



Theorie und Politik der Europäischen Integration

Theory and Politics of European Integration

Lecture 3

The Economics of Trade and Preferential Trade Liberalisation

Prof. Dr. Herbert Brücker

Dr. Ehsan Vallizadeh

Last Lecture (cont.)

- **EU Institutions**
 - Facts: income heterogeneity and trade links
 - EU law: Rome Treaty and other Treaties
 - The “Big-5” Institutions:
 - European Council
 - Council of Ministers
 - European Commission
 - EU Parliament
 - EU Court of Justice
 - Budget
 - structure of expenditure
 - funding and net contributions by members



Last Lecture

- **Decisionmaking**
 - Efficient Allocation of Tasks
 - Subsidiarity
 - Theory of Fiscal Federalism
 - “Three Pillar” structure of EU
 - Voting rules
 - Treaty of Nice
 - Constitutional Treaty
 - Efficiency of Decisionmaking: Ability to Act
 - Passage Probability and Blocking Coalitions
 - Power Distribution
 - Power to break: the Normalized Banzhaf Index (NBI)
 - Fairness of Decisionmaking: The Square Root Rule



Today's Lecture - Overview

- **Microeconomics of Trade and Tariffs**
 - Preliminaries: Marginal Supply and Demand Analysis
 - Consumer and Producer Surplus, Welfare Analysis
 - Import Demand and Supply Curve
 - Trade Volume and Border Price Effects
 - Workhorse model: MS-MD Diagram
 - MFN Tariff Analysis
- **Preferential Trade Liberalisation**
 - Preferential Trade Area Diagram
 - Discriminatory trade liberalisation
 - Welfare analysis of Custom Unions
 - Frictional trade barriers



Today's Reading

- **Microeconomics of Trade and Tariffs**

- Baldwin & Wyplosz (2009/12) "The Economics of European Integration", McGraw-Hill, Ch 4.

- **Preferential Trade Liberalisation**

- Baldwin & Wyplosz (2009/12) "The Economics of European Integration", McGraw-Hill, Ch 5.



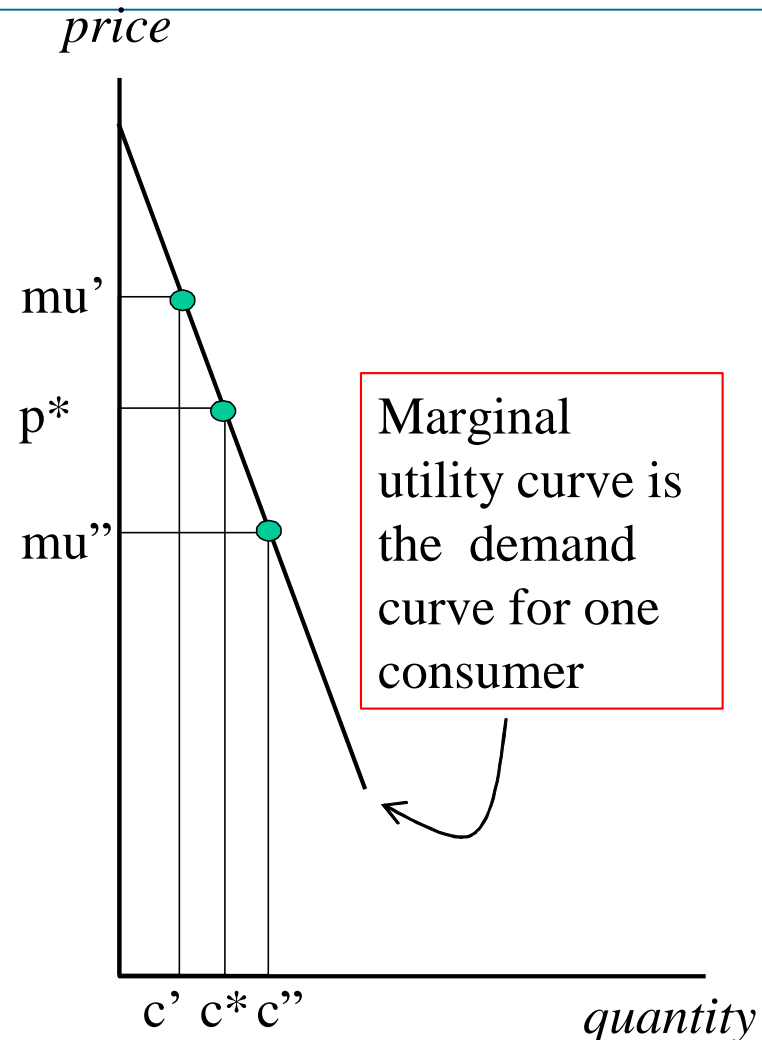
Part I

Microeconomics of Trade and Tariffs



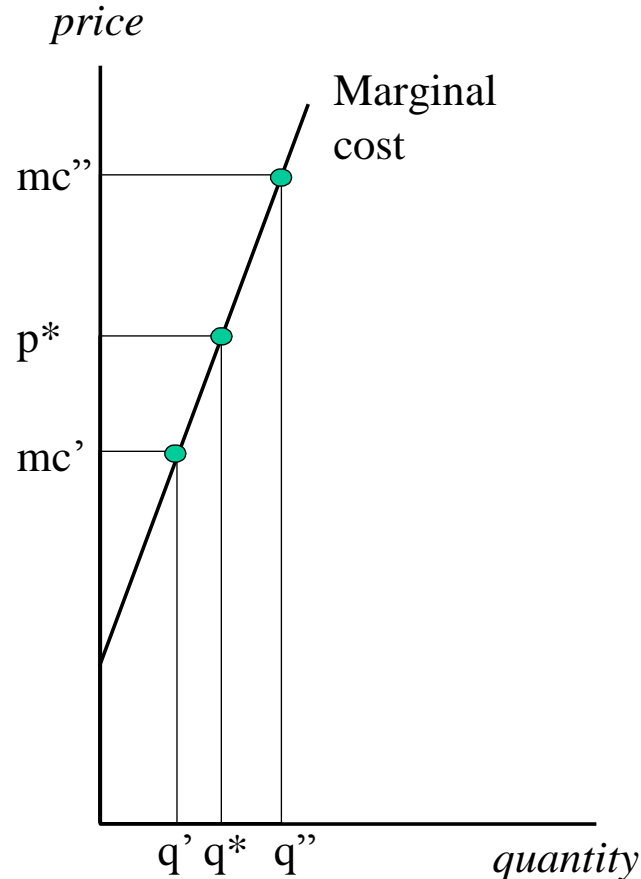
Preliminaries I

- Demand curve shows how much consumers would buy of a particular good at any particular price.
- It is based on optimization exercise:
 - Would one more be worth price?
- Market demand is aggregated over all consumers' demand curves.
 - Horizontal sum
 - Assumption of representative agent



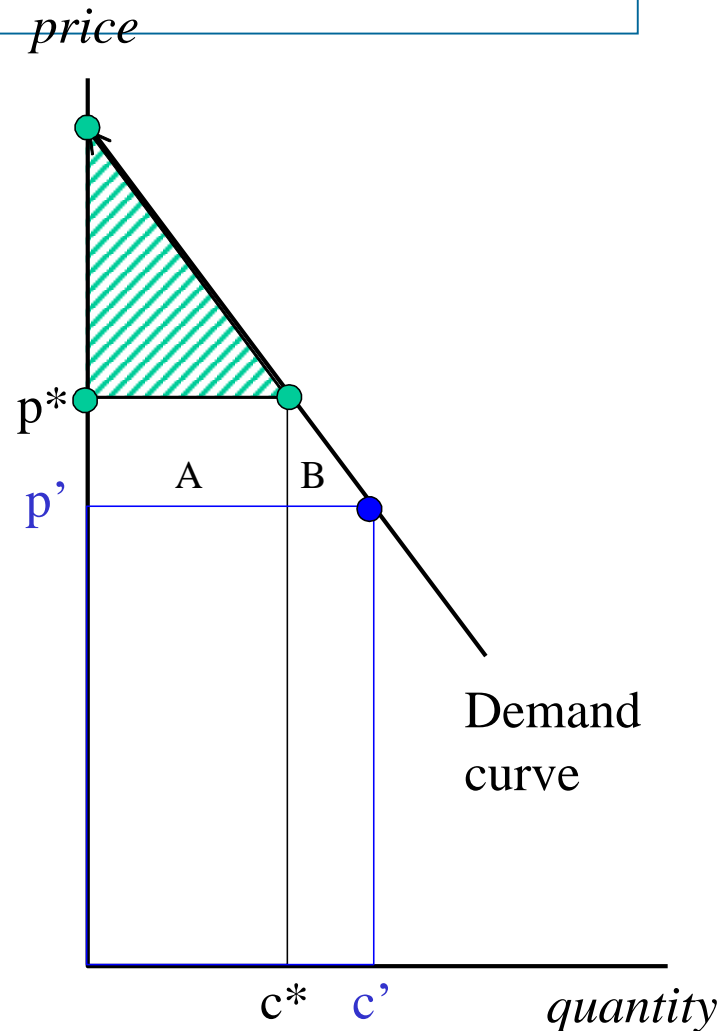
Preliminaries I

- Supply curve shows how much firms would offer to the market at a given price.
- Based on optimisation:
 - Would selling one more unit at price increase profit?
- Market supply is aggregated over all firms.
 - Horizontal sum.
- Assumptions:
 - no increasing returns to scale
 - perfect competition



