Taxes, Subsidies, and Tariffs: "Small" Country

What is a “small” country?

- In trade theory, a country is said to be “small” if events in that country can have no effect on worldwide free trade prices

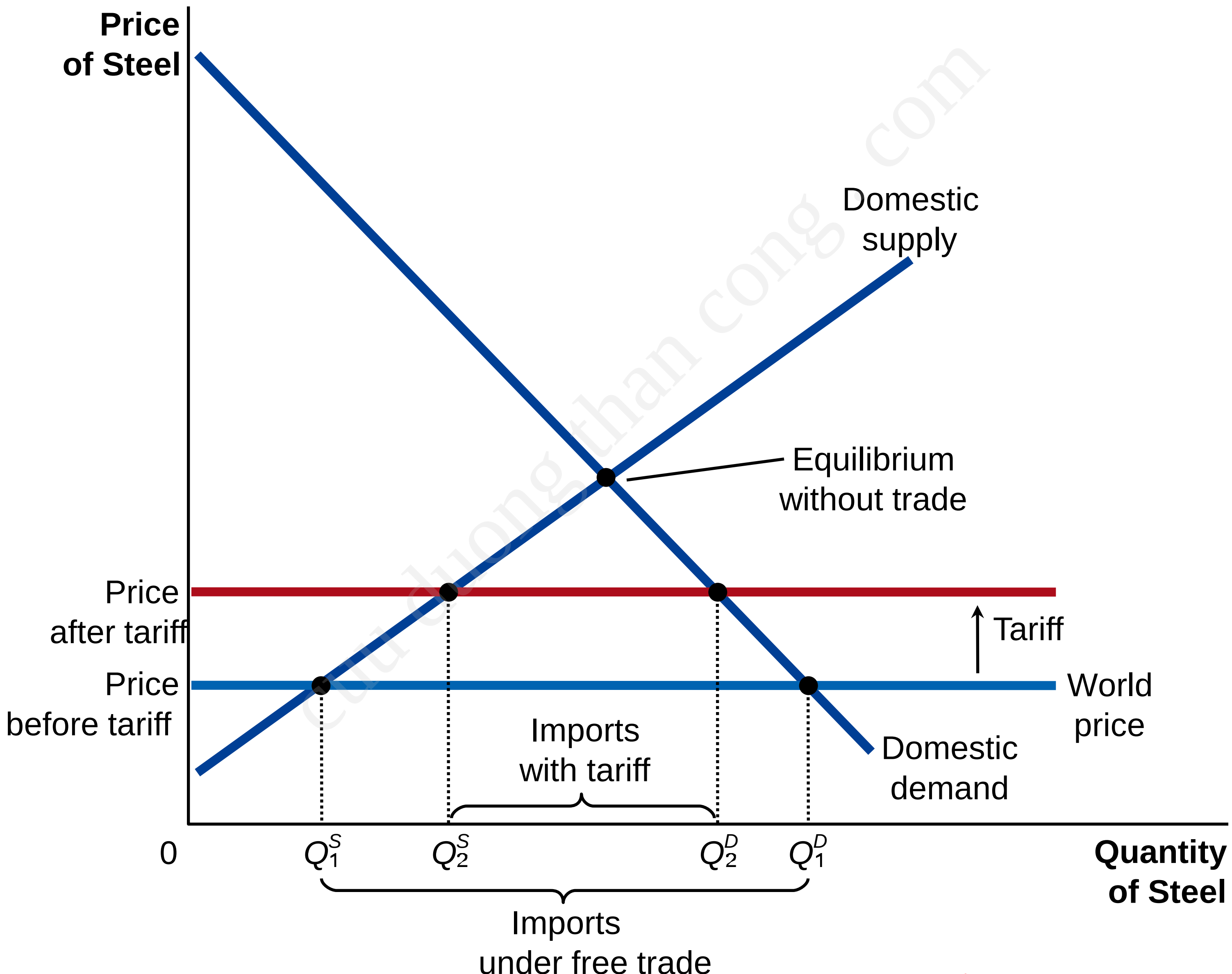
What is a Tariff?

- A *tariff* is a tax on imported goods

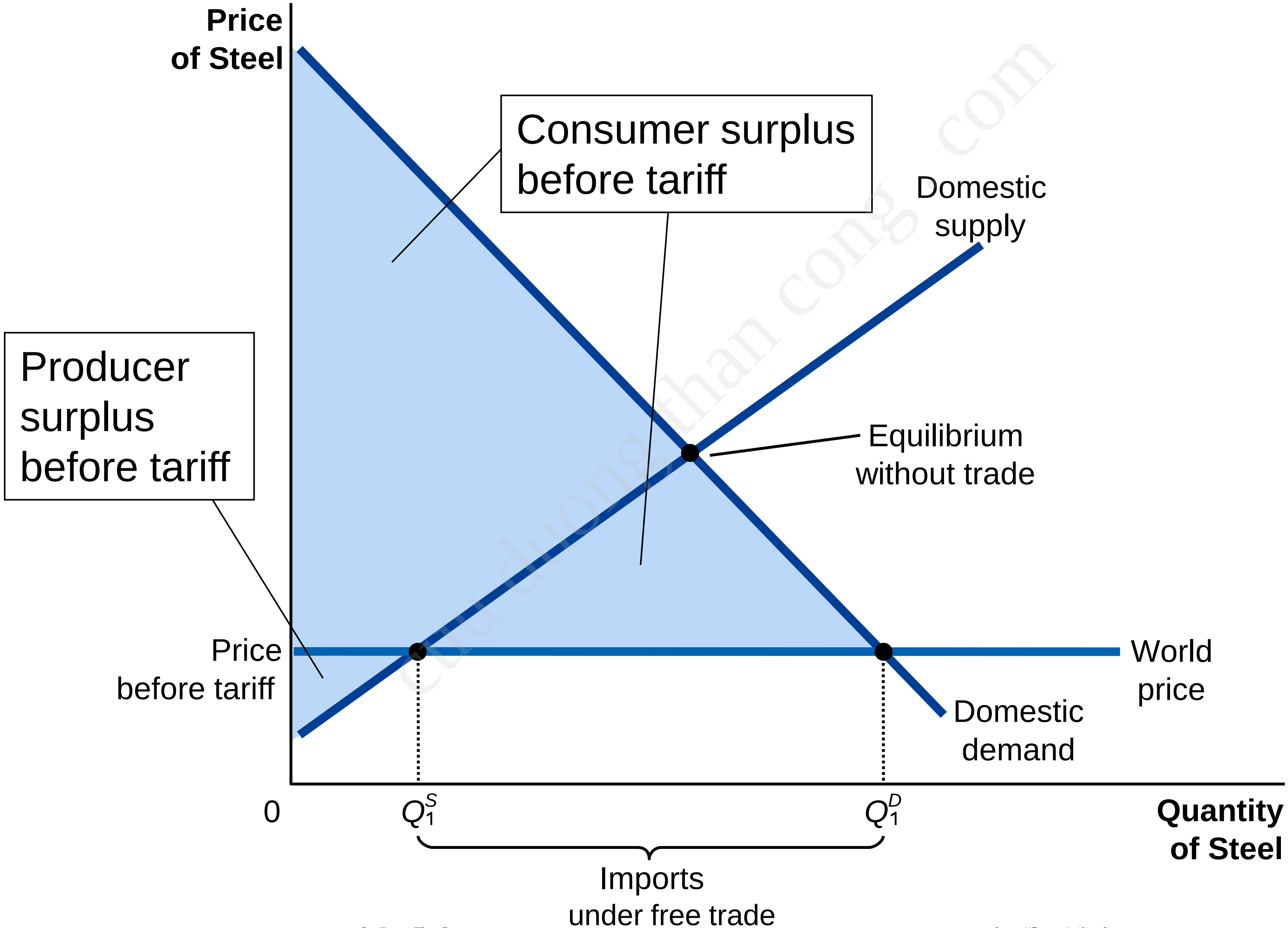
The Effects of a Tariff

- A *tariff* is a tax on imported goods
- Tariffs raise the price of imported goods above the world price by the amount of the tariff.
- This
  - Reduces consumption, …
  - Increases production, and thereby …
  - Reduces the amount imported

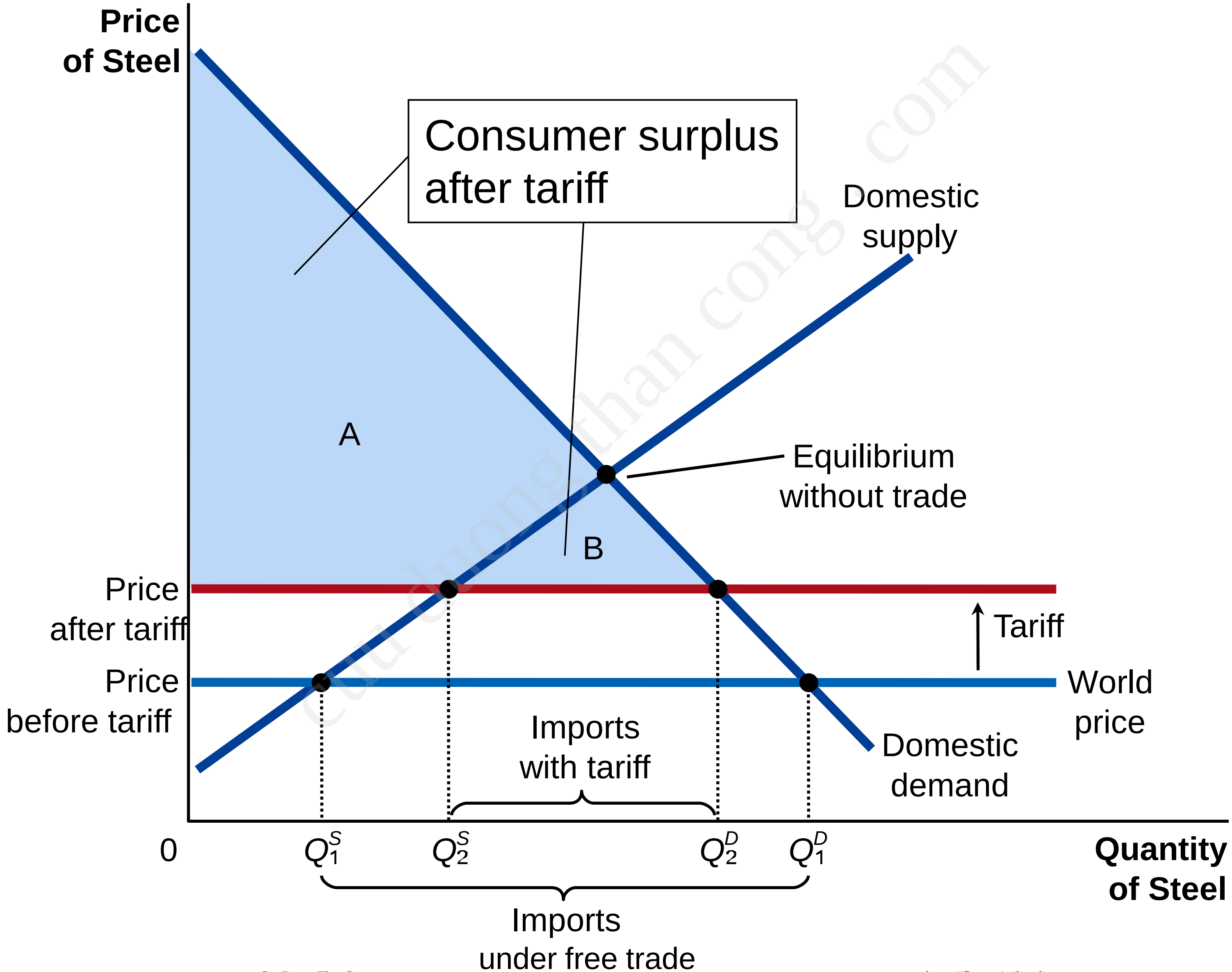
Effects of a Tariff on Prices and Quantities



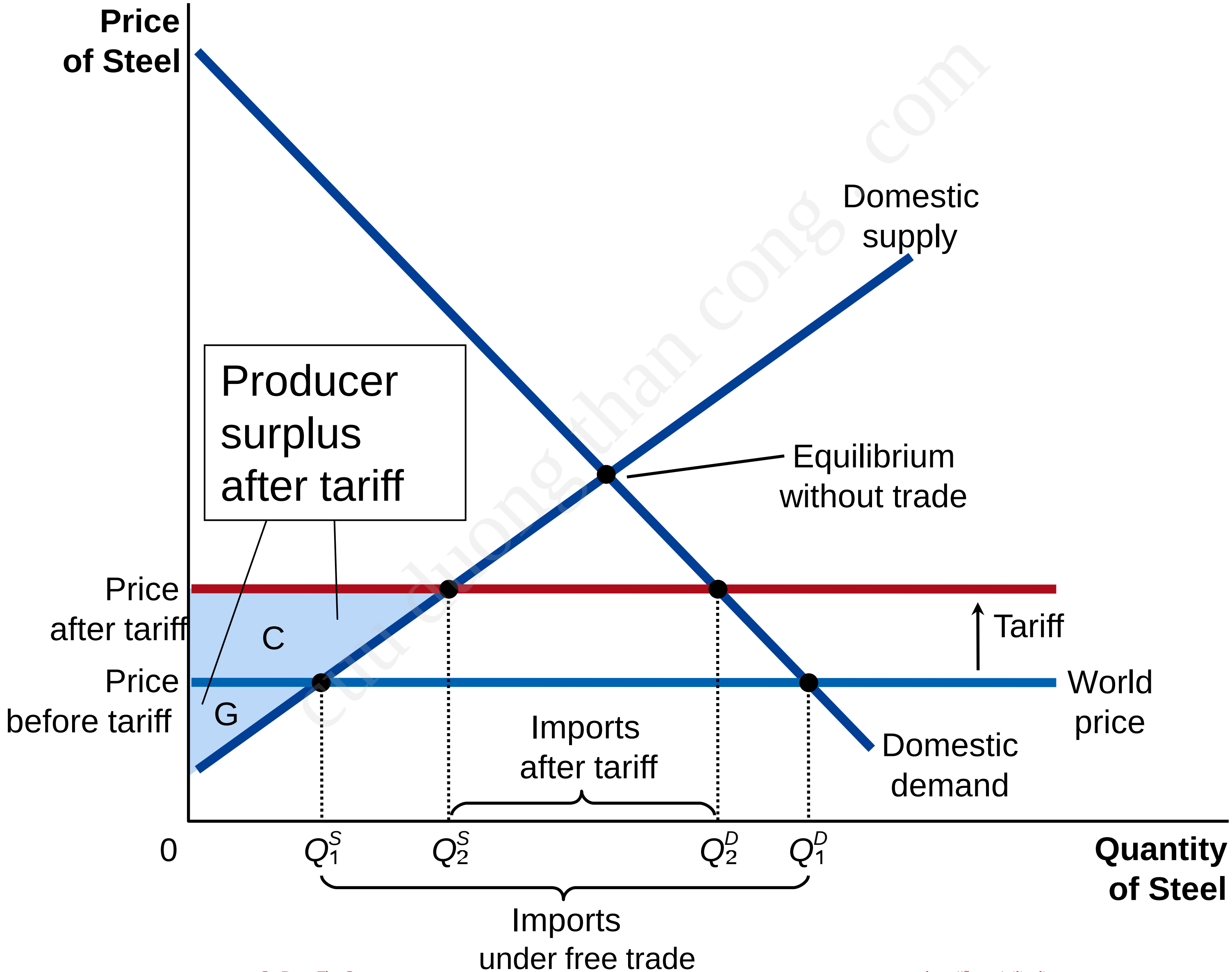
Welfare under free trade



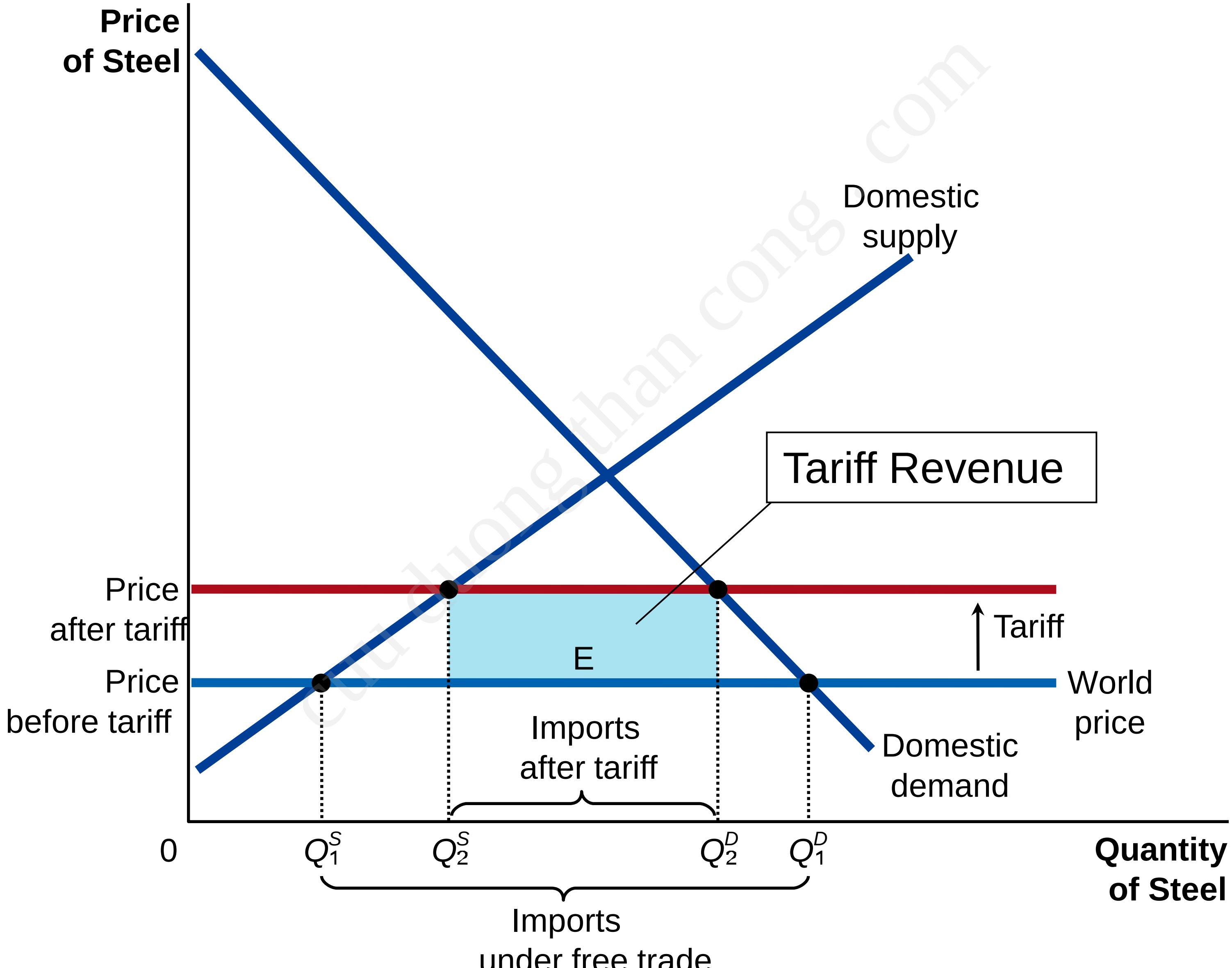
Consumer Surplus after Tariff



Producer Surplus after Tariff



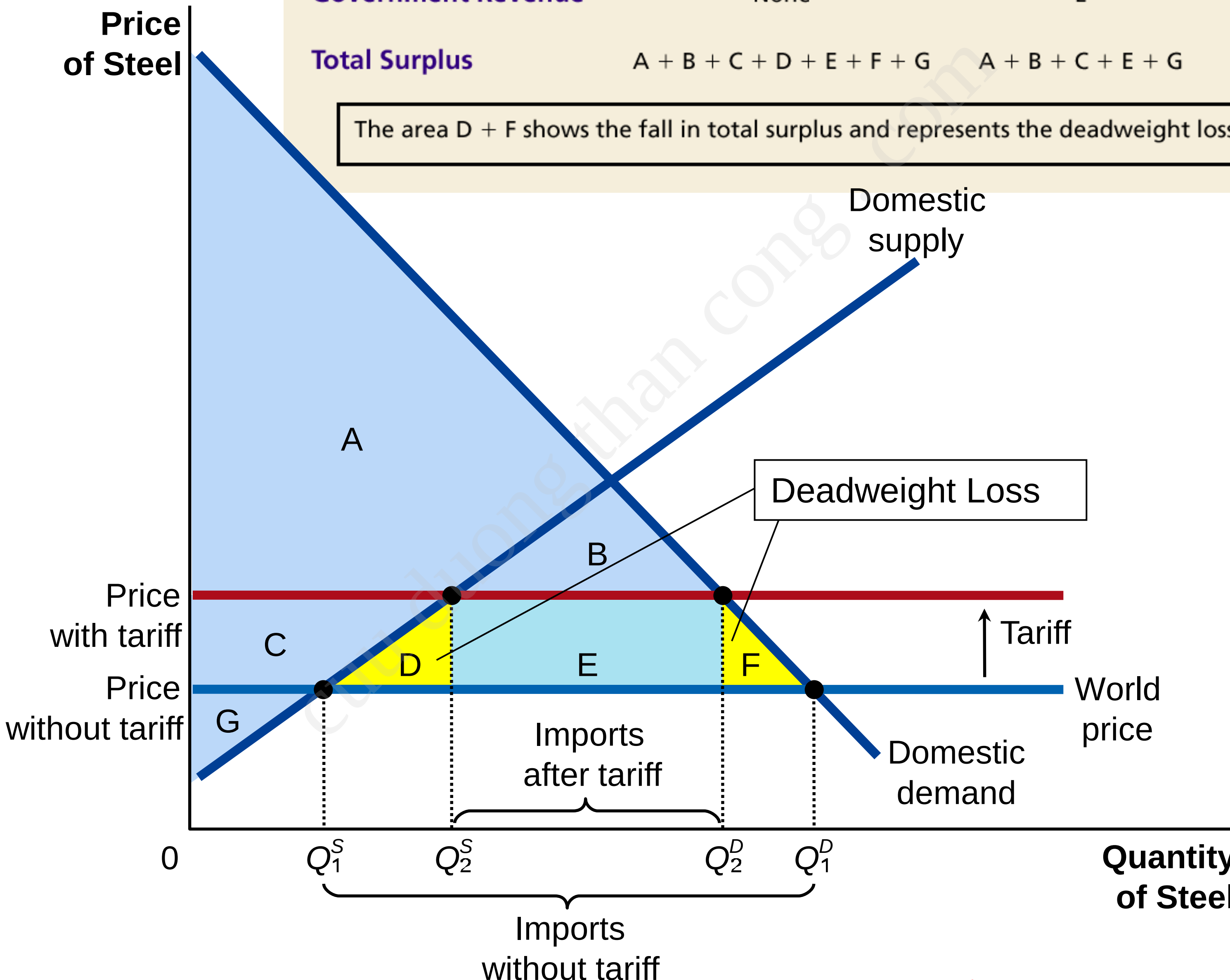
Government's Revenue from Tariff



Effects

	Before Tariff	After Tariff	Change
Consumer Surplus	A + B + C + D + E + F	A + B	−(C + D + E + F)
Producer Surplus	G	C + G	+C
Government Revenue	None	E	+E
Total Surplus	A + B + C + D + E + F + G	A + B + C + E + G	−(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the tariff.



Welfare Effects of a Tariff

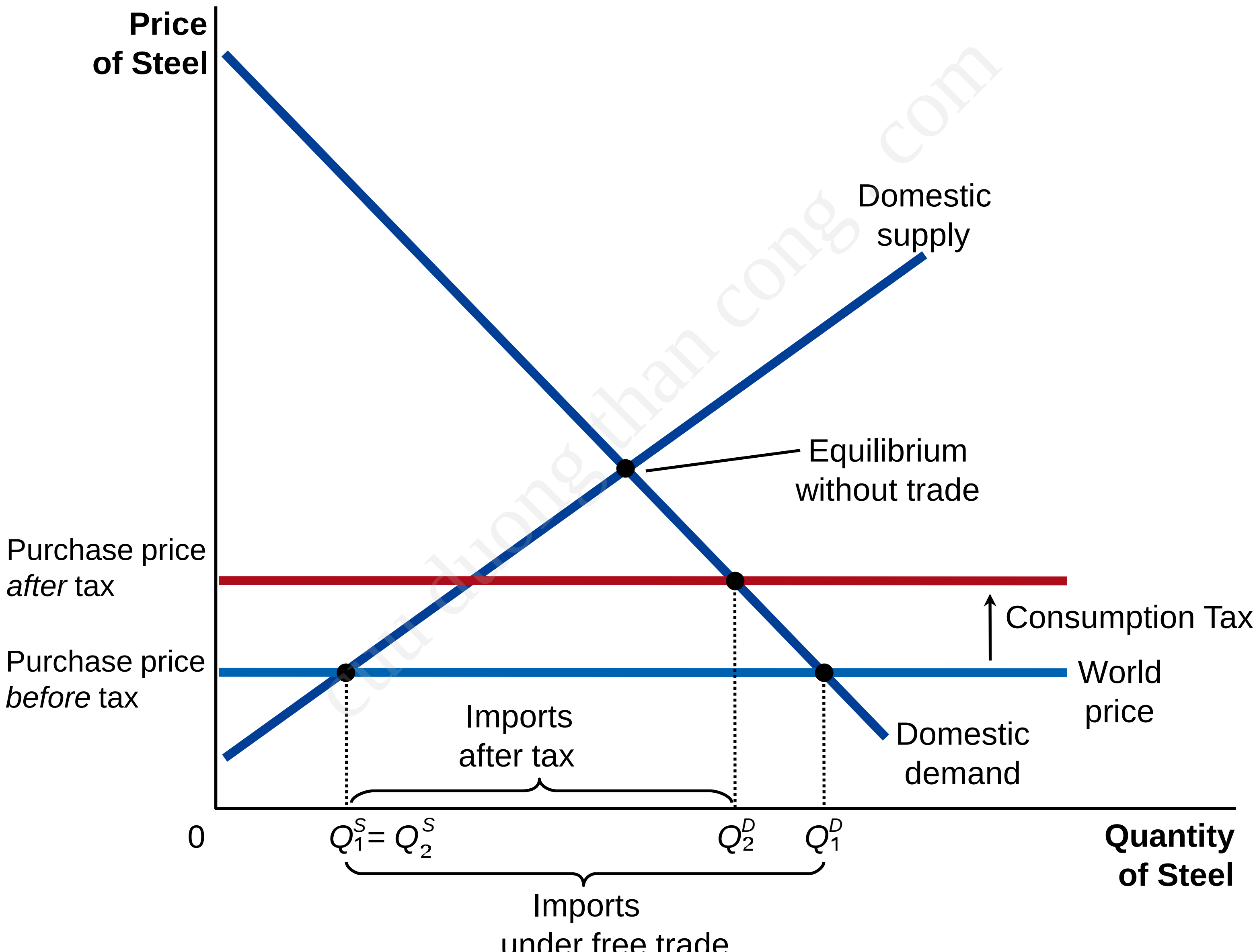
- Consumers of the imported good are worse off (compared to free trade)
- Producers of the imported good are better off
- The government gains some revenue
- Total surplus decreases, because the loss to consumers is larger than the gains to the producers and to the government
- The decrease in total surplus is called the *deadweight loss* of the tariff.

Tariffs are “third best”

- The *tariff* can be thought of as the combination of a *production subsidy* and a *consumption tax*
- The only rationale for a tariff is that it helps producers
- But even that goal can be better achieved by using only a production subsidy
- That way, the bad effects of the consumption tax can be avoided

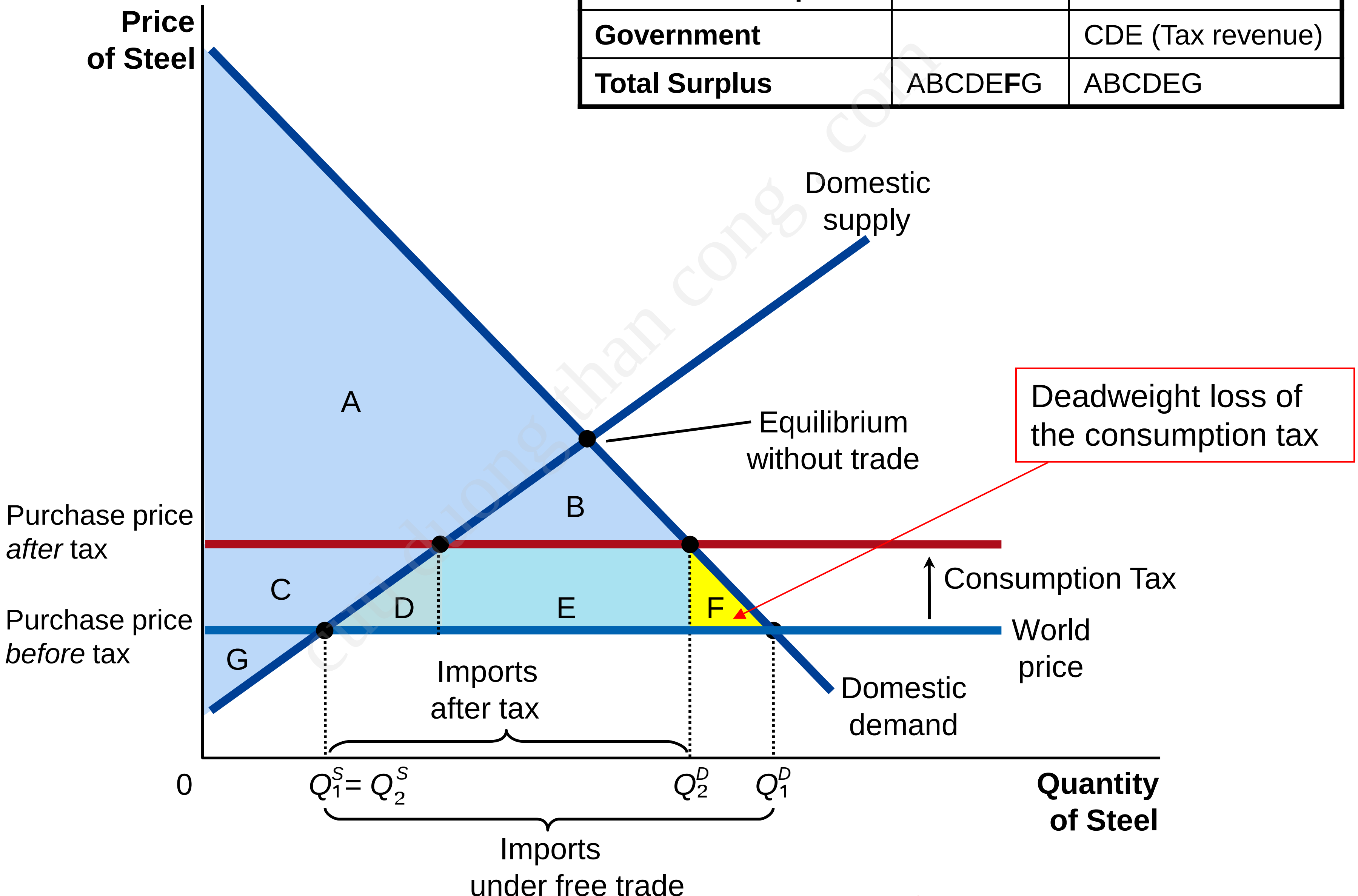
CONSUMPTION TAX

Consumption Tax



Consumption Tax

	Free Trade	Consumption Tax
Consumers' Surplus	ABCDEF	AB
Producers' Surplus	G	G
Government		CDE (Tax revenue)
Total Surplus	ABCDE**F**G	ABCDEG



Consumption Tax

<table>
<tr><th></th><th>Free Trade</th><th>Consumption Tax</th></tr>
<tr><td>Consumers’ Surplus</td><td>ABCDEF</td><td>AB</td></tr>
<tr><td>Producers’ Surplus</td><td>G</td><td>G</td></tr>
<tr><td>Government</td><td></td><td>CDE</td></tr>
<tr><td>Total Surplus</td><td>ABCDEFG</td><td>ABCDEG</td></tr>
<tr><td colspan="3">The deadweight loss of the consumption tax is F, less than D + F, the deadweight loss of the tariff.</td></tr>
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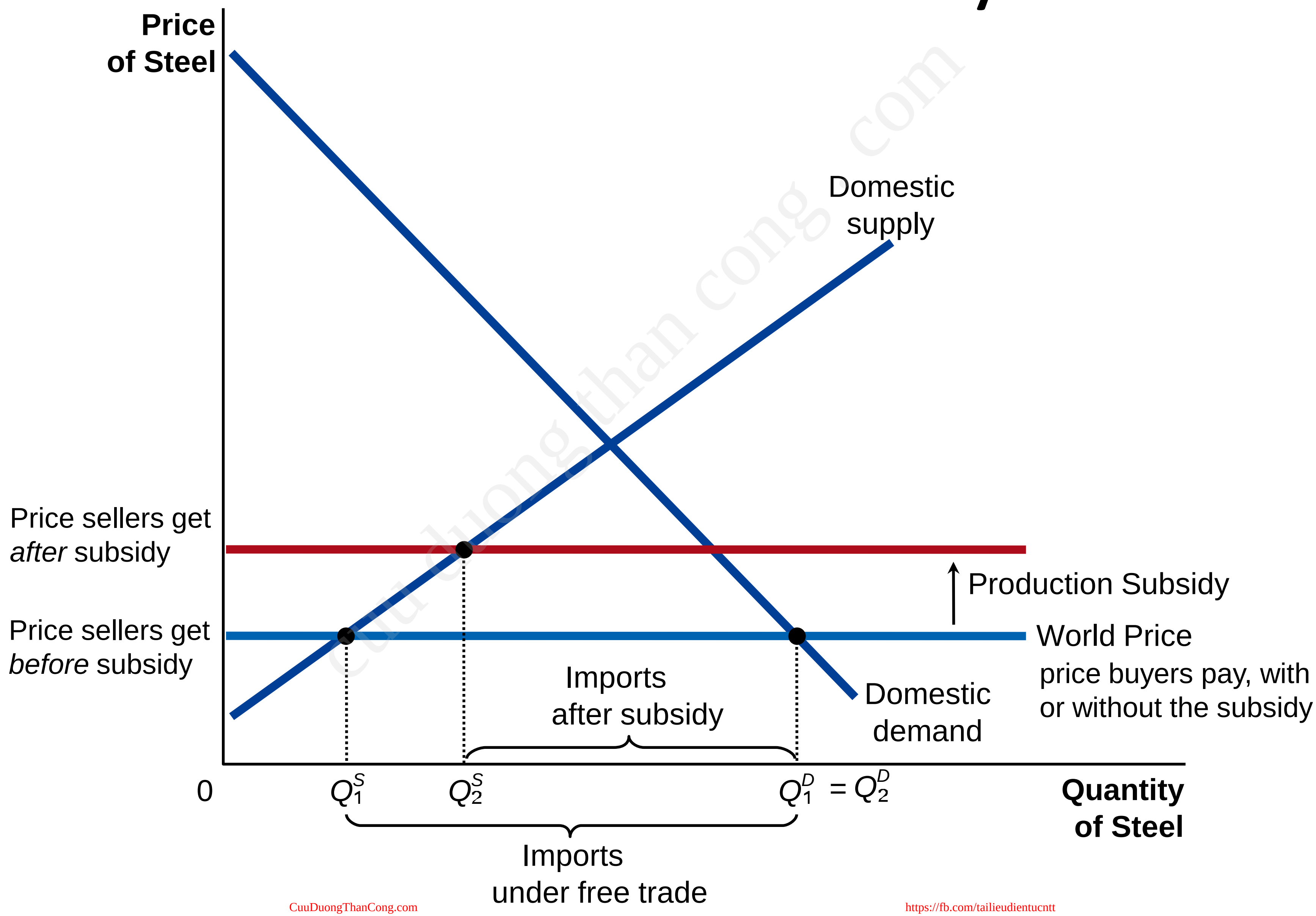
Consumption Tax

- When a small country imposes a consumption tax on the imported good
  - Production is unchanged, and
  - Consumption decreases. Therefore,
  - The amount imported decreases.
  - Consumers lose
  - Producers are unaffected
  - The government gains some tax revenue
  - The country as a whole is worse off

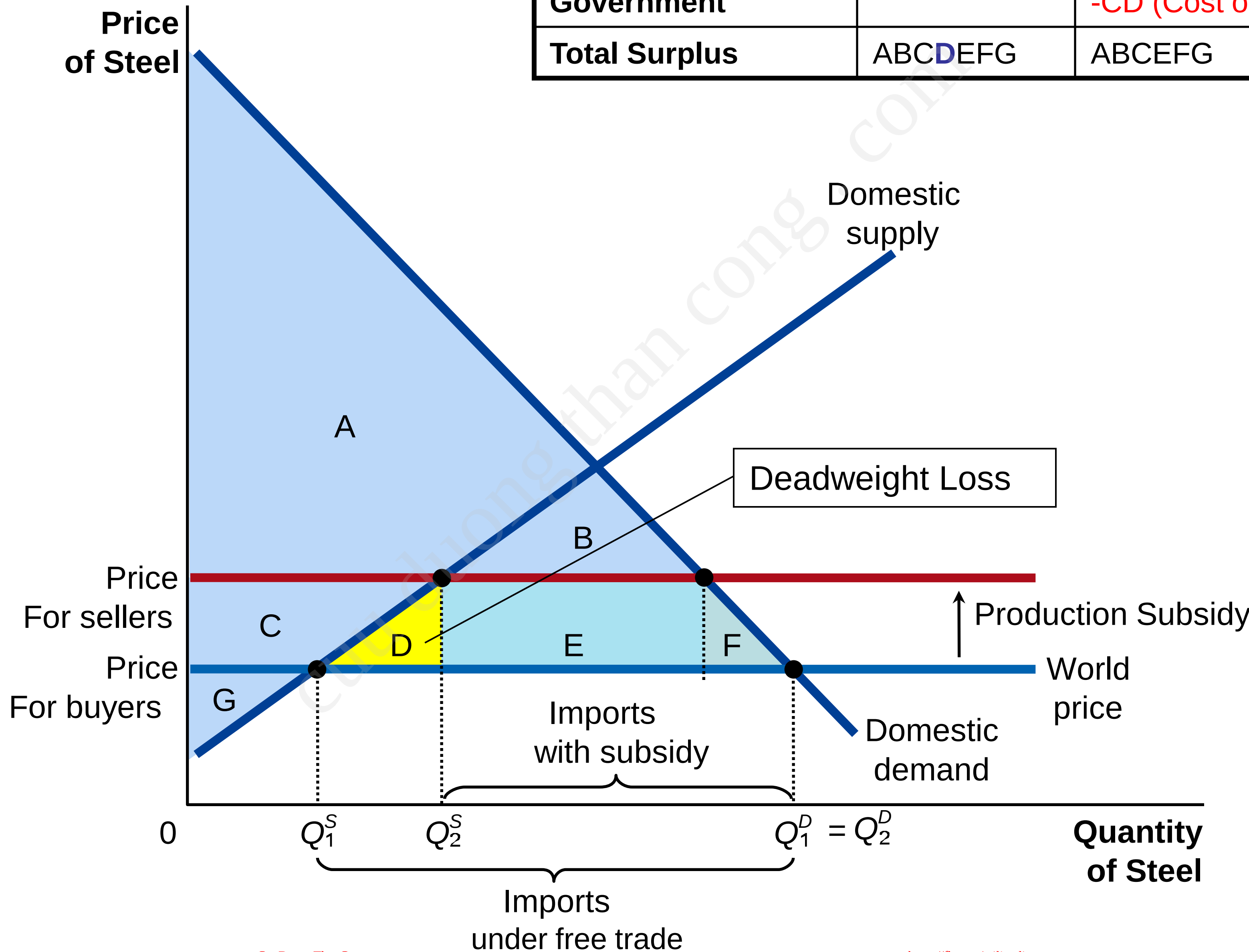
PRODUCTION SUBSIDY

Production Subsidy



Production Subsidy

	Free Trade	Production Subsidy
Consumers' Surplus	ABCDEF	ABCDEF
Producers' Surplus	G	CG
Government		-CD (Cost of Subsidy)
Total Surplus	ABCDEFG	ABCEFG



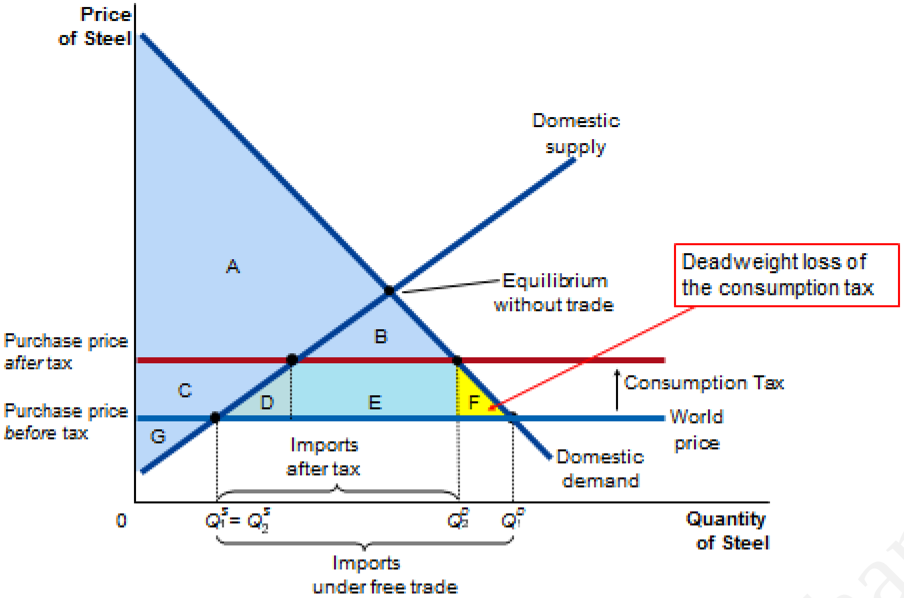
Production Subsidy

	Free Trade	Production Subsidy
Consumers' Surplus	ABCDEF	ABCDEF
Producers' Surplus	G	CG
Government		-CD
Total Surplus	ABC**D**EFG	ABCEFG

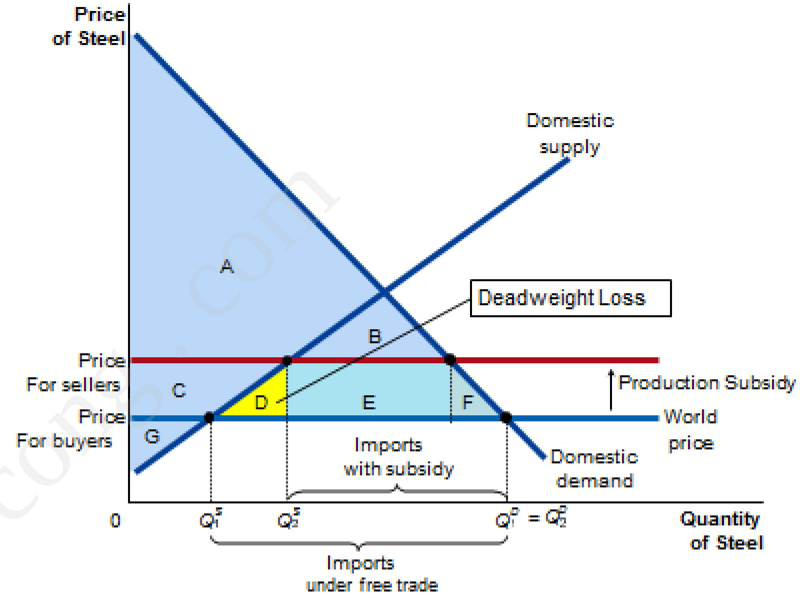
Production Subsidy

- When a small country gives a subsidy to domestic producers of an imported good
  - Consumers are unaffected
  - Producers gain (C), *same as under the tariff*
  - Taxpayers have to pay for the subsidy (CD)
  - Overall, the country is worse off (D).
  - Recall that under the tariff, the country suffered even more (DF)
  - Tariffs are “third best”

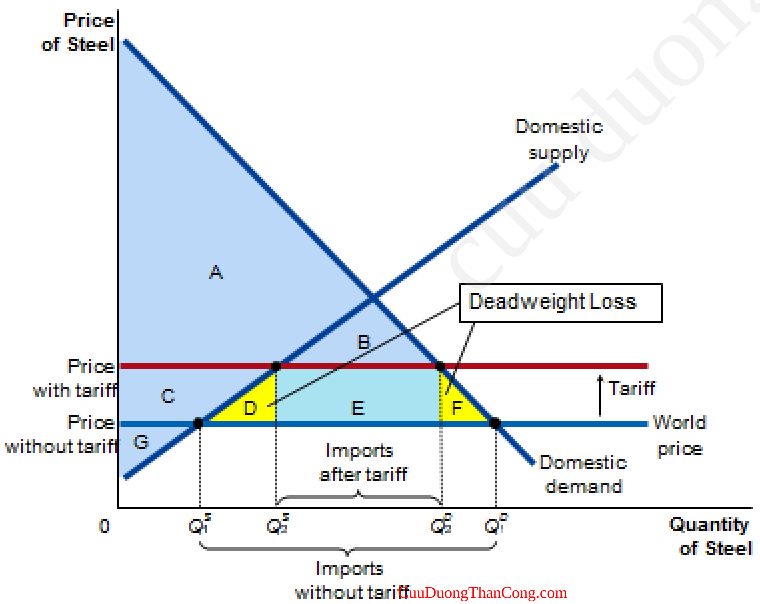
Consumption Tax



Production Subsidy



Effects of Tariff on Social Welfare

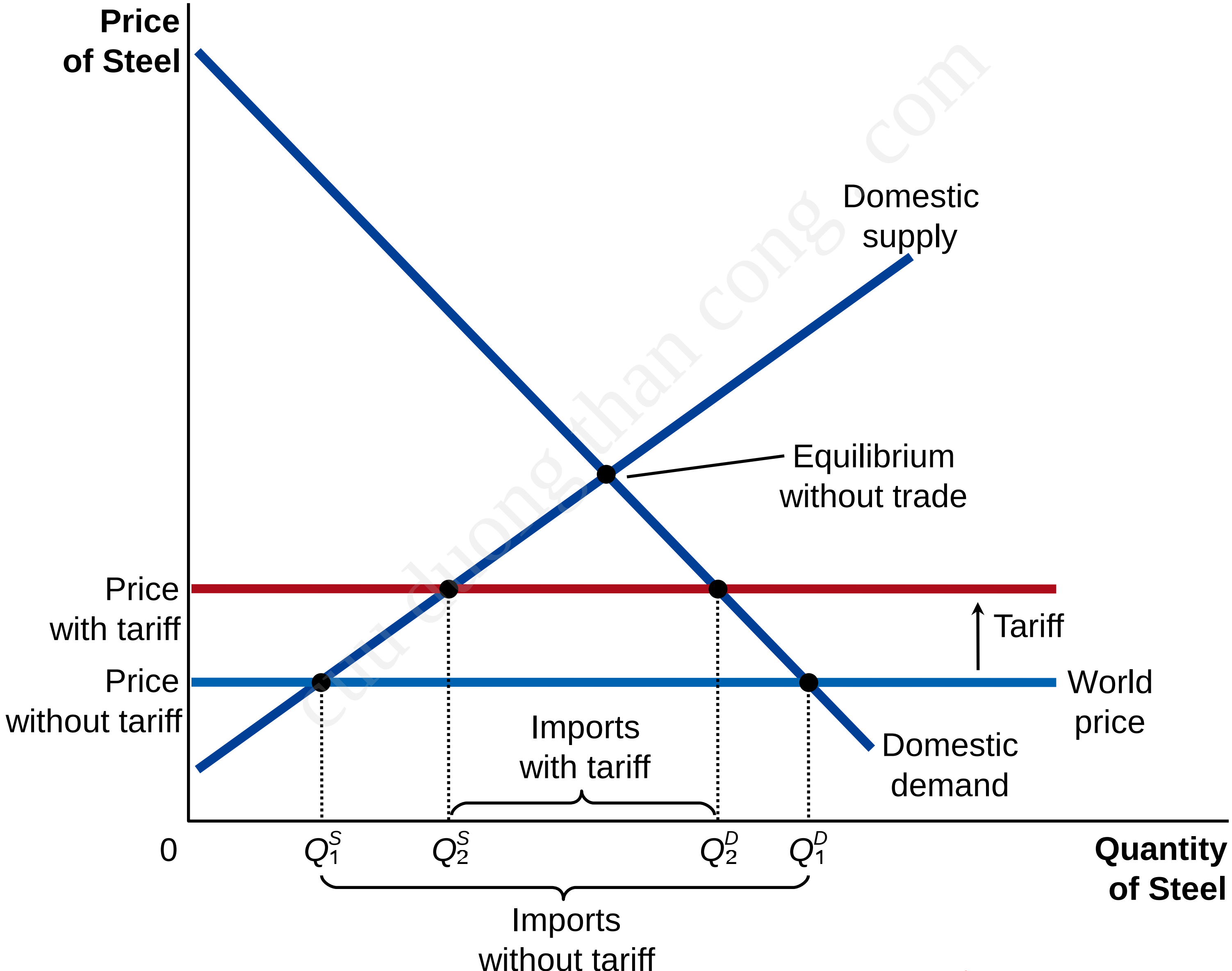


Tariff = Consumption Tax + Production Subsidy

TARIFFS ARE A "THIRD-BEST" POLICY

Q: What if a tariff is replaced by a production subsidy and a consumption tax, both equal in size to the tariff?

A: The outcome would be identical to the outcome under the tariff.



Tariffs are “third best”

- The *tariff* can be thought of as the combination of a *production subsidy* and a *consumption tax*
- The only rationale for a tariff is that it helps producers
- But even that goal can be better achieved by using only a production subsidy
- That way, the bad effects of the consumption tax can be avoided

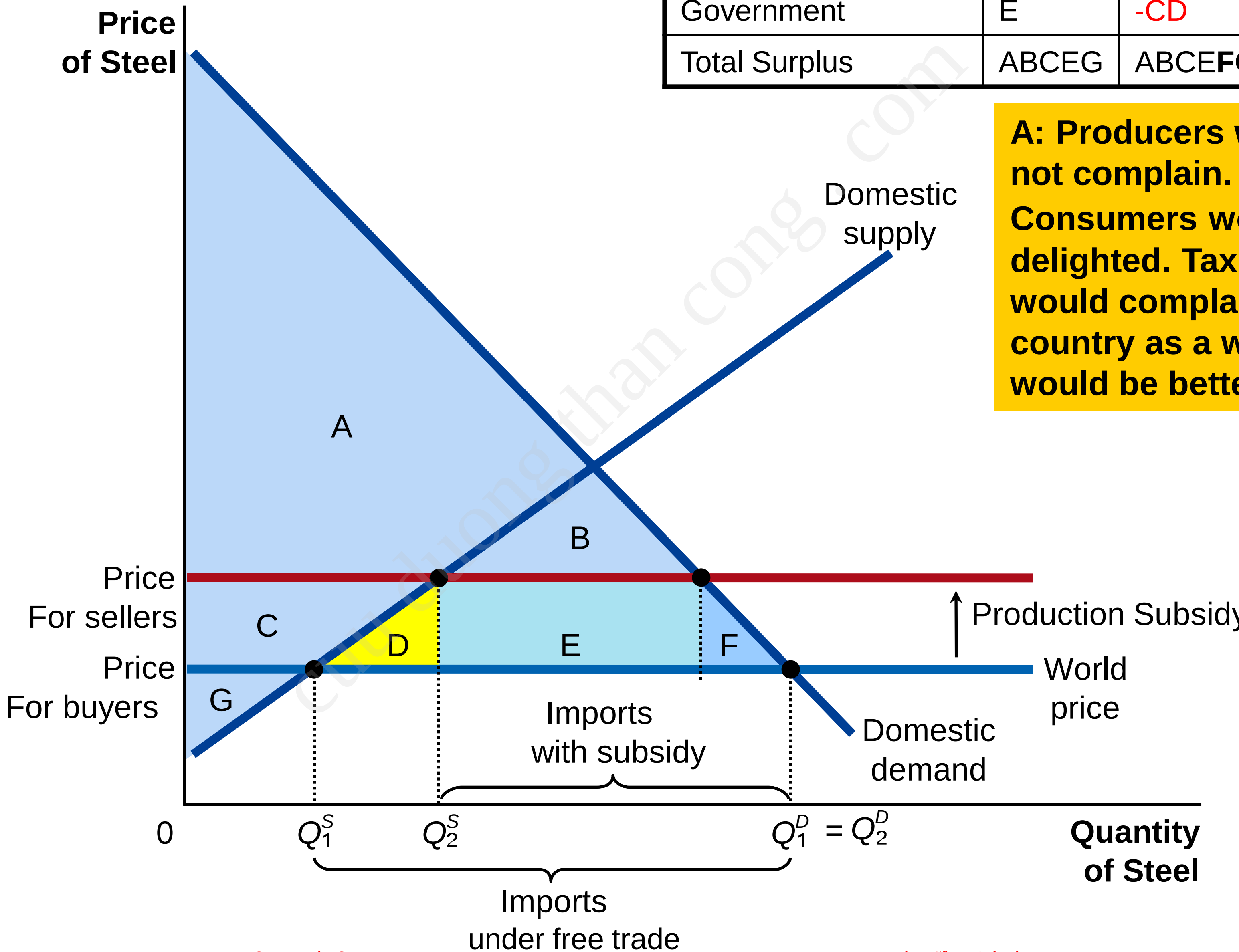
Tariffs are “third best”

- We can also establish the superiority of the production subsidy over the tariff by a head-to-head comparison

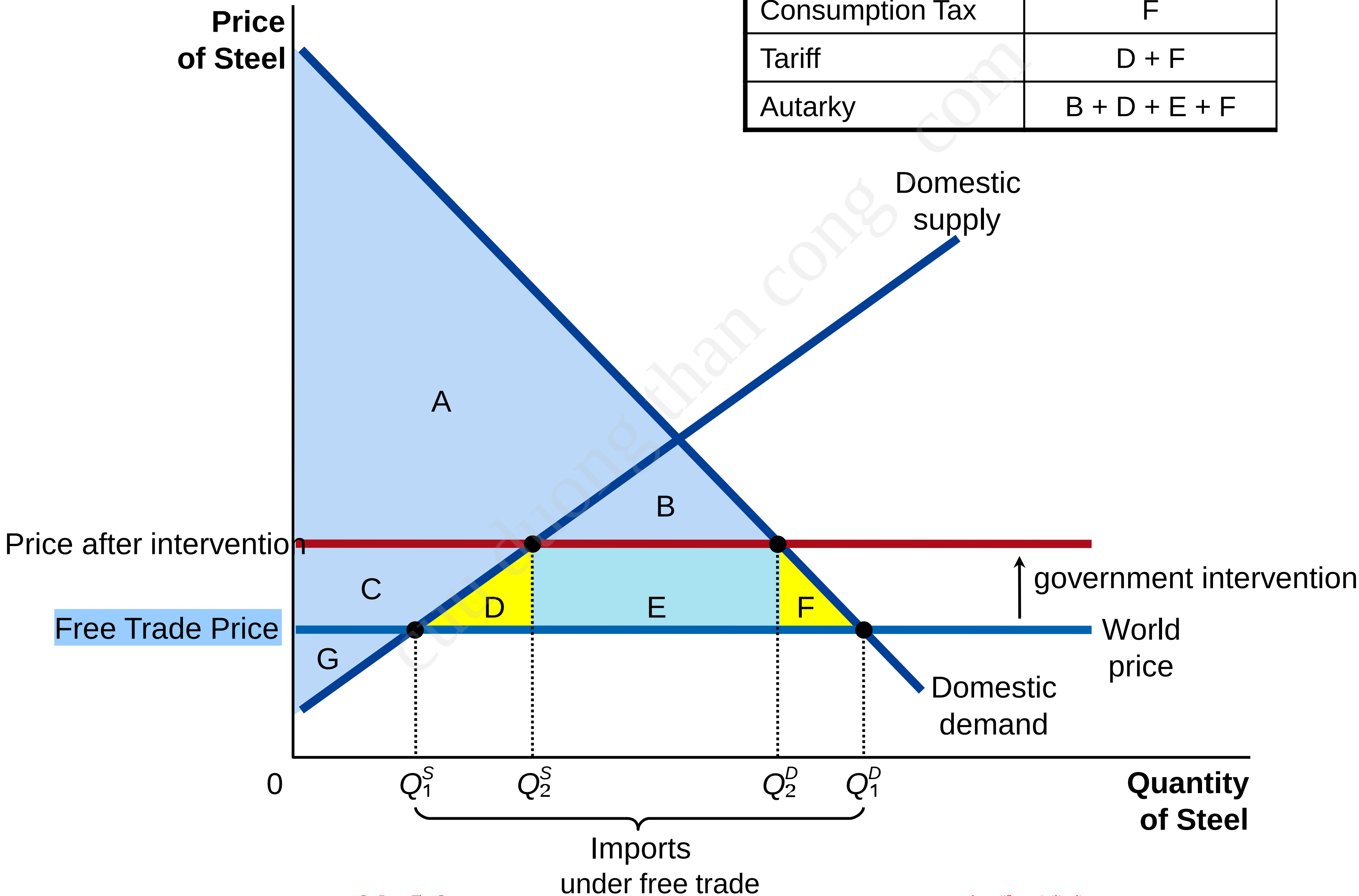
Q: What if the tariff shown earlier were replaced by a production subsidy equal in size to the tariff?

	Tariff	Production Subsidy
Consumers' Surplus	AB	ABCDEF
Producers' Surplus	CG	CG
Government	E	-CD
Total Surplus	ABCEG	ABCE**F**G

A: Producers would not complain. Consumers would be delighted. Taxpayers would complain. The country as a whole would be better off.



	Deadweight Loss
Free Trade	zero
Production Subsidy	D
Consumption Tax	F
Tariff	D + F
Autarky	B + D + E + F



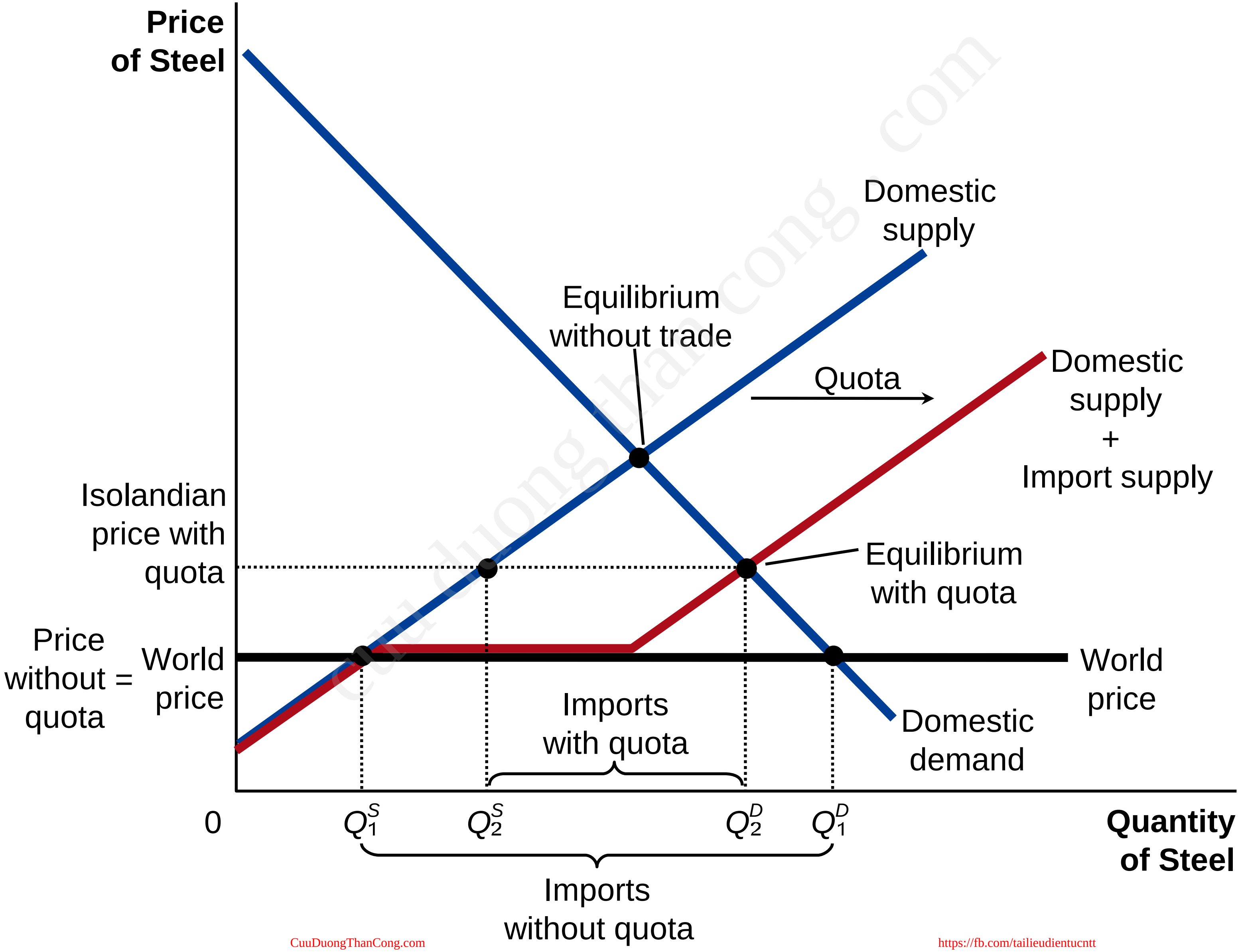
In its welfare effects, not all that different from the tariff

BONUS MATERIAL: THE IMPORT QUOTA

The Effects of an Import Quota

- An *import quota* is a limit—imposed by the domestic government—on the quantity of a good that can be produced abroad and sold domestically.

The Effects of an Import Quota



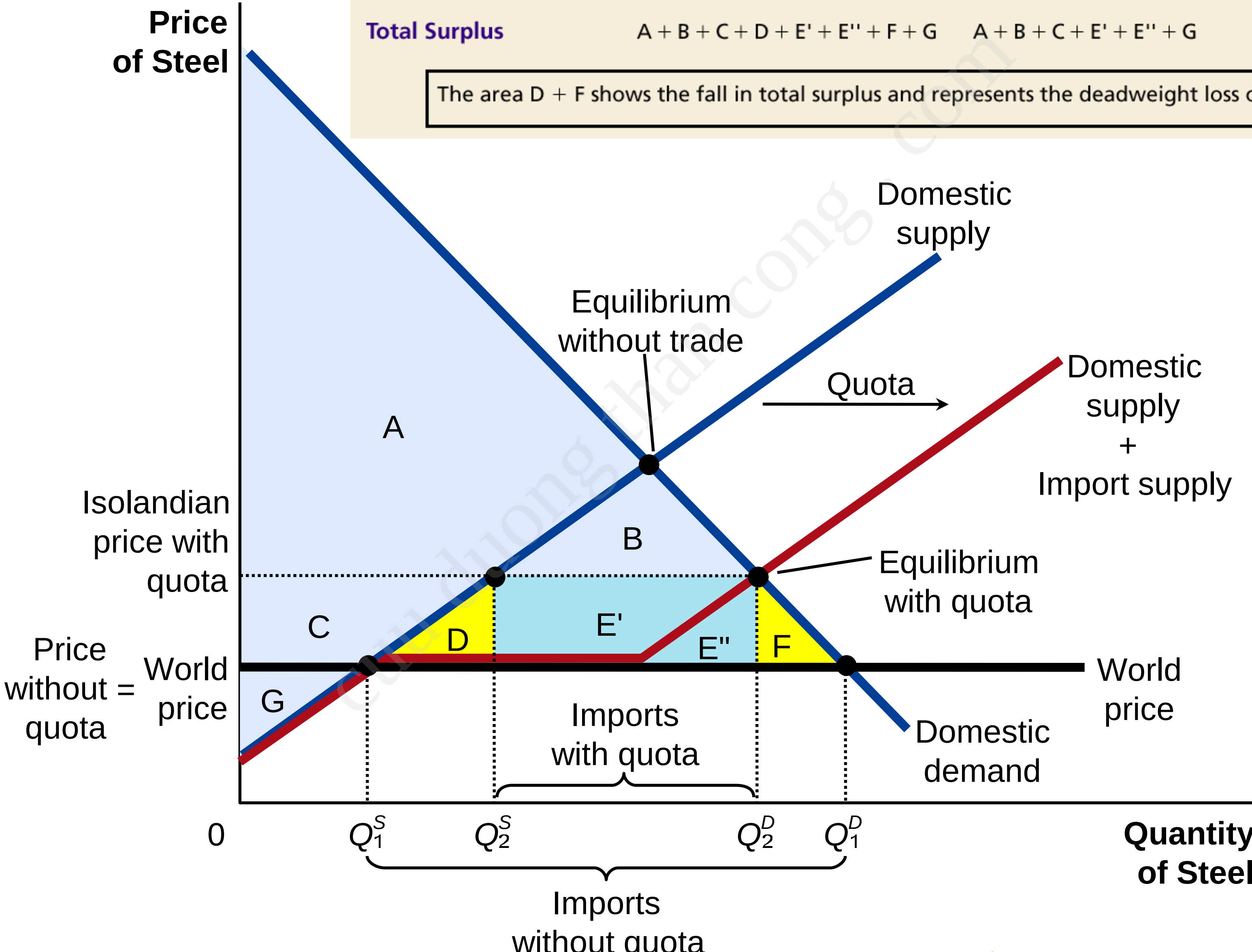
The Effects of an Import Quota

- Because the quota raises the domestic price above the world price,
  - domestic buyers of the good are worse off, and
  - domestic sellers of the good are better off.
- Import license holders are better off
  - they make a profit from buying at the world price and selling at the higher domestic price.

The Effects o

	Before Quota	After Quota	Change
Consumer Surplus	A + B + C + D + E' + E'' + F	A + B	−(C + D + E' + E'' + F)
Producer Surplus	G	C + G	+C
License-Holder Surplus	None	E' + E''	+(E' + E'')
Total Surplus	A + B + C + D + E' + E'' + F + G	A + B + C + E' + E'' + G	−(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the quota.



The Effects of an Import Quota

	Before Quota	After Quota	Change
Consumer Surplus	A + B + C + D + E' + E'' + F	A + B	−(C + D + E' + E'' + F)
Producer Surplus	G	C + G	+C
License-Holder Surplus	None	E' + E''	+(E' + E'')
Total Surplus	A + B + C + D + E' + E'' + F + G	A + B + C + E' + E'' + G	−(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the quota.

The Effects of an Import Quota

- With a quota, total surplus in the market decreases by an amount referred to as a deadweight loss.
- The quota can potentially cause an even larger deadweight loss, if a political mechanism such as lobbying is employed to allocate the import licenses.

Tariffs v. Quotas

- If government sells import licenses for full value,
  - the revenue would equal that from an equivalent tariff and
  - tariffs and quotas would have identical results.
- Otherwise, quotas are worse than tariffs

The Lessons for Trade Policy

- Both tariffs and import quotas . . .
  - raise domestic prices.
  - reduce the welfare of domestic consumers.
  - increase the welfare of domestic producers.
  - cause deadweight losses.