Lower	Higher (license allocation)
WTO legality	Generally allowed	Bound quotas illegal except for agriculture

Voluntary Export Restraints (VERs)

Definition: A two-tier tariff system – imports within a specified quantity face a low tariff (in-quota rate), while imports above that quantity face a higher tariff (over-quota rate).

Purpose: Allow a minimum market access while protecting domestic producers beyond that level. Common in agriculture (WTO Uruguay Round Agreement on Agriculture).

Economic Effects of TRQs (Figure 8)



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Comparison of Tariffs and NTBs (**Table 2**)

Instrument	Price effect	Rent recipient	Welfare (importer)	WTO status
Tariff	Increases	Government	Loss (small country)	Bound tariffs allowed
Quota (auctioned)	Increases	Government	Loss	Restricted
Quota (assigned)	Increases	License holders	Loss (larger)	Restricted
VER	Increases	Foreign exporters	Severe loss	Illegal (WTO)
TRQ	Increases stepwise	Mixed	Moderate loss	Allowed (agriculture)

Impact of Trade Restrictions on Importers

The table shows how trade policies raise prices and affect rent recipients and importer welfare. Tariffs and auctioned quotas benefit the government but harm importers, with tariffs WTO-legal and auctioned quotas restricted. Assigned quotas and VERs shift rents elsewhere, causing even larger losses, and VERs are WTO-illegal.

Real-World Cases and Data

U.S. Steel Tariffs (2002, 2018)

2002: Bush imposed 30% tariff on steel. Result: Job losses in steel-using industries exceeded gains in steel production. WTO ruled illegal.

2018: Trump 25% tariff on steel (Section 232). EU and China retaliated. Net welfare loss for U.S.

Policy Implications and WTO Rules

WTO principles relevant to tariffs & NTBs:

Binding commitments: Tariffs cannot exceed bound rates.

Most-Favored Nation (MFN): Tariff applied equally to all WTO members (except FTAs).

National treatment: Internal taxes/regulations cannot discriminate against imports.

Prohibition of VERs – illegal under WTO (Agreement on Safeguards).

Tariffication – quotas converted to tariffs (agriculture).

TRQs – permitted for agriculture under market access commitments.

Conclusion

- 1. Tariffs** – simple but harmful for small economies; can improve terms of trade for large economies but risk retaliation.
 - 2. Specific vs. ad valorem** – each has administrative and protective differences.
 - 3. Welfare effects** – always deadweight loss for small country; redistribution from consumers to producers and government.
 - 4. Quotas** – limit quantity; create rents; more distortionary than equivalent tariff if rents go abroad.
 - 5. VERs** – worst for importing country; rents to foreigners; now illegal under WTO.
 - 6. TRQs** – compromise between protection and market access; common in agriculture.
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Discussion Questions & Problem Set

- Why would a government use a VER instead of a tariff, even though VERs are worse for national welfare?
 - Compare the distributional effects of an ad valorem tariff vs. a specific tariff during inflation.
 - If a large country imposes an optimal tariff, why might its trading partners retaliate? What is the final equilibrium likely to be?
 - How does a TRQ differ from a simple quota? Give an example where a TRQ might be preferred politically.
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Problem Set:

Small country tariff:

Demand: $Q_d = 100 - P$,

Supply: $Q_s = 20 + P$,

World price = \$20.

(a) Find free trade imports.

(b) Impose \$10 specific tariff. Find new price, imports, consumer surplus loss, producer surplus gain, revenue, deadweight loss.

Quota vs. tariff:

Same demand/supply as above. Instead of tariff, impose quota of 20 units.

(a) Find domestic price.

(b) Calculate quota rent if licenses given to domestic firms.

(c) Compare welfare with tariff case.

VER analysis:

Using the same data, assume that the exporting country imposes a VER of 20 units. Calculate the welfare loss for the importing country compared to an equivalent tariff. ***Who gets the quota rents?***

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Thank you!