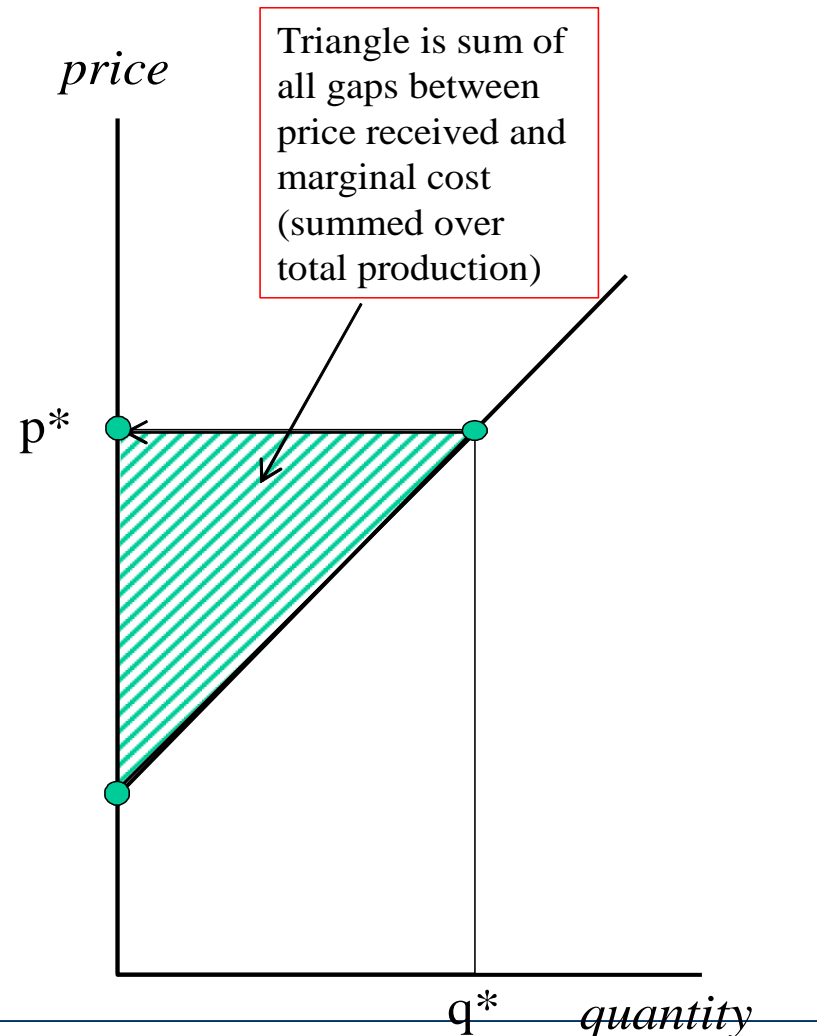
Welfare Analysis: Consumer Surplus

- If the price falls:
 - Consumers obviously better off.
 - Consumer surplus change quantifies this intuition.
- Consumer surplus rise, 2 parts:
 - Pay less for units consumed at old price; measure of this = area A.
 - A = Price drop times old consumption.
 - Gain surplus on the new units consumed (those from c^* to c'); measure of this = area B.
 - B = sum of all new gaps between marginal utility and price



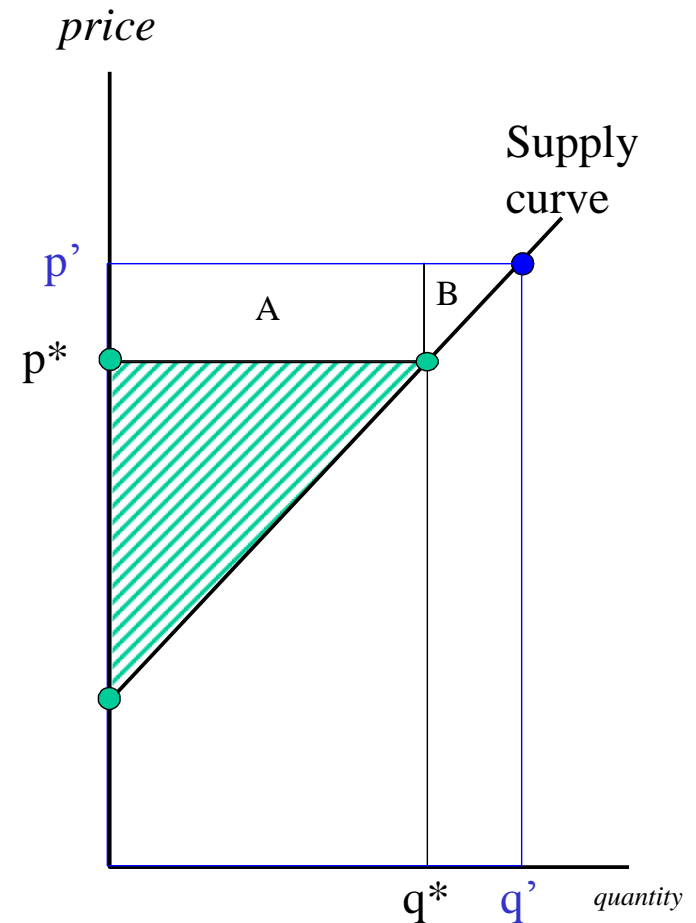
Welfare Analysis: Producer Surplus

- Since supply curve based on marginal cost, it can be used to show how producers' well-being (welfare) is affected by changes in the price.
- Gap between marginal cost of a unit and price received shows 'surplus' from being able to sell q^* at p^* .



Welfare Analysis: Producer Surplus (cont.)

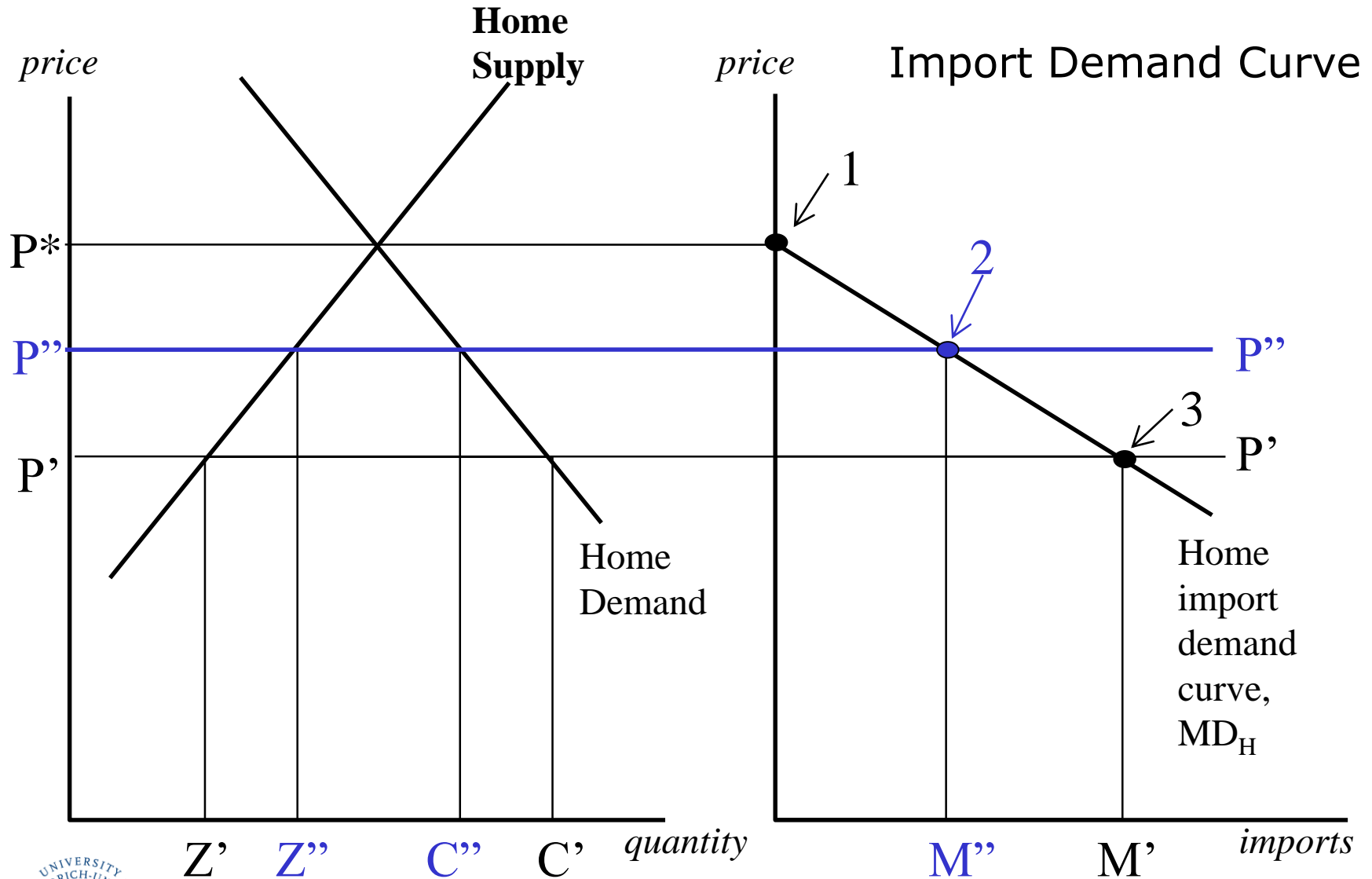
- If the price rises:
 - producers obviously better off.
 - Producer surplus change quantifies this intuition.
- producer surplus rise, 2 parts:
 - Get more for units sold at old price; measure of this = area A.
 - A = Price rise times old production.
 - Gain surplus on the new units sold (those from q^* to q').
 - measure of this = area B.
 - B = sum of all new gaps between marginal cost and price.



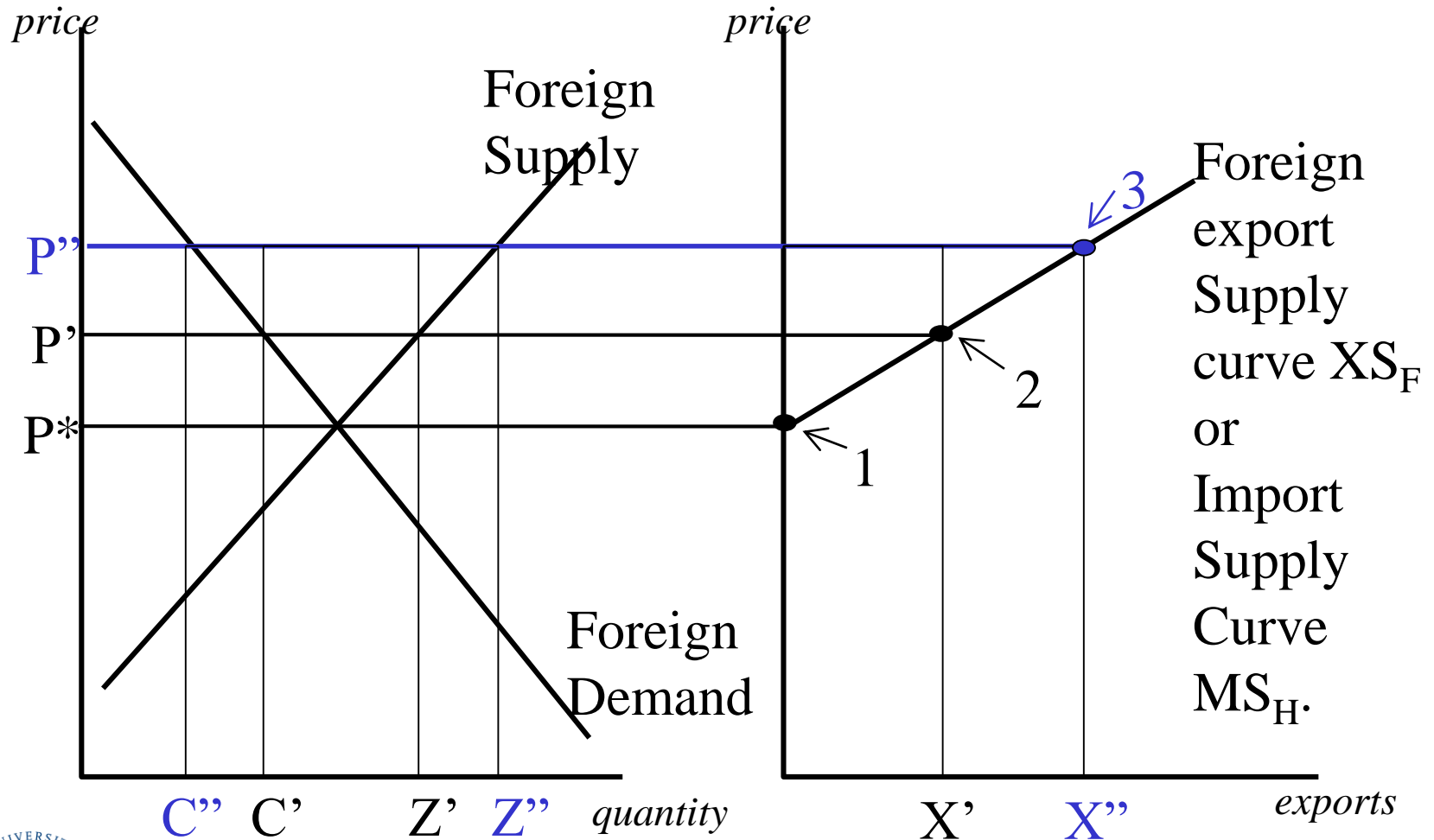
Preliminaries II

- Introduction to Open Economy Supply & Demand Analysis.
- Start with **Import Demand Curve**.
 - This tells us how much a nation would import for any given domestic price.
 - Presumes imports and domestic production are perfect substitutes.
 - Imports equal gap between domestic consumption and domestic production.

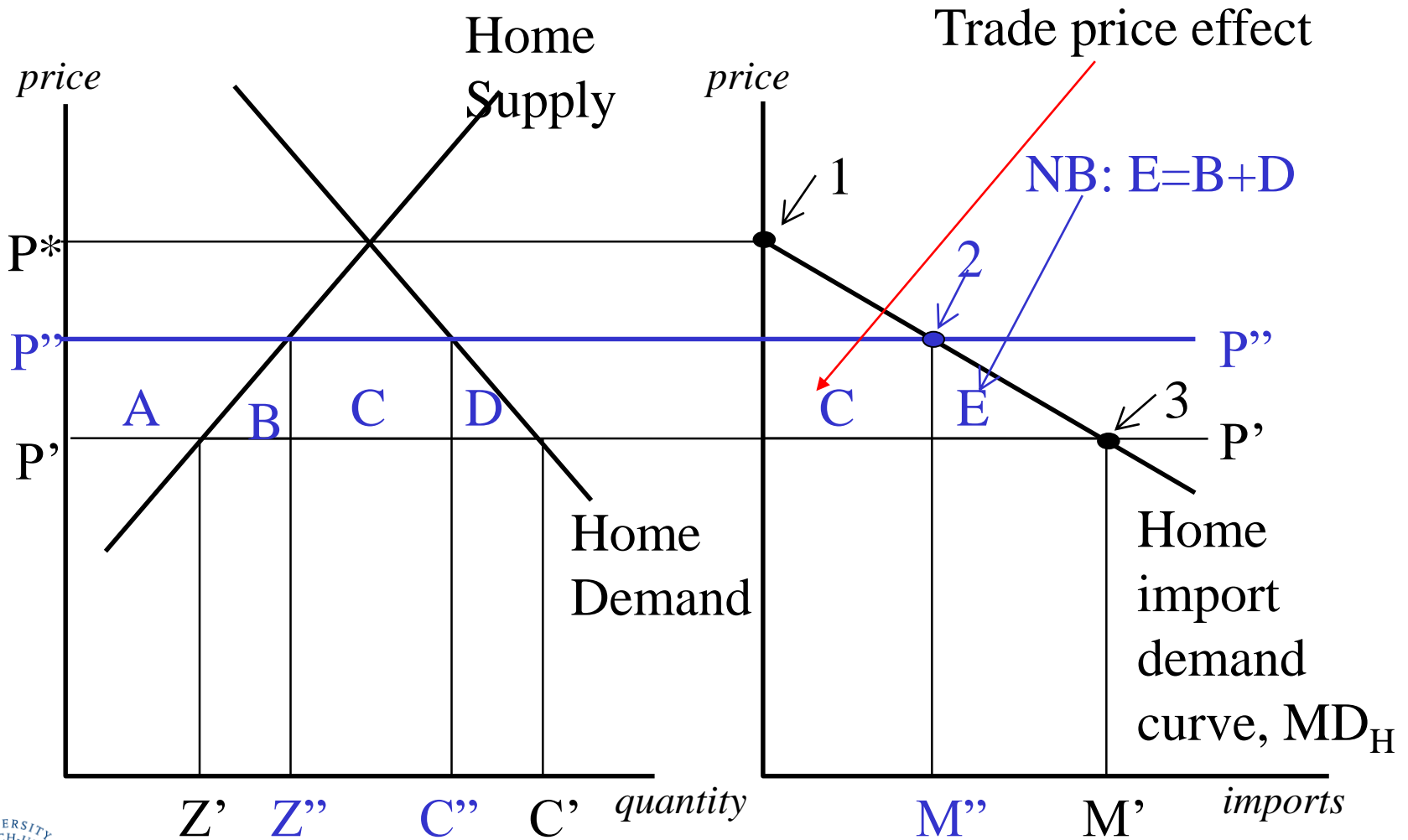




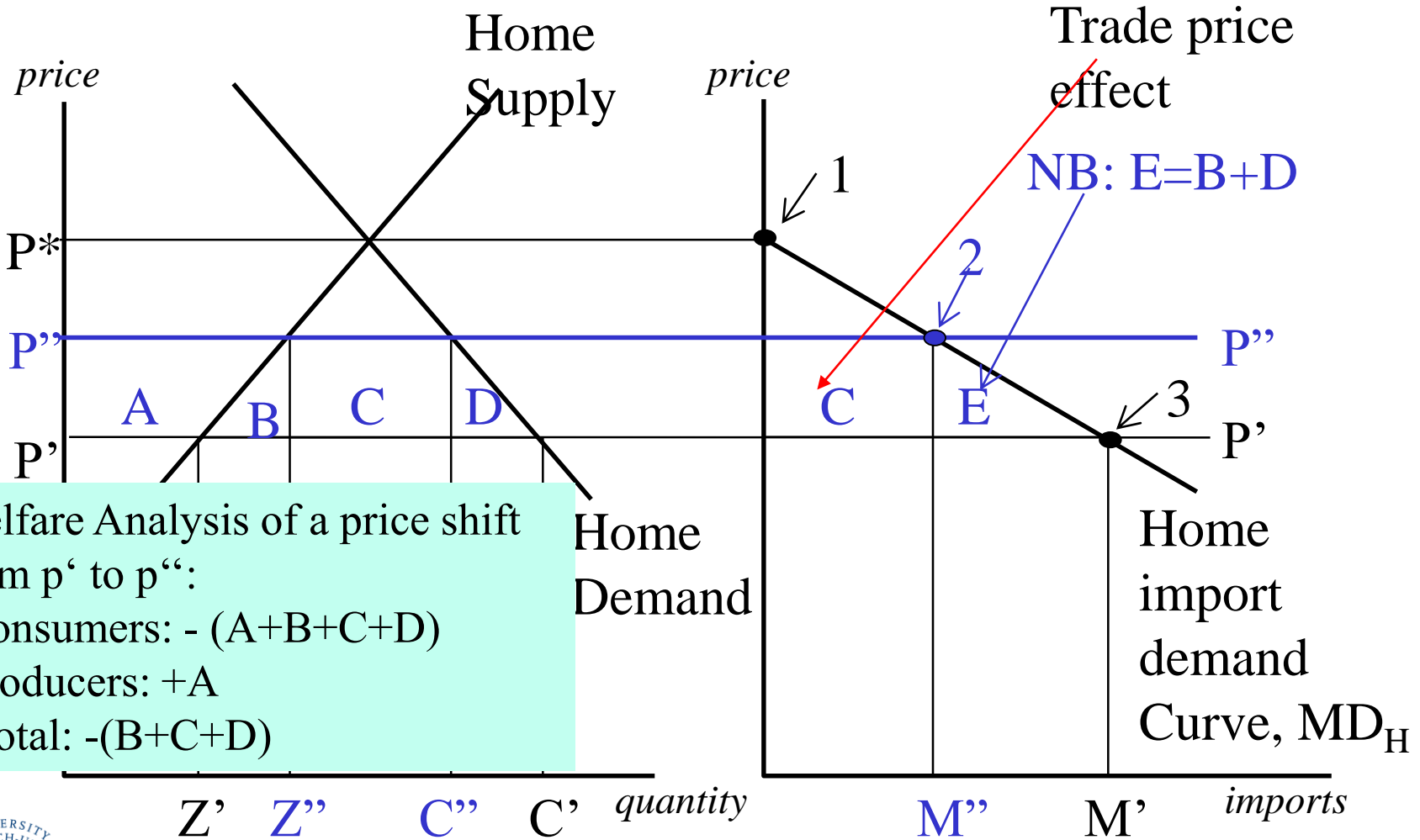
Import Supply Curve (MS)



Welfare and Import Demand Curve



Welfare and Import Demand Curve



Welfare Analysis of a price shift from p' to p'' :

- Consumers: $-(A+B+C+D)$
- Producers: $+A$
- Total: $-(B+C+D)$

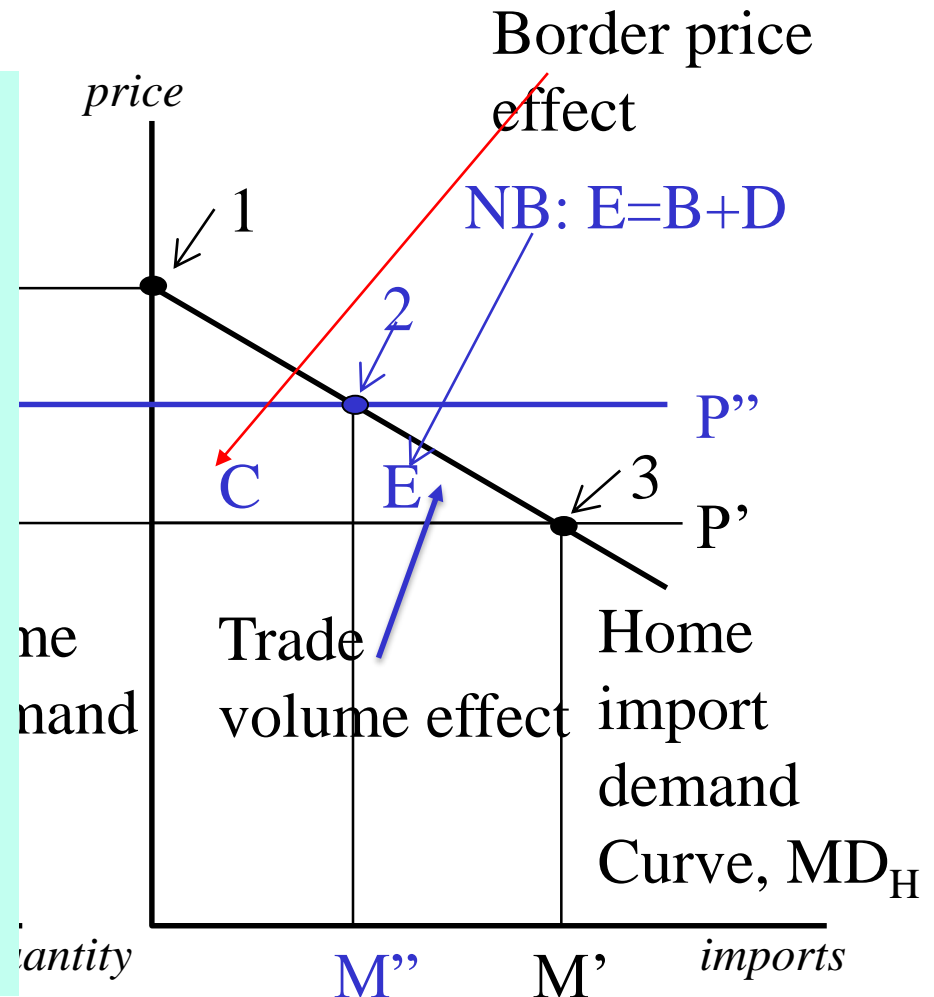


Welfare and Import Demand Curve

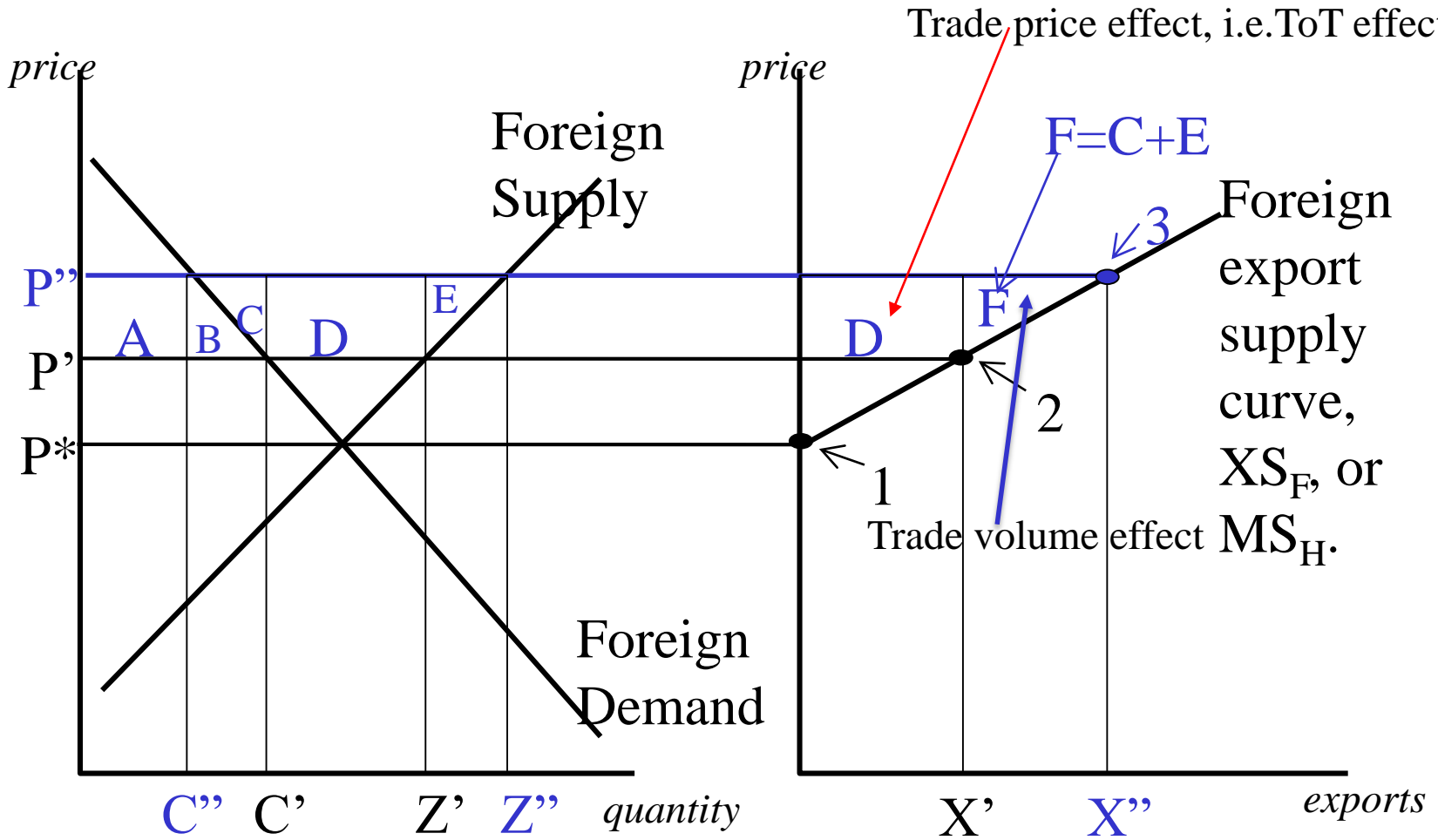
Home

Right hand panel:

- -C (border price effect)
- -E (trade volume effect)
- Logic:
 1. MD curve is difference between domestic demand and supply curve
 2. Domestic demand curve is marginal utility and domestic supply curve
 3. Diffence between curves is net gain of consuming one more unit and producing one unit less.

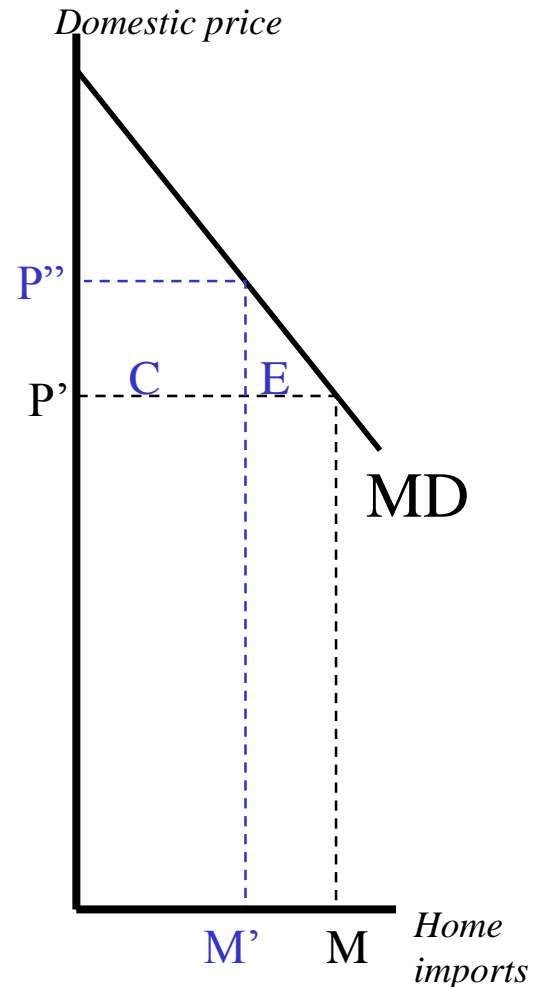


Welfare and Import Supply Curve



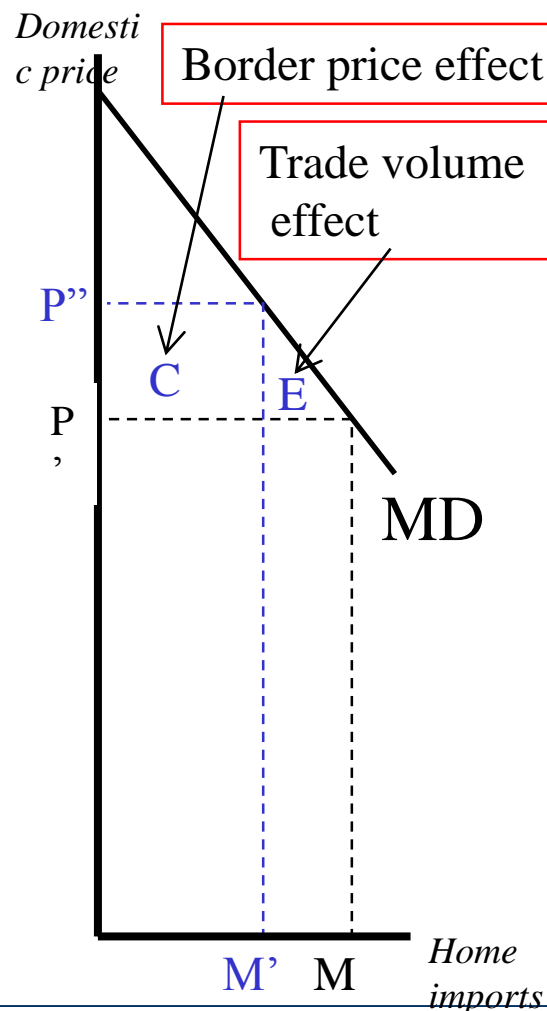
Trade Volume and Border Price Effect

- Decomposing Home loss from price rise, P' to P'' .
 - Area C: Home pays more for units imported at the old price.
 - Area C is the size of this loss.
 - Home loses from importing less at P'' .
 - area E measures loss.
 - marginal value of first lost unit is the height of the MD curve at M' , but Home paid P' for it before, so net loss is gap, P' to MD.
 - adding up all the gaps gives area E.



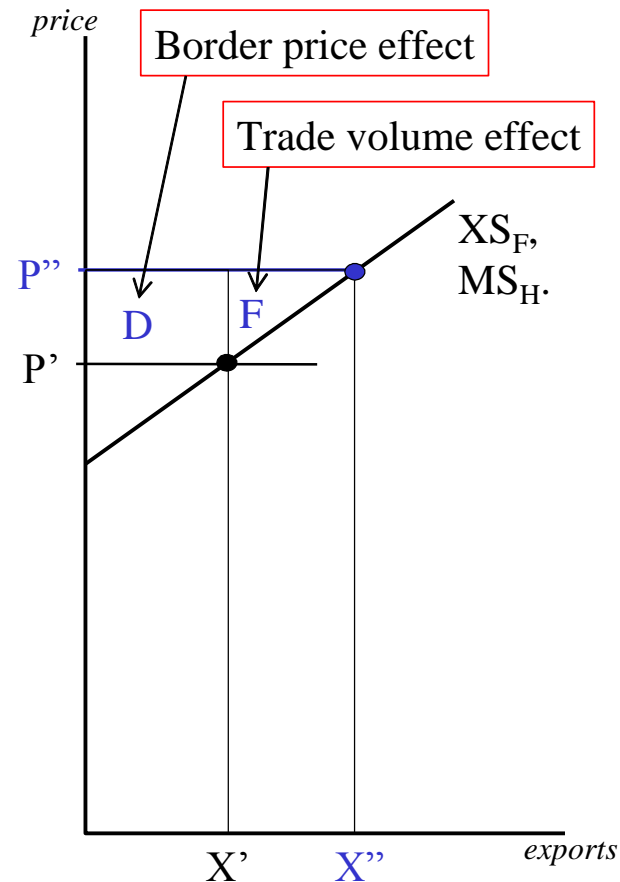
Trade Volume and Border Price Effect

- Systematic net welfare analysis using the price and quantity effects:
- “border price effect” (area C), and the “import volume effect” (area E).
 - Very useful in more complex diagrams.



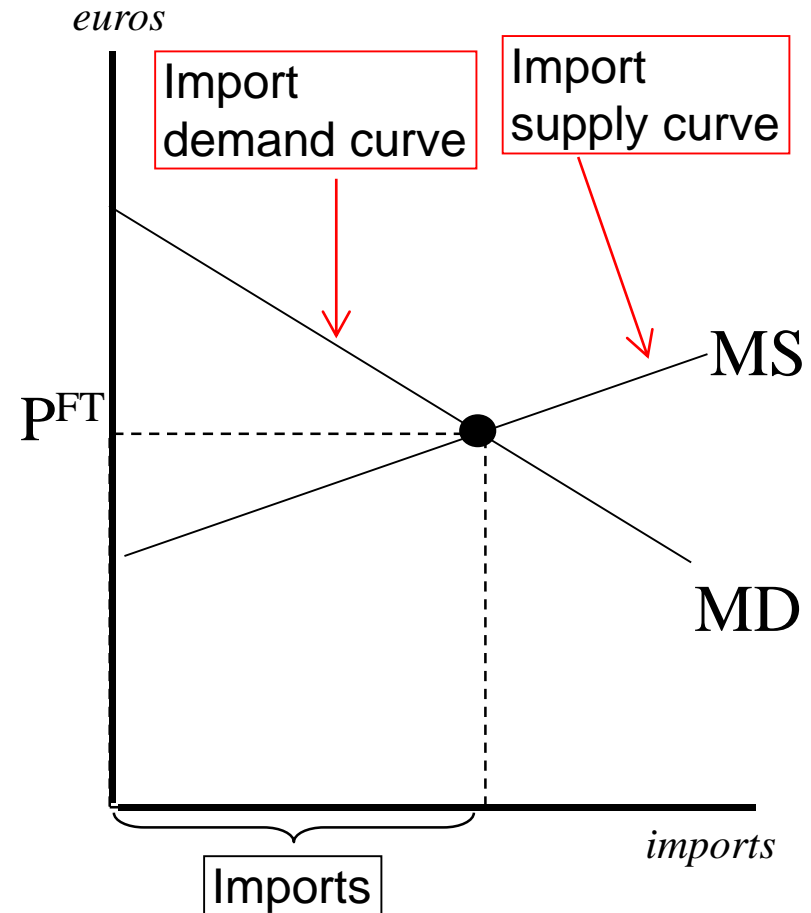
Trade Volume and Border Price Effect

- Can do same for Foreign gain rise, P' to P'' .
 - Foreign gains from getting a higher price for the goods it sold before at P' (border price effect), area D.
 - And gains from selling more (trade volume effect), area F.



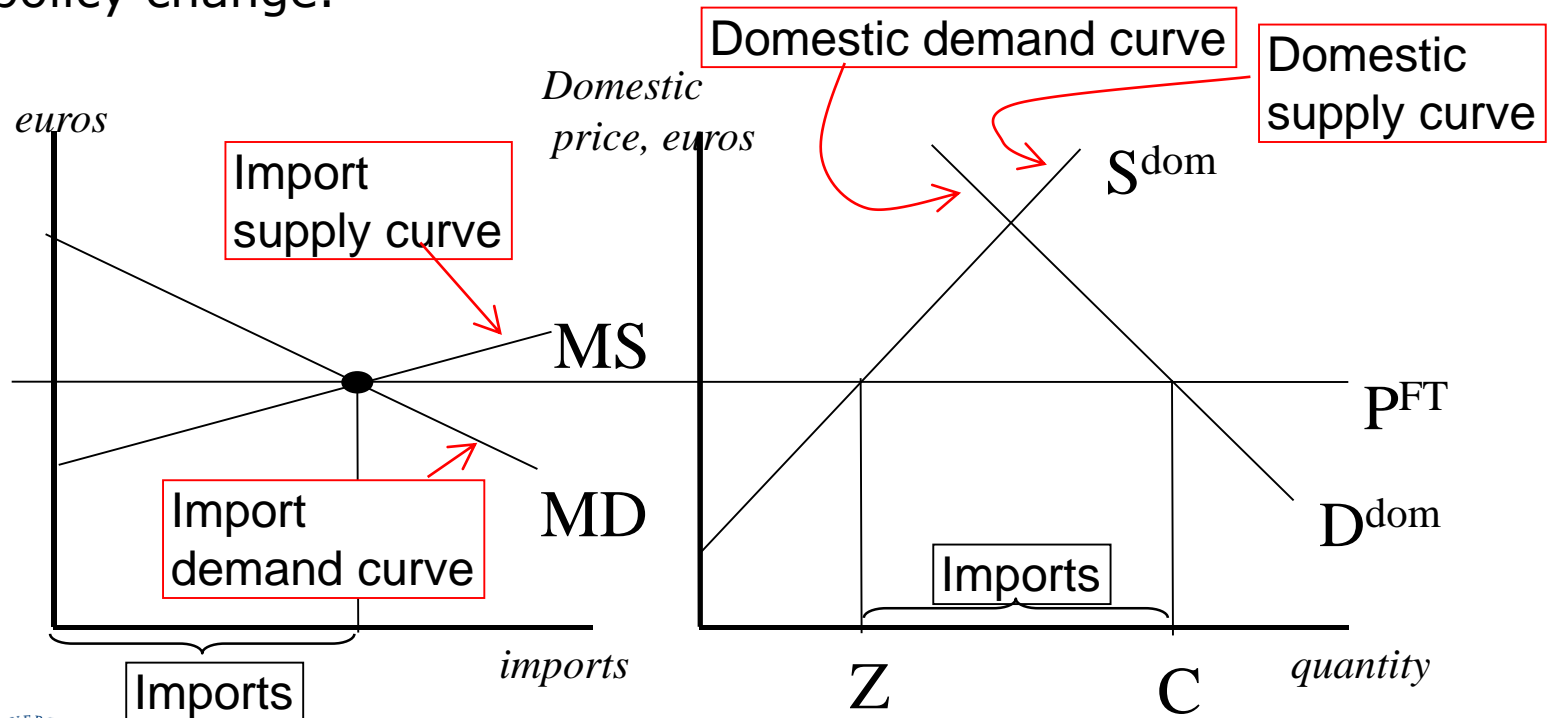
The Workhorse: MS-MD Diagram

- Diagram very useful.
 - easy identification of price and volume effects of a trade policy change.
- Welfare change likewise easy.



MD-MS + open economy supply & demand

- MD-MS diagram can be usefully teamed with open economy supply and demand diagram.
- Permits tracking domestic & international consequences of a trade policy change.



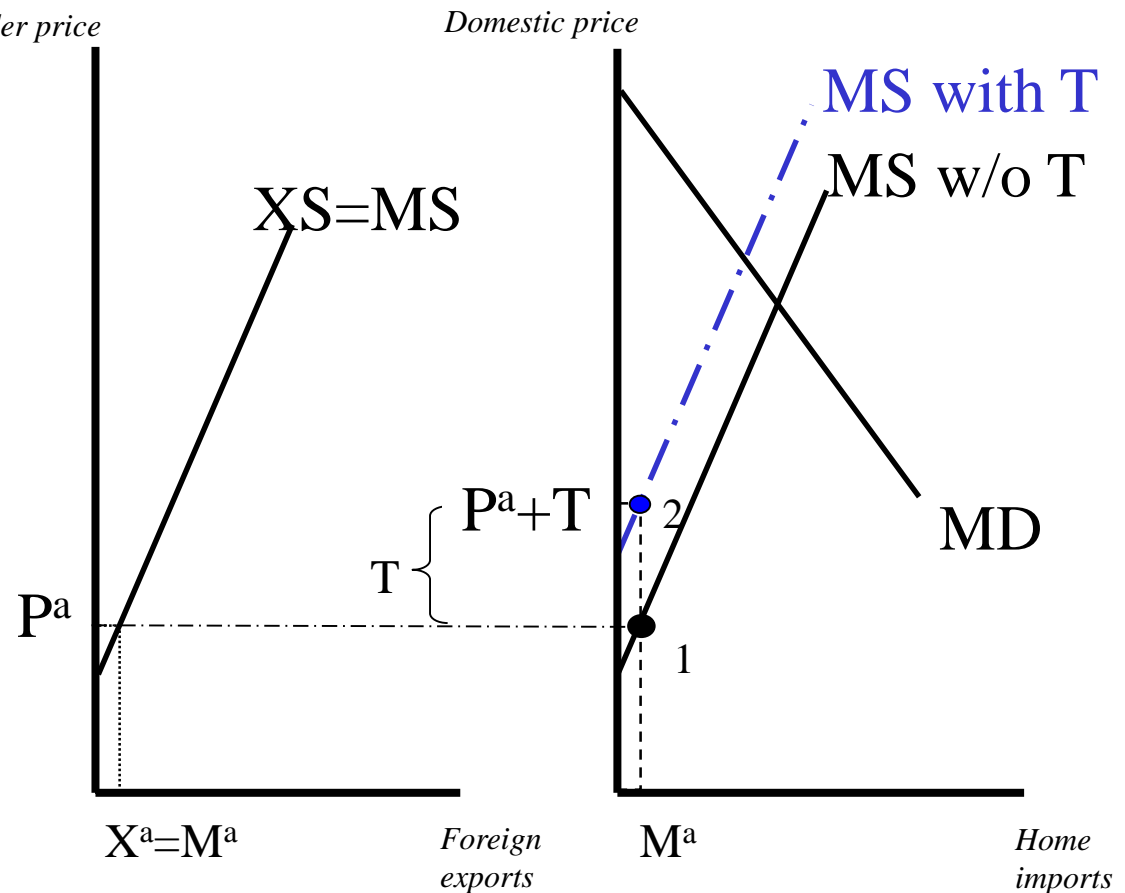
MFN Tariff Analysis

- 1st step: determine how tariff changes prices and quantities.
 - suppose tariff imposed equals T euros per unit.
 - Small country 'fiction'.
- Tariff shifts MS curve up by T .
 - Exporters would need a domestic price that is T higher to offer the same exports.
 - Because they earn the domestic price minus T .



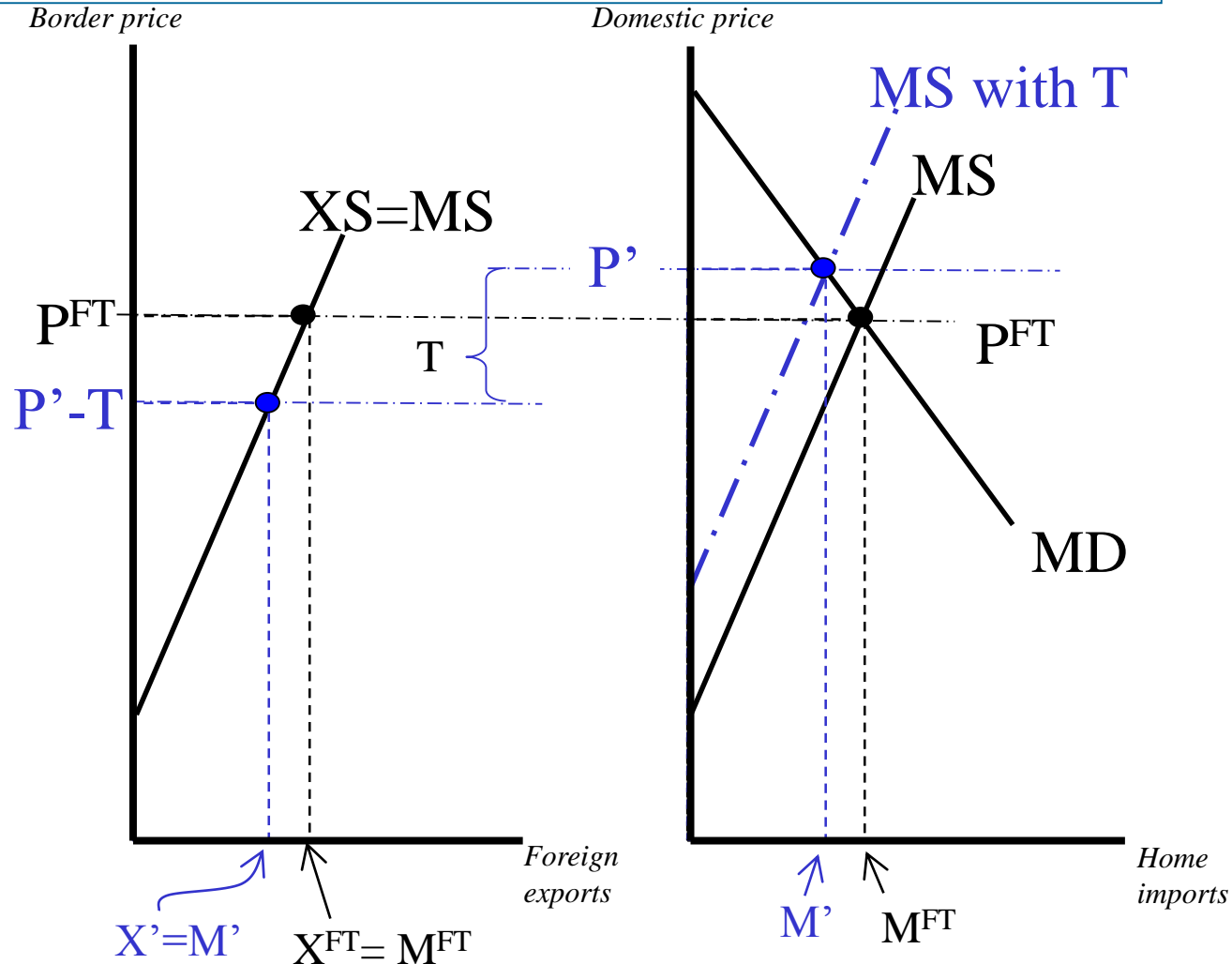
MFN Tariff Analysis

- For example, how high would domestic price have to be in Home for Foreigners to offer to export M^a to Home?
 - Answer is P^a before tariff
 - Answer is P^a+T , so Foreigners would see a price of P^a after tariff



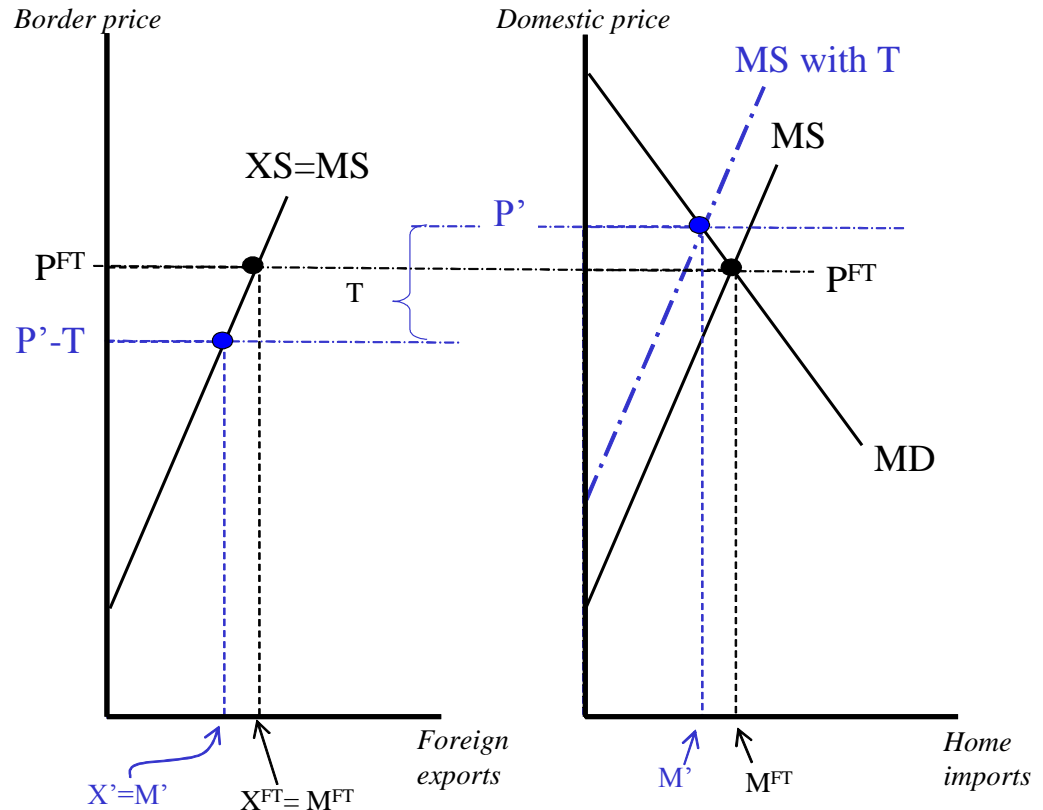
MFN Tariff Analysis

- New equilibrium in Home (MD=MS with T) is with P' and M' .
- Domestic price now differs from border price (price exporters receive).
- P' vs $P'-T$.



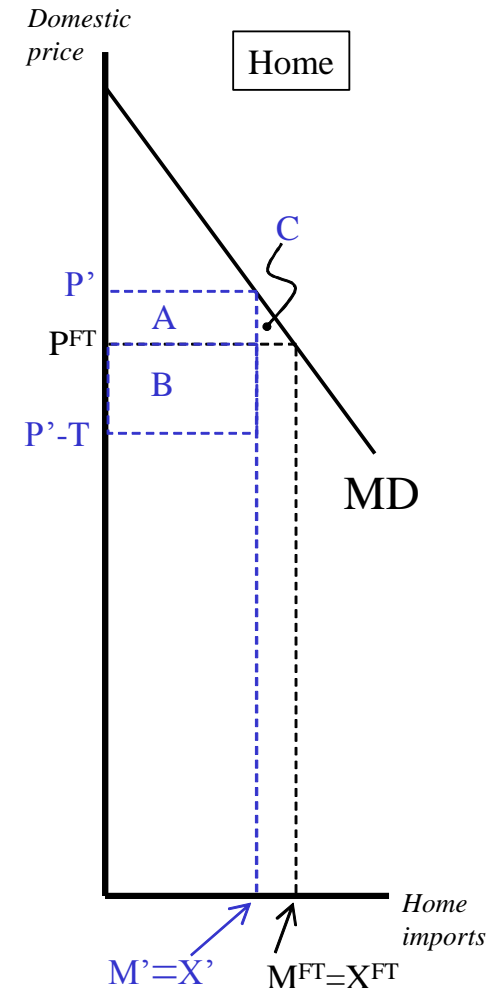
Price and Quantity Effects of a MFN tariff

- Domestic price rises.
- Border price falls.
- Imports fall.
- Can't see in diagram:
 - Domestic consumption falls.
 - domestic production rises.
 - Foreign consumption rises.
 - Foreign production falls.
- Could get this in diagram by adding open economy S & D diagram to right.



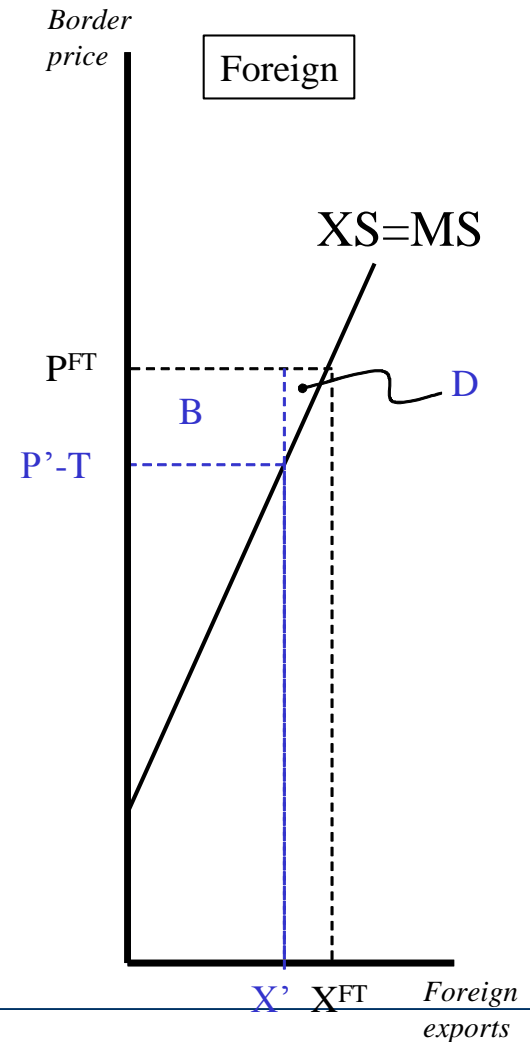
Welfare Effects: Home

- Drop in imports creates loss equal area C. (Trade volume effect).
- Drop in border price creates gain equal to area B. (Border price effect, i.e. ToT effect).
- Net effect on Home = $B-C$.
- ALTERNATIVELY:
 - Private surplus change (sum of change in producer and consumer surplus) equal to minus $A+C$.
 - Increase in tariff revenue equal to $+A+B$.
- Same net effect, $B-C$ (but less intuition).



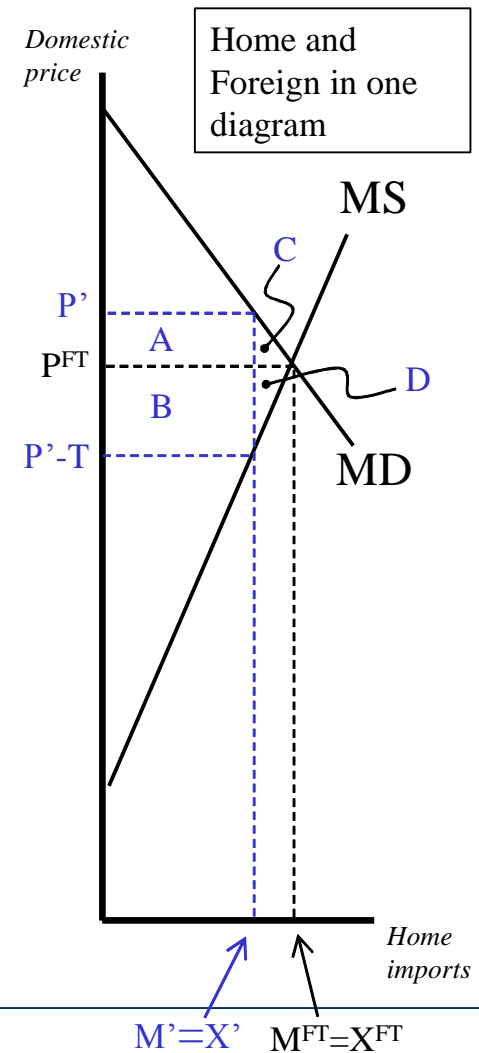
Welfare Effects: Foreign

- Drop in exports creates loss equal area D
 - (Trade volume effect).
- Drop in border price creates loss equal to area B.
 - (Border price effect, or: ToT effect).
- Net effect on Foreign = $-(D+B)$.
- ALTERNATIVELY:
 - Private surplus change (sum of change in producer and consumer surplus) equal to $-(D+B)$.
 - Same net effect (but less intuition).



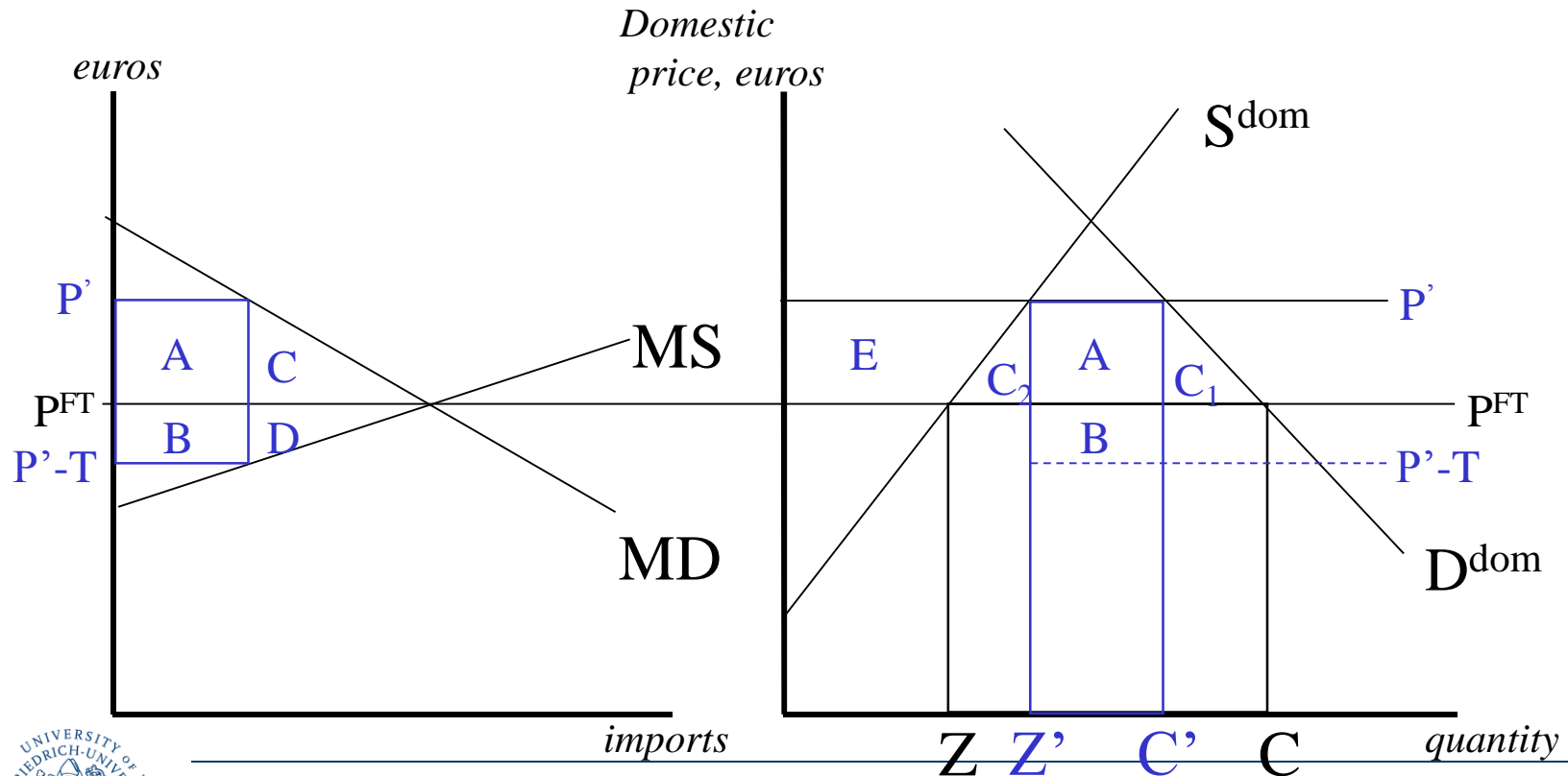
Welfare Effects: Useful Compression

- In cases of more complex policy changes useful to do Home and Foreign welfare changes in one diagram.
- **MS-MD diagram** allows this:
 - Home net welfare change is $-C+B$.
 - Foreign net welfare change is $-(B+D)$.
 - World welfare change is $-D-C$.
- NB: if Home gains ($-C+B > 0$) it is because it exploits foreigners by 'making' them to pay part of the tariff (i.e. area B).
- Notice similarity with standard tax analysis.



Welfare Effects: Distributional Effects Home

- Home consumers lose, area $E+C_2+A+C_1$;
Home producers gain E , Home tariff revenue rises by $A+B$.
- net change = $B-C_2-C_1$ (this equals $B-C$ in left panel).



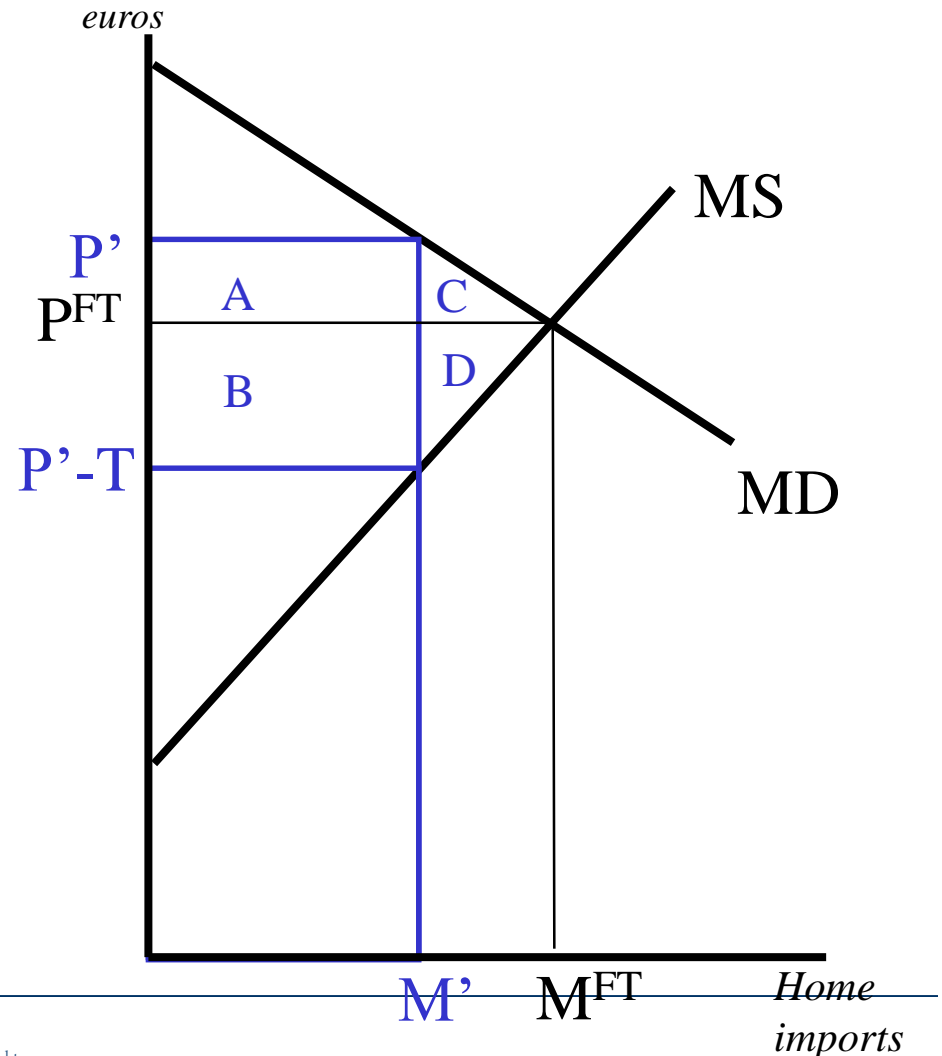
A Typology of Trade Barriers

- **Domestically captured rents (DCR)**
 - **Tariffs**
 - **Quotas + licences to domestic holders**
 - quota drives wedge between foreign and domestic price
 - licence holder exploits price wedge
- **Foreign captured rents (FCR)**
 - **„Price undertaking“ (generates rents to foreign firms)**
 - **quotas and distribution of licences to foreign holders**
- **Frictional barriers**
 - **technical standards, health and safety regulation**
 - **e.g. Cassis Dijon („Kir“) case**



Welfare effects of different types of trade barriers

- Net Home welfare changes for:
 - $DCR = B - C$
 - $FCR = -A - C$
 - Frictional = $-A - C$
- Net Foreign welfare changes for:
 - $DCR = -B - D$
 - $FCR = +A - D$
 - Frictional = $-B - D$
- Note: foreign may gain from FCR.



Memorize

- **The Microeconomics of Trade and Tariffs**
 - Basic Tools
 - Demand and Supply
 - Import Demand Curve
 - Export Supply Curve
 - Welfare Analysis
 - The Gains from Trade
 - Welfare Analysis of MFN Tariffs
 - Typology of welfare barriers: DCR, FCR, frictional barriers



Part II

Preferential Trade Liberalisation



Today's Reading

- **Preferential Trade Liberalisation**

- Baldwin & Wyplosz (2009/12) "The Economics of European Integration", McGraw-Hill, Ch 5.



The PTA Diagram

Studying European integrations – e.g. EEC's customs union – which were discriminatory, i.e. preferential requires:

- at least three countries
 - at least two integrating nations
 - at least one excluded nation.
- Ability to track domestic and international consequences of liberalisation

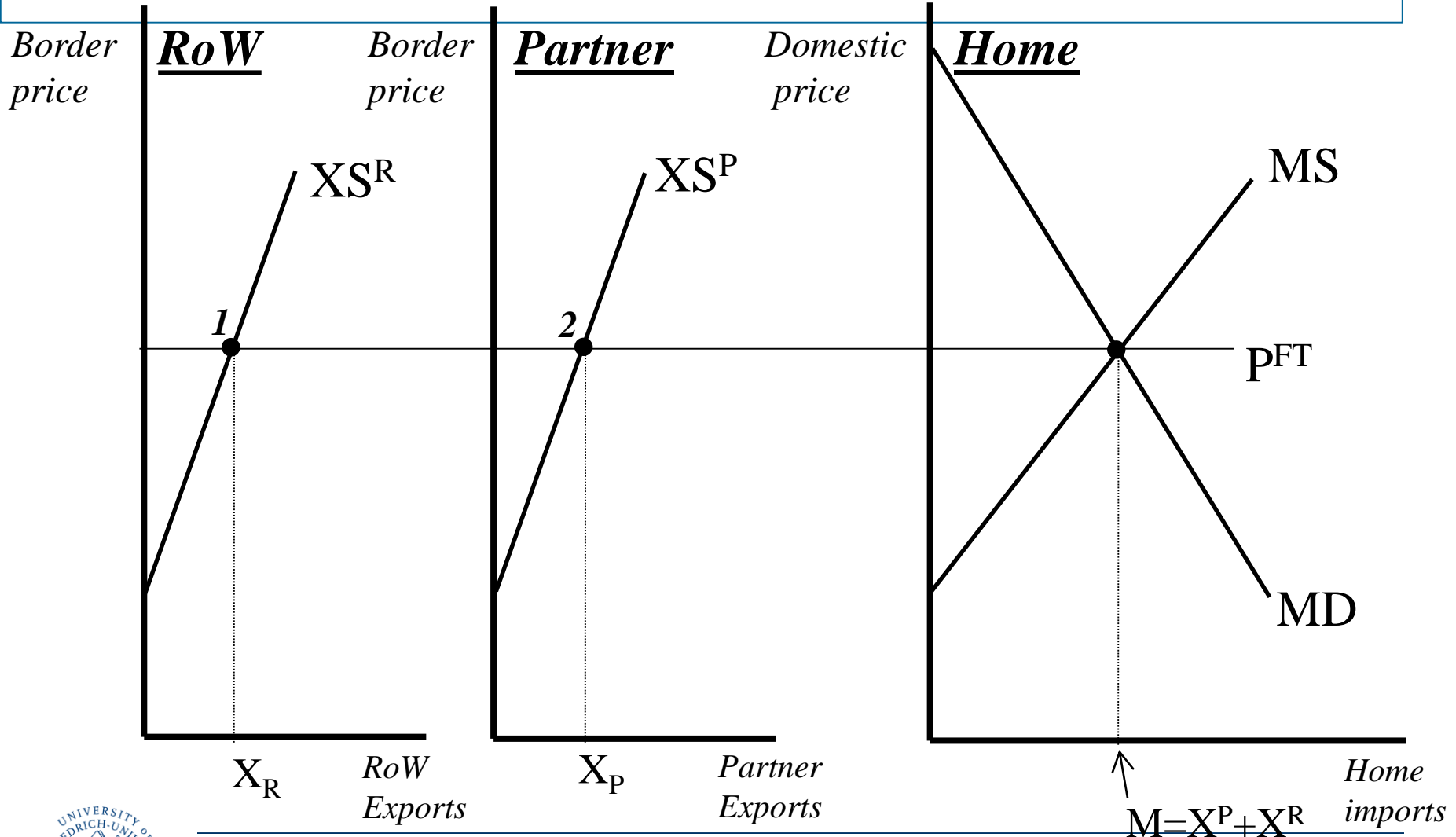
Must MD-MS diagram to allow for two sources of imports.

Assumptions:

