PubPol/Econ 541

Class 25

Subsidies and Countervailing Duties

by
Alan V. Deardorff
University of Michigan
2021

Announcements

- This is our last class together
- Paper #3 was due at 8:30 this morning
- Quiz #12
  - Available from 10:00 AM today.
  - Due, <u>unusually,</u> by Saturday 12/11 midnight,
  - Accepted until Sunday 12/12 midnight with 1 point penalty
  - Covers material from 12/2,7,9
  - Unusually, has one 2-pt question

Announcements

- Course evaluations
  - Please do them
  - Due by
    - ?
  - So far (yesterday) I have
    - ?

Pause for Discussion

Class 25: Subsidies and
Countervailing Duties

Questions on Jackson Ch. 11

- Why does Jackson view the issue of subsidies as "perplexing"?

- In what ways can a subsidy have international effects – that is, effects on other countries? (Jackson lists three.)

- What is meant by the three colored "baskets" or "boxes" of subsidies?

- What is the importance of "specificity" and "general availability" in the context of subsidies?

Subsidies and Countervailing Duties

- Subsidies are assistance provided by government to firms or industries

- Here they will take the simple form of a fixed payment per unit of output or per unit of export

- Countervailing duties (CVDs) are permitted by the GATT/WTO under specified circumstances

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- "Justified" Subsidies
- Subsidies with Imperfect Competition
- Recent subsidy issues

Categories of Subsidies

- There are several ways of categorizing subsidies
  - Export versus domestic (=production)
  - Direct versus indirect
  - Trade distorting versus not
  - "Justified" versus "unjustified"
- I'll use the latter term:
  - "Justified" means being used appropriately to correct a distortion
  - "Unjustified" is any other

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- "Justified" Subsidies
- Subsidies with Imperfect Competition
- Recent subsidy issues

Export Subsidy

Export Market
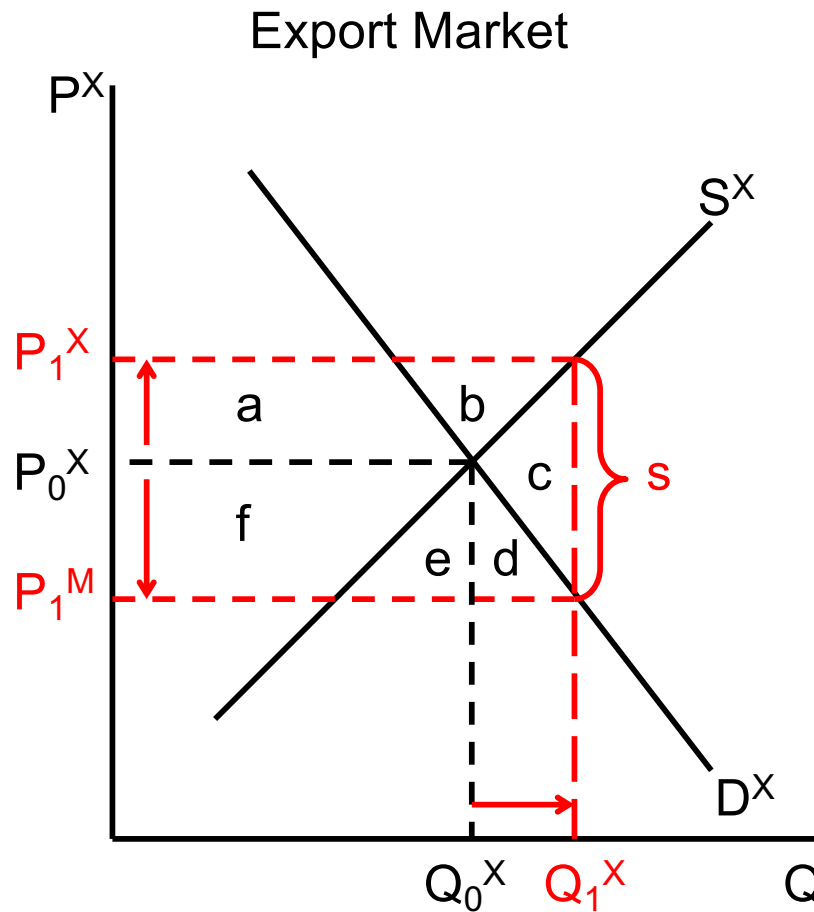
- The export subsidy, s per unit of the good exported, gives exporters price P_1^X which is larger than what foreign importers pay, P_1^M, by the amount s.

- Home price (inc. subsidy) rises

- Foreign price falls

- Exports rise

Welfare effects

- Dom. private gains $+(a+b)$
- Dom. govt loses $-(a+b+c+d+e+f)$
- Dom. cty loses $-(c+d+e+f)$
- For. private gains $+(d+e+f)$
- World loses $-c$

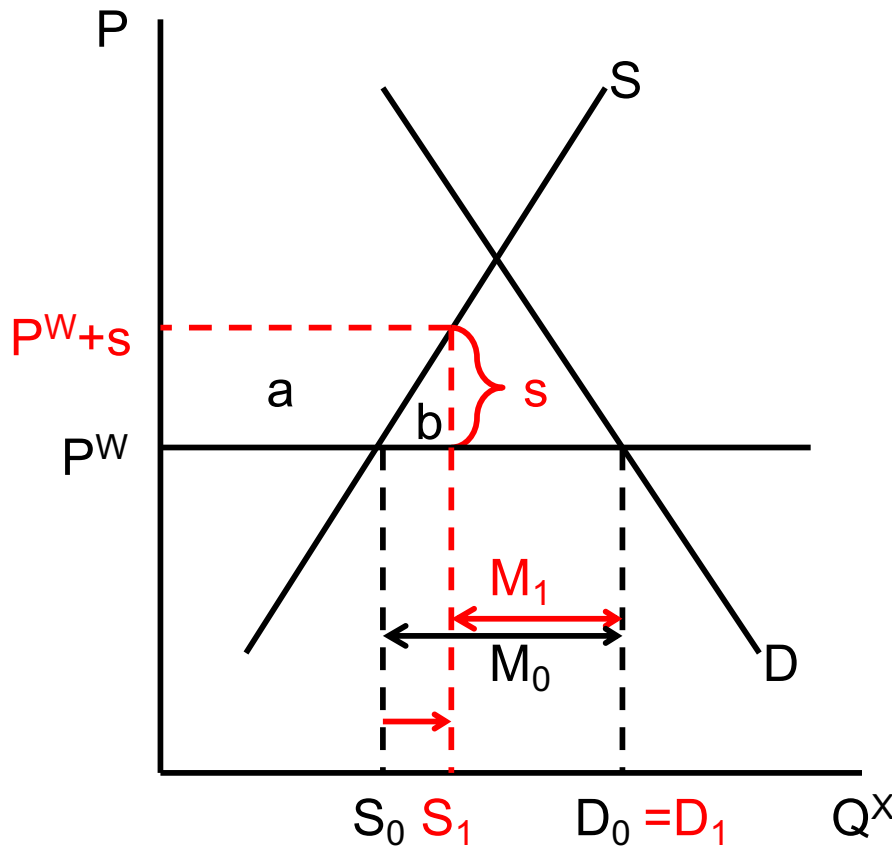*"Dead Weight Loss"* =

10

Pause for Discussion

Questions on KOM, Ch 9

- Can an export subsidy benefit the country that uses it (in perfect competition)? If so, how? If not, why not?

- Why does the text say that an export subsidy has effects that are "exactly the reverse of those of a tariff," given that the export subsidy raises the domestic price above the world price and (if the country is large) pushes down the world price?

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- "Justified" Subsidies
- Subsidies with Imperfect Competition
- Recent subsidy issues
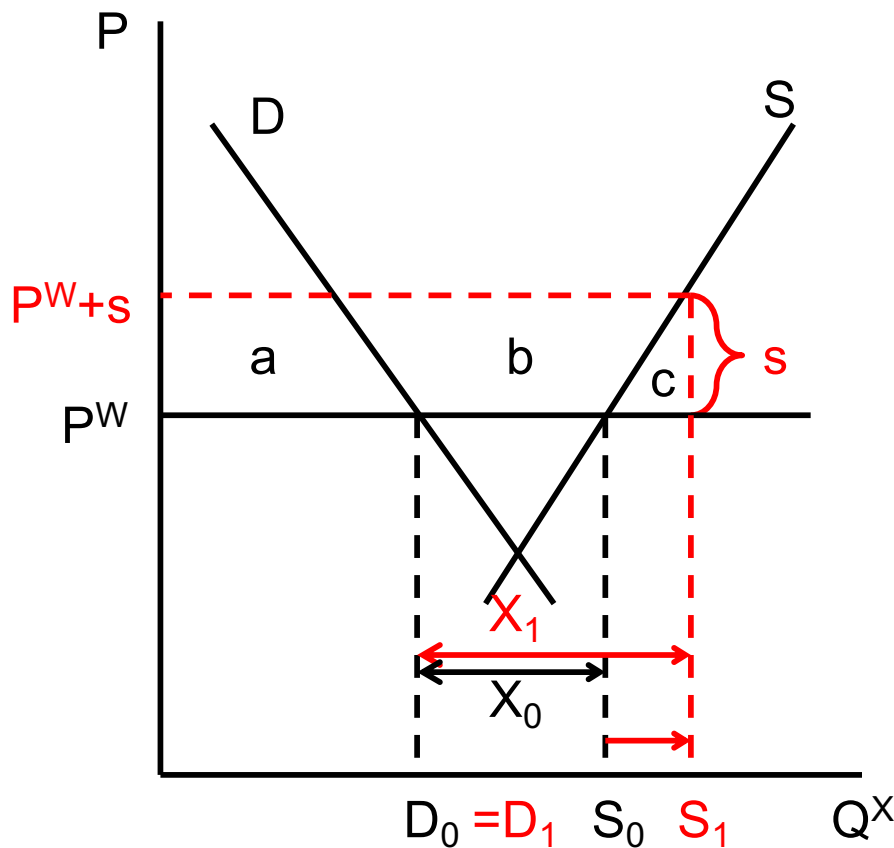
Production Subsidy, Small Country Importer

- The production subsidy, s per unit, gives suppliers s in addition to the world price, P^W. Demanders can still buy at P^W.
- Output rises
- Imports fall

Welfare effects

• Suppliers gain		+a
• Demanders		0
• Govt loses		–(a+b)
• Cty loses		–b

"Dead Weight Loss" = –b

Production Subsidy, Small Country Exporter

- The production subsidy, s per unit, gives suppliers s in addition to the world price, P^W. Demanders can still buy at P^W.

- Output rises

- Exports rise

Welfare effects

• Suppliers gain	$+(a+b)$
• Demanders	0
• Govt loses	$-(a+b+c)$
• Cty loses	$-c$

"Dead Weight Loss" =

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- "Justified" Subsidies
- Subsidies with Imperfect Competition
- Recent subsidy issues

Production Subsidy, Large Country Importer
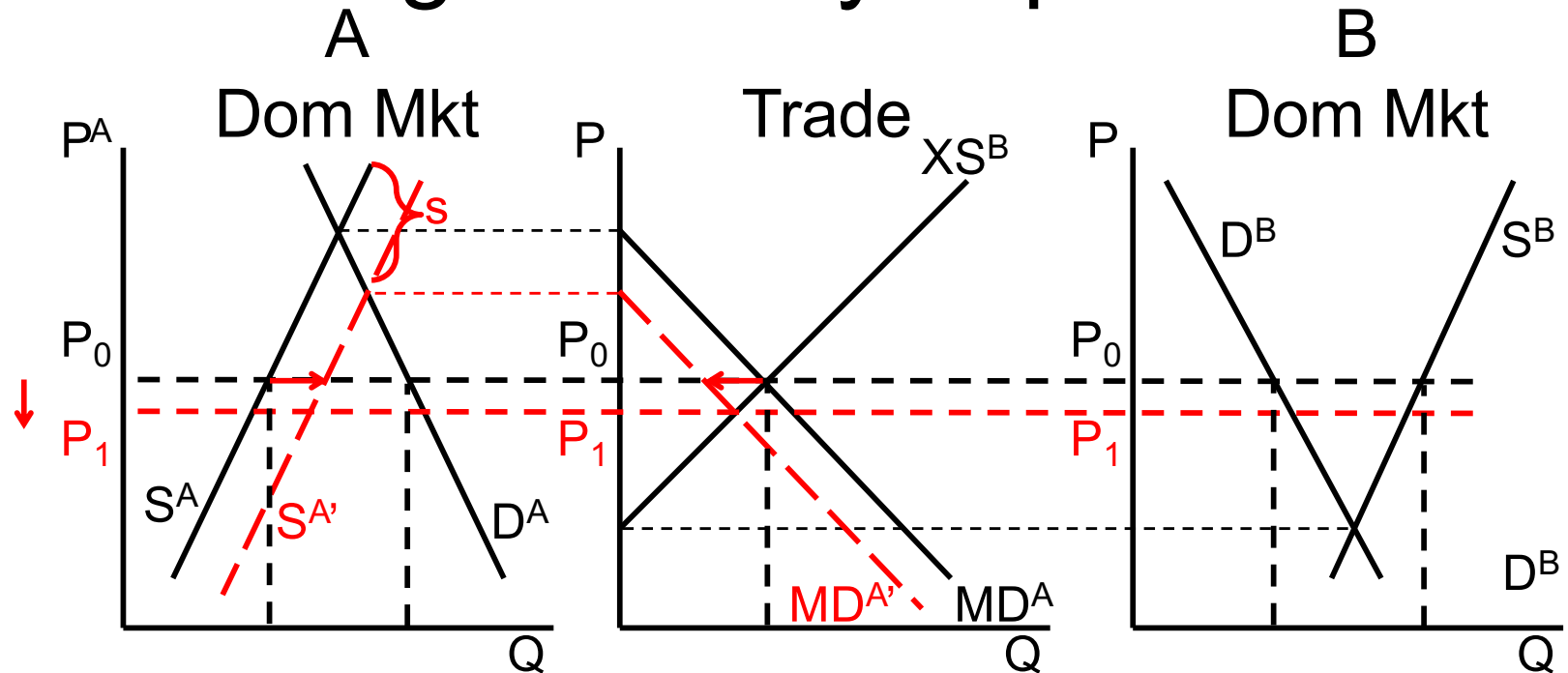
- The subsidy, s, is here most simply thought of as reducing the cost of suppliers in A and thus shifting its supply curve down by the amount s

- This causes A's import demand curve to shift to the left.

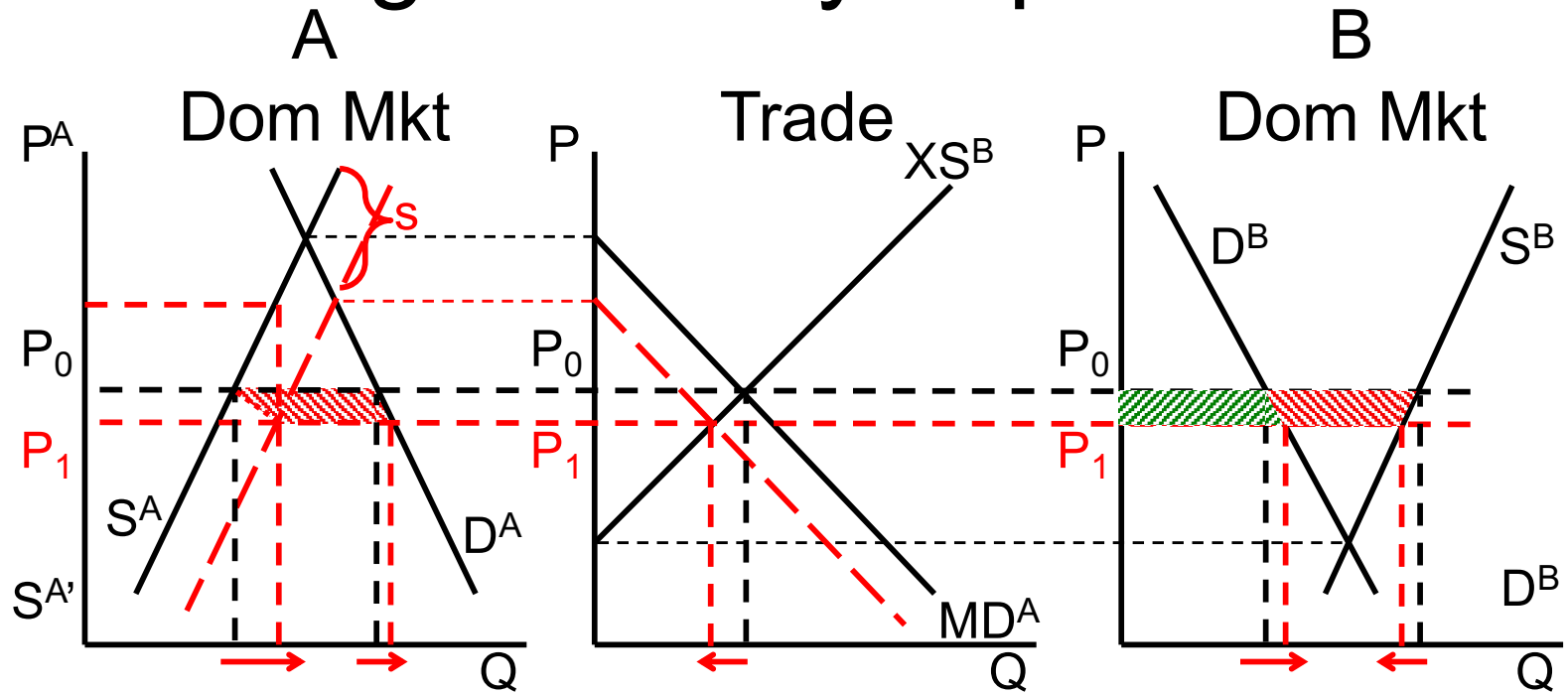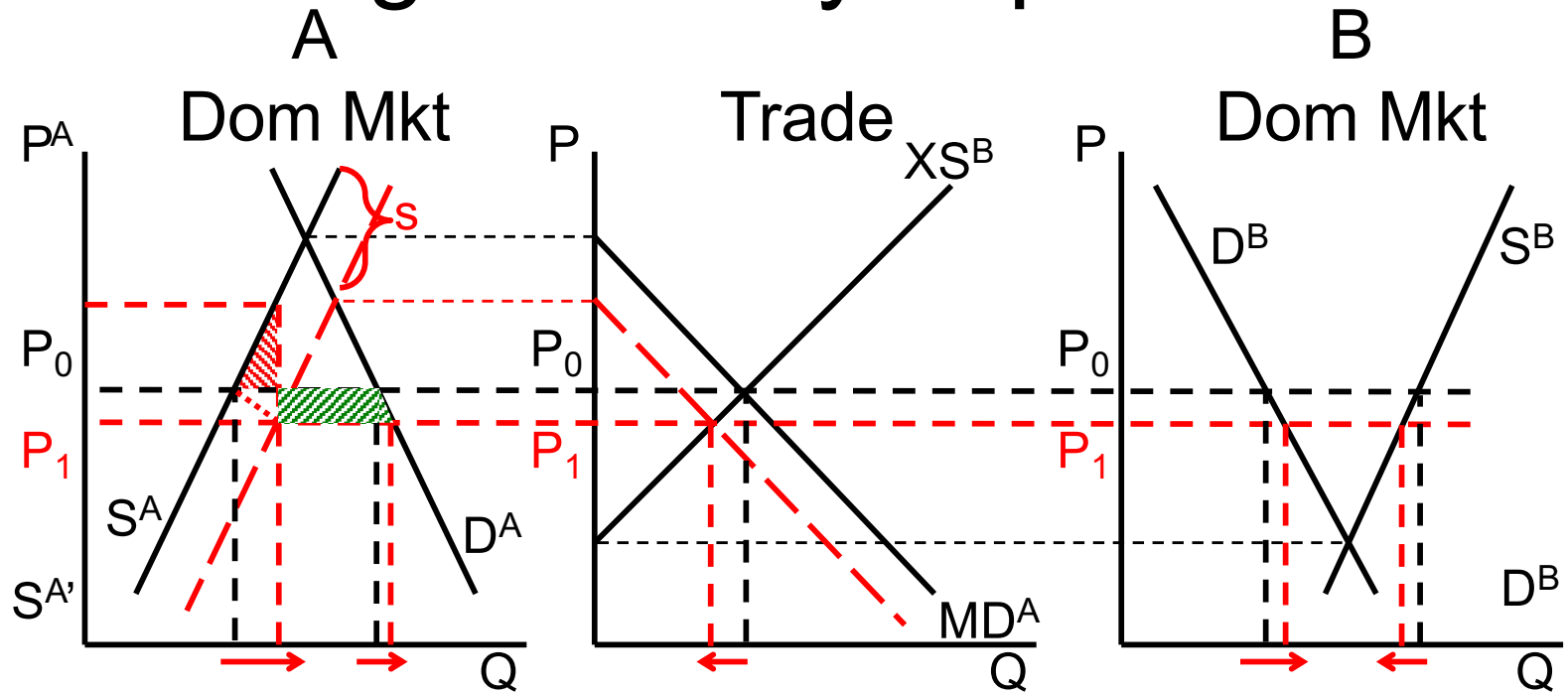- The world price falls from P_0 to P_1.

Production Subsidy, Large Country Importer
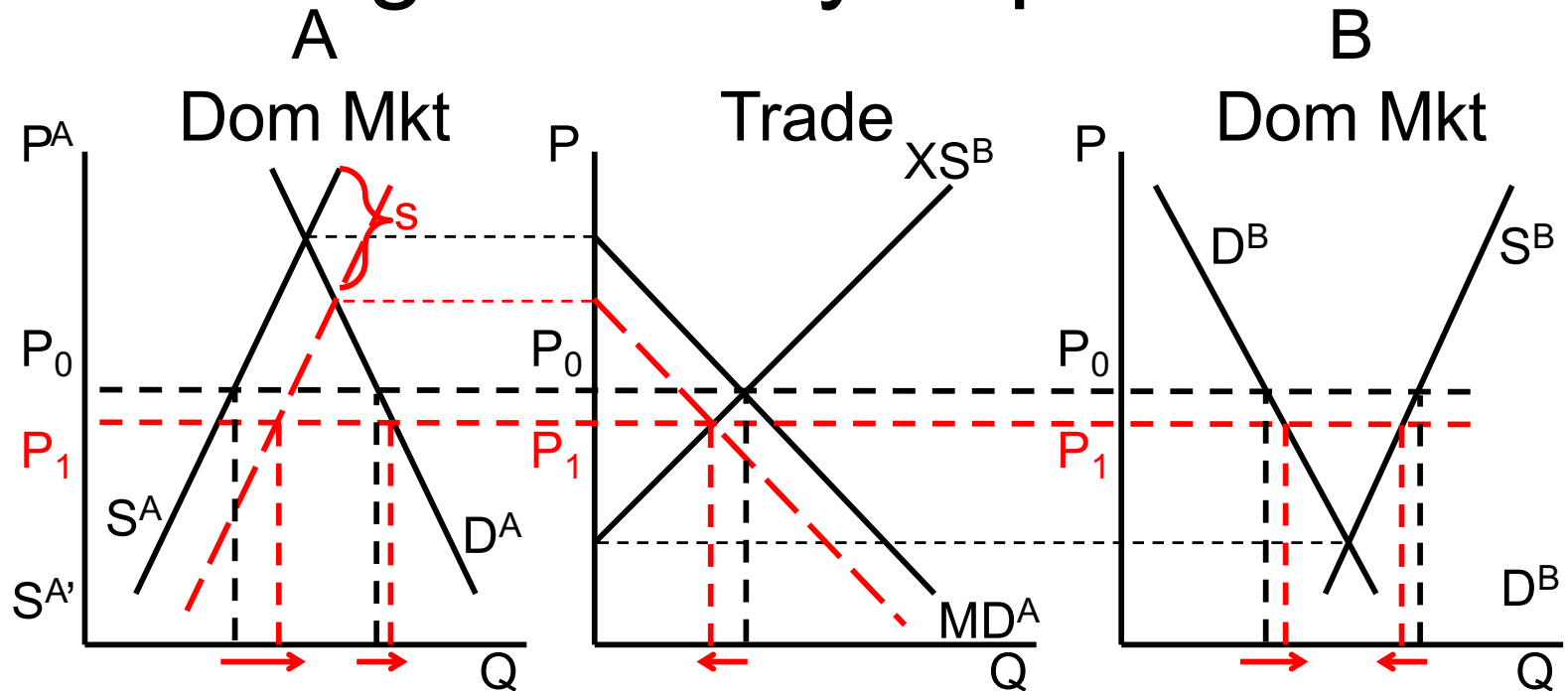
Results:

- A: Supply and demand both rise

- B: Demand rises; supply falls

- Quantity traded – export and import – falls

Production Subsidy, Large Country Importer

Welfare of Country B:

- Demanders gain
- Suppliers lose
- So country B loses
- Note that B's loss also appears in A as

19

Production Subsidy, Large Country Importer

A
Dom Mkt

Trade

B
Dom Mkt

Welfare of Country A:
- Suppliers gain
- Demanders gain
- Government loses
- So country A gains but loses

Result:
- Large importer may gain from subsidy
- Why? Improves terms of trade

20

Production Subsidy, Large Country Importer

"Dead Weight Loss"

A
Dom Mkt

Trade

B
Dom Mkt

P^A
P_0
P_1
S
S^A
D^A
$S^{A'}$
Q

P
P_0
P_1
XS^B
MD^A
Q
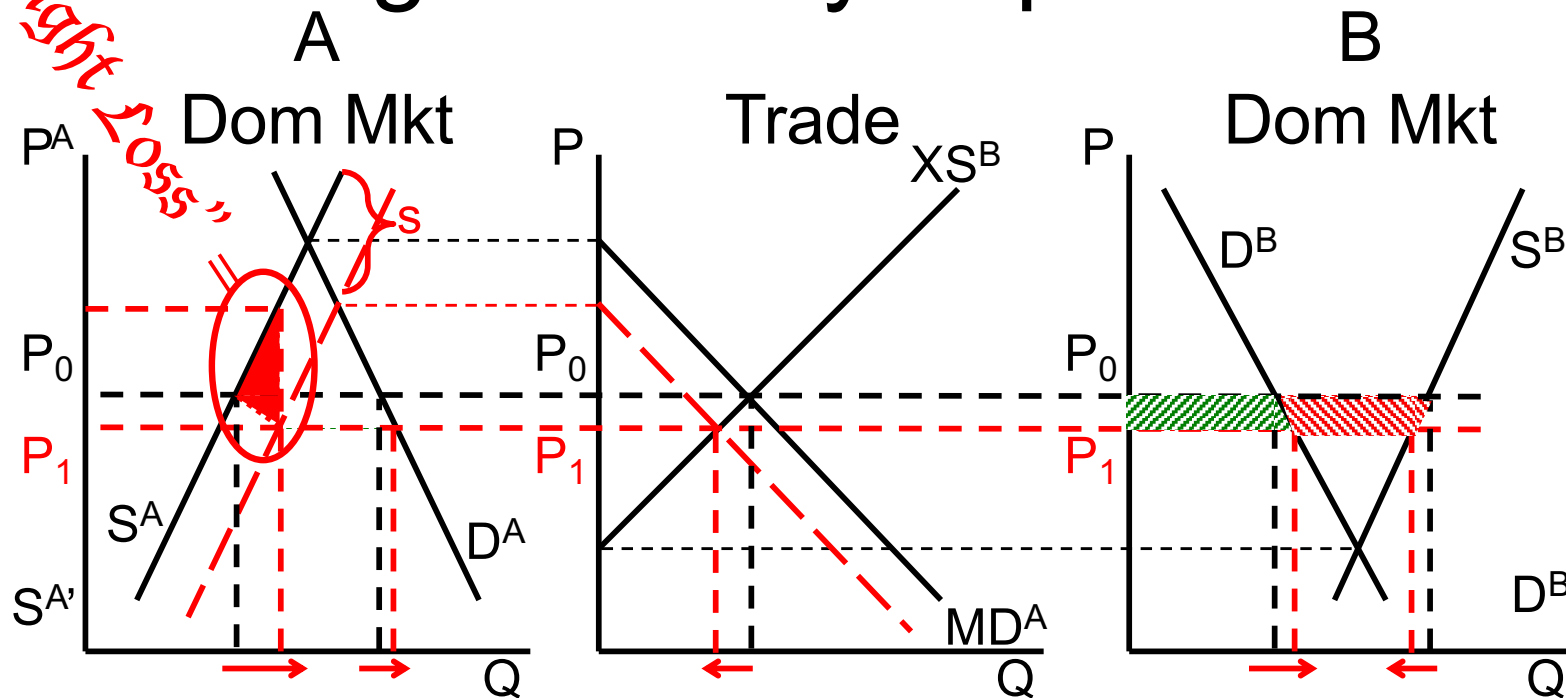
P
P_0
P_1
D^B
S^B
D^B
Q

Welfare of Country A:
- Suppliers gain
- Demanders gain
- Government loses
- So country A gains but loses

Deducting the loss for Country B
- World loses

21

Pause for Discussion

Questions (Not asked before)

- We didn't look at a production subsidy for an exporter. (You should be able to do it yourself now.) How would you expect it to differ from the case of an importer?

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- "Justified" Subsidies
- Subsidies with Imperfect Competition
- Recent subsidy issues

CVD and Export Subsidy

Export Market
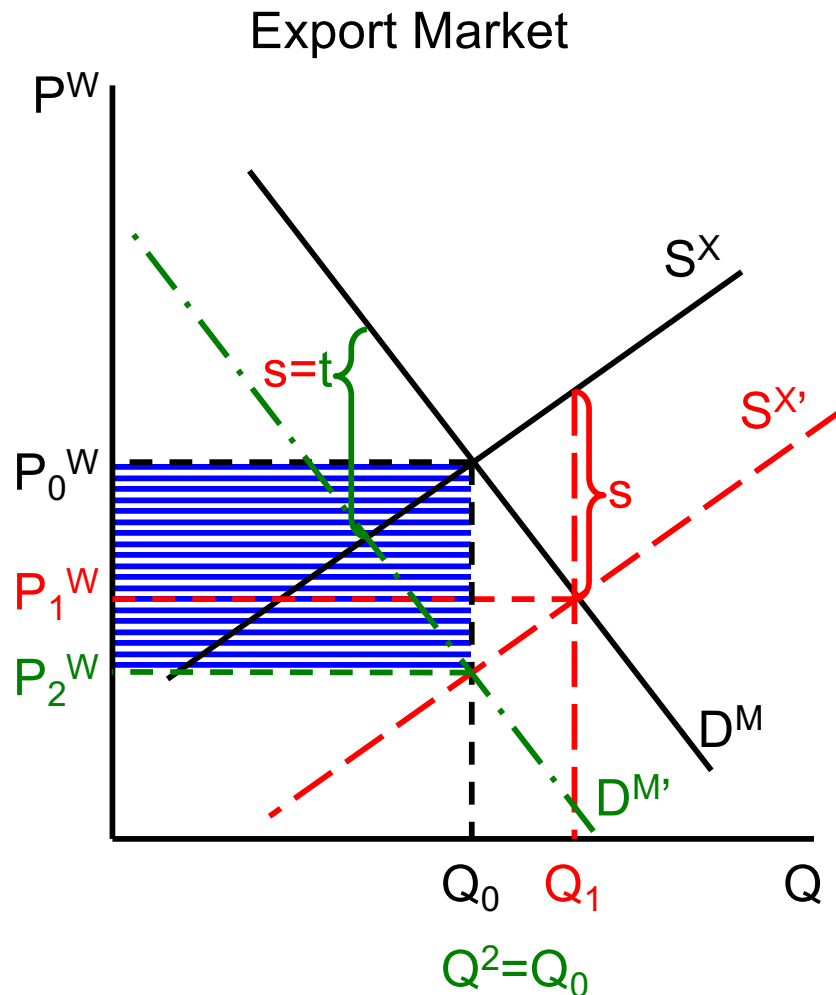
- The export subsidy, s, shifts the export supply curve down by the amount s
- This lowers the world price to P_1^W and increases quantity traded to Q_1
- The CVD is a tariff, t, equal to the subsidy, which shifts the demand curve for imports down by t
- Quantity traded returns to Q_0
- World price is now below its initial level by t=s. But domestic prices in both countries are returned to P_0^W
- Thus the only effect of the combined s&t is a transfer of $s \times Q_0$ from the exporting government to the importing government

Pause for Discussion

Class 25: Subsidies and
Countervailing Duties

Questions on Jackson Ch. 11

- How are export subsidies handled in the WTO? Why does Jackson suggest that perhaps importing countries should be <u>required</u> to levy countervailing duties against export subsidies?

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs
- **"Justified" Subsidies**
- Subsidies with Imperfect Competition
- Recent subsidy issues

"Justified" Subsidies

- The only example I will consider here is a positive external economy, E, per unit of a good produced (you should try others)

- It is well understood that in a closed economy the optimal policy is a production subsidy s=E

- The question here will be how this affects an open economy and its trading partners

External Economy in Autarky

Domestic Market
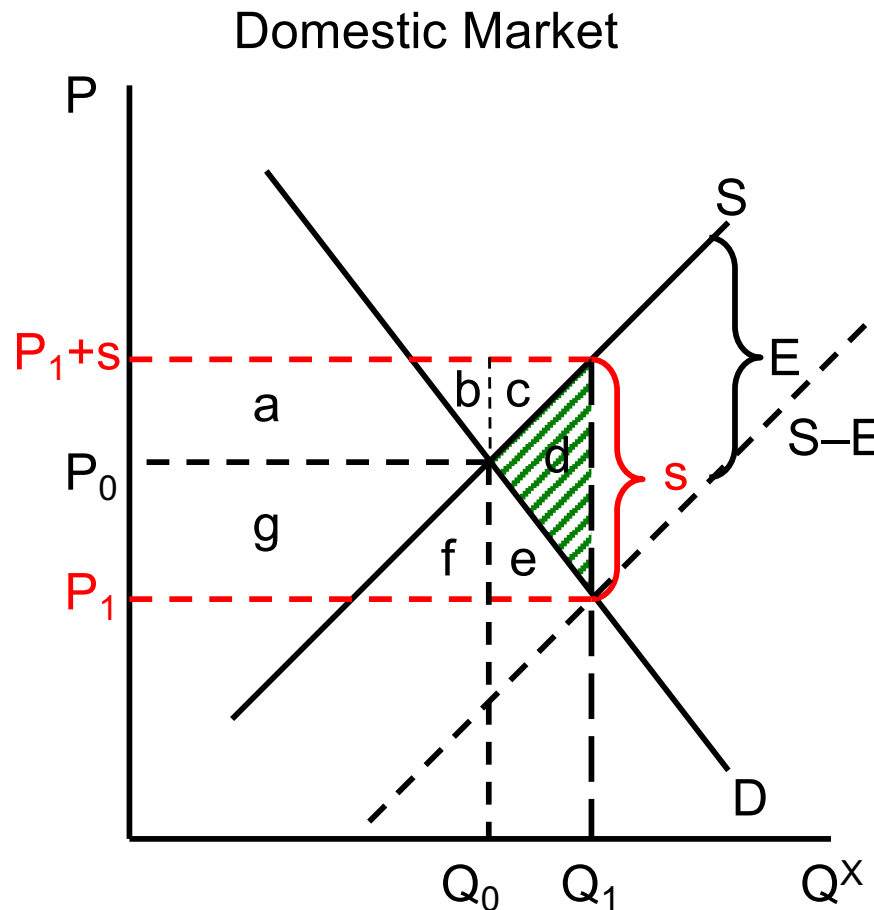
- The externality means that the social cost of this good is less than the private cost by E per unit, so the marginal social cost is shown by S–E

- Therefore the optimal output is Q_1

- A subsidy, s=E, shifts the supply curve down to coincide with S–E and raises output to the optimum

Welfare

- Demanders +(e+f+g)
- Suppliers   +(a+b+c)
- Gov't   –(a+b+c+d+e+f+g)
- Externality   +(c+d+e)
- Country   +(c+e) = +d

External Economy & Subsidy in Small Importer

Domestic Market
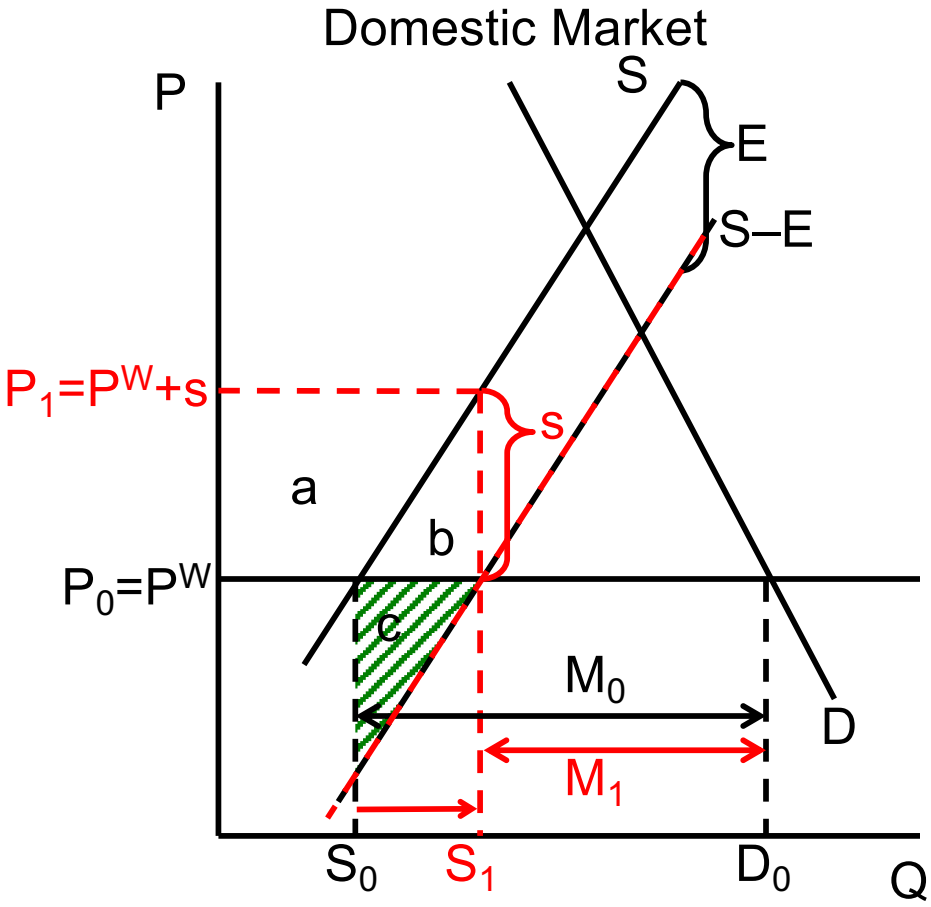
- Subsidy s = E shifts supply down by s to match S-E
- Supply rises
- Demanders still face P^W so demand does not change
- Imports fall

Welfare

- Demanders   0
- Suppliers   +a
- Gov't   –(a+b)
- Externality   +(b+c)
- Country   +c

Class 25: Subsidies and Countervailing Duties

31

External Economy & Subsidy in Large Importer

Domestic Market
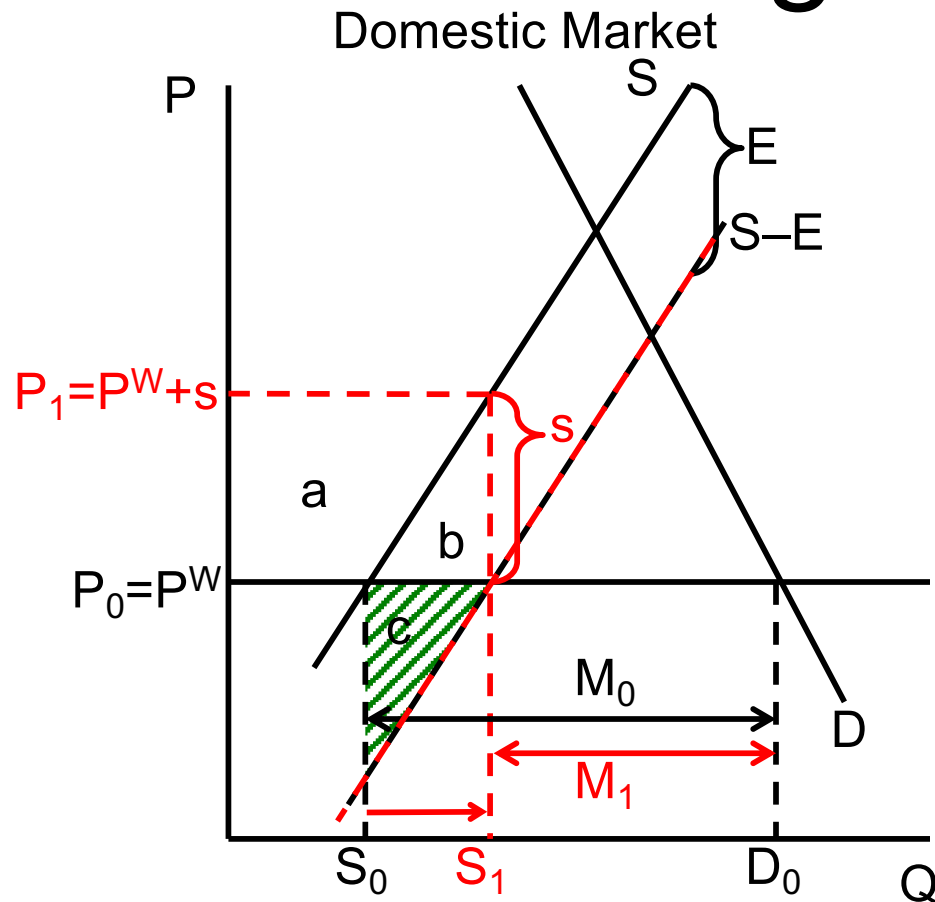
- The same figure shows what will happen for a <u>given</u> world price for a large country
- The decline in imports means that world demand shifts down, reducing world price (not shown)
- This (also not shown) causes additional gain for the importer and loss to the rest of world

External Economy & Subsidy in Small Exporter

Domestic Market
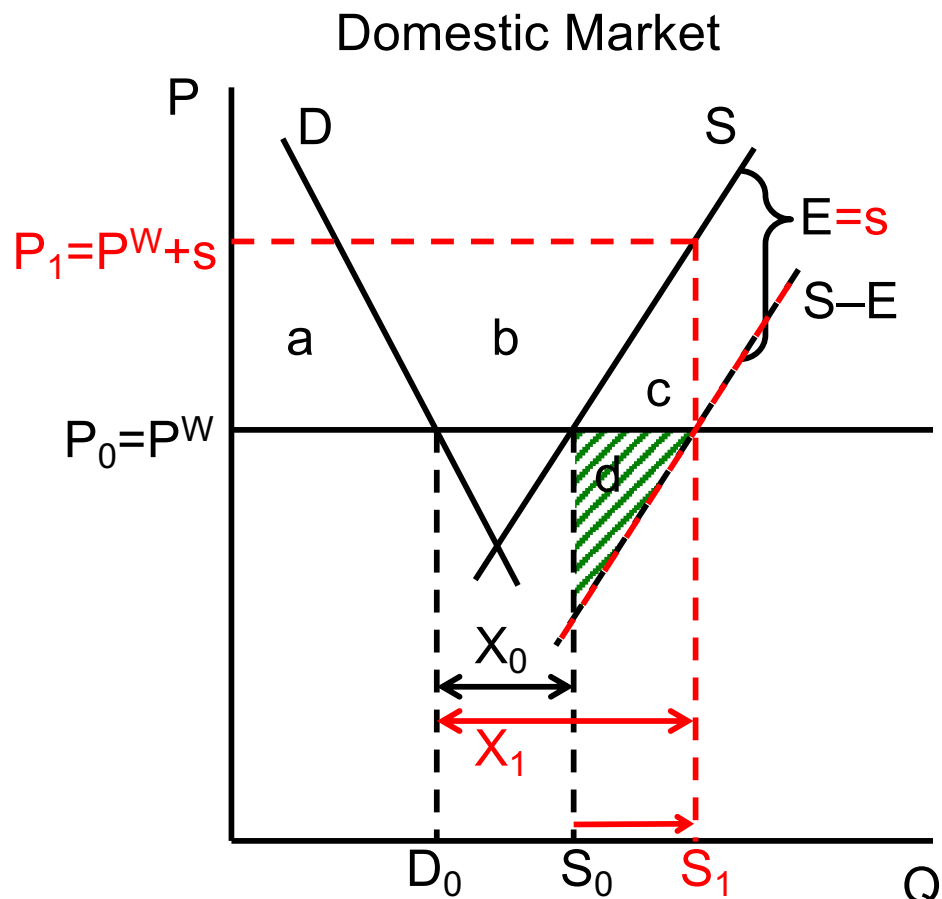
- The analysis is essentially the same for an exporter, except that now exports rise

Welfare

- Demanders   0
- Suppliers   +(a+b)
- Gov't   –(a+b+c)
- Externality   +(c+d)
- Country   +d

External Economy & Subsidy in Large Exporter

Domestic Market
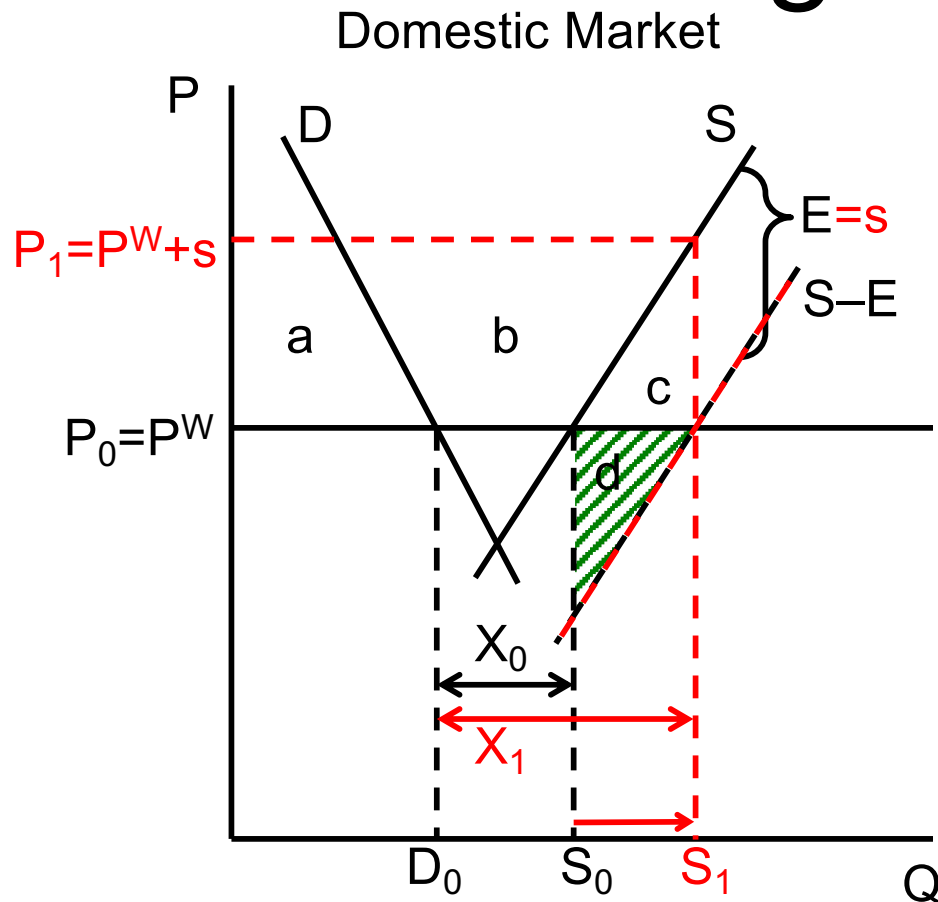
- Again, the same figure shows what will happen for a given world price for a large country

- The rise in exports now means that world supply shifts out, again reducing world price

- But this causes offsetting loss for the exporter and gain for the rest of world

Pause for Discussion

Questions (Not asked before)

- Do justified subsidies (based on the analysis here) always hurt or always help the rest of world?

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs

- "Justified" Subsidies

- **Subsidies with Imperfect Competition**

- Recent subsidy issues

Imperfect Competition

- Strategic Trade Policy: Boeing-Airbus Game

  P=produce, N=not produce

  No subsidy,

Equil. If Boeing moves first, since now Airbus will not enter

Boeing choice: depends on Airbus

Payoff Matrix

Airbus

	P	N
P	−5 / −5	−5 (top) / 100 (100)
N	100 / 0	0 / 0

Boeing

Imperfect Competition

- Strategic Trade Policy: Boeing-Airbus Game

  P=produce, N=not produce

  No subsidy

Now Airbus choice does not depend on Boeing

Airbus

	P	N
P	−5 −5	−5 0
N	100 100	0 0

Boeing

Imperfect Competition

- Strategic Trade Policy: Boeing-Airbus Game

  P=produce, N=not produce

  No subsidy, Airbus Subsidy = +10

Airbus

Equil. With no subsidy if Boeing moves first

Equil. with subsidy and exit

		P	N
Boeing	**P**	−5 (+5) −5	0 100
	N	100 (110) 0	0 0

Imperfect Competition

- Boeing-Airbus Game results
  - If Boeing moves first, without subsidy Airbus will <u>not enter</u>
    - Boeing and US gain +100
    - Airbus and EU gain 0
  - If EU pays subsidy, Airbus <u>will</u> enter and Boeing will exit
    - Airbus gains 110, EU gains 100 (=100-10)
    - Boeing and US gain 0
  - Thus EU gains and US loses from EU subsidy

Imperfect Competition

But note caveats: These arguments are <u>not</u> likely to be usable:

- Empirical difficulties: Hard to know where to intervene
- Entry: Benefits will be dissipated by new firms
- General equilibrium: Help in some sectors hurts others
- Retaliation: Other countries may react
- Political economy: Industries lobby for help

Pause for Discussion

Questions on KOM

- In the Boeing-Airbus example, Airbus benefits from the subsidy. Is that all that is needed for the example to be a valid basis for a subsidy?

- The textbook warns that correctly using the Brander-Spencer analysis as the basis for an export subsidy relies on getting the numbers right. Where would a government go to learn these numbers? Is that a problem?

Questions on Hollinger, "Airbus and Boeing subsidy battle far from over"

- What did Airbus and Boeing object to with regard to the other company?

- Does this agreement end those actions that each objected to? If not, what does it do?

- How had the WTO dealt with this dispute?

- What are Airbus and Boeing probably more worried about than each other?

Outline

- "Unjustified" Subsidies
  - Effects of subsidies
    - Export
    - Production by Small Country
    - Production in 2-country world
  - Effects of CVDs

- "Justified" Subsidies

- Subsidies with Imperfect Competition

- **Recent subsidy issues**

Recent subsidy issues

- EU puts tariff on "glass fiber fabrics" from Egypt, based on China's subsidy

- US company requests CVD on twist-ties from China

- EU and China reach agreement on investment, but without addressing subsidies

Pause for Discussion

Questions on Stearns, "EU Challenges China's Trade Expansion"

- Why is this a "landmark tariff"?

- What product is subject to the tariff, from where into where, and what is the size and duration of the tariff?

- Might more such tariffs be used in the future?

Questions on Zumbrun, "Trade War Gets Wrapped Up in Twist-Ties"

- Why does this company believe that twist-ties from China are unfair?

- What kind of legal complaint is being filed – that is, does it claim that the Chinese are doing wrong?

- Why is currency now considered a possible basis of a complaint about a subsidy?

- What makes this case important?

- Is (or was) the Chinese currency undervalued and manipulated?

Questions on Hufbauer, "…accord fails to resolve subsidy disputes"

- What is the CAI, when was it agreed, and is it now in effect?

- What does this article say that the CAI has high standards for and is positive?

- Does the CAI improve upon the handling of subsidies compared to the WTO?

- What actions and policies does this identify that should be prohibited subsidies but are not?

- Why is it "not surprising" that China was not willing to do more to cut subsidies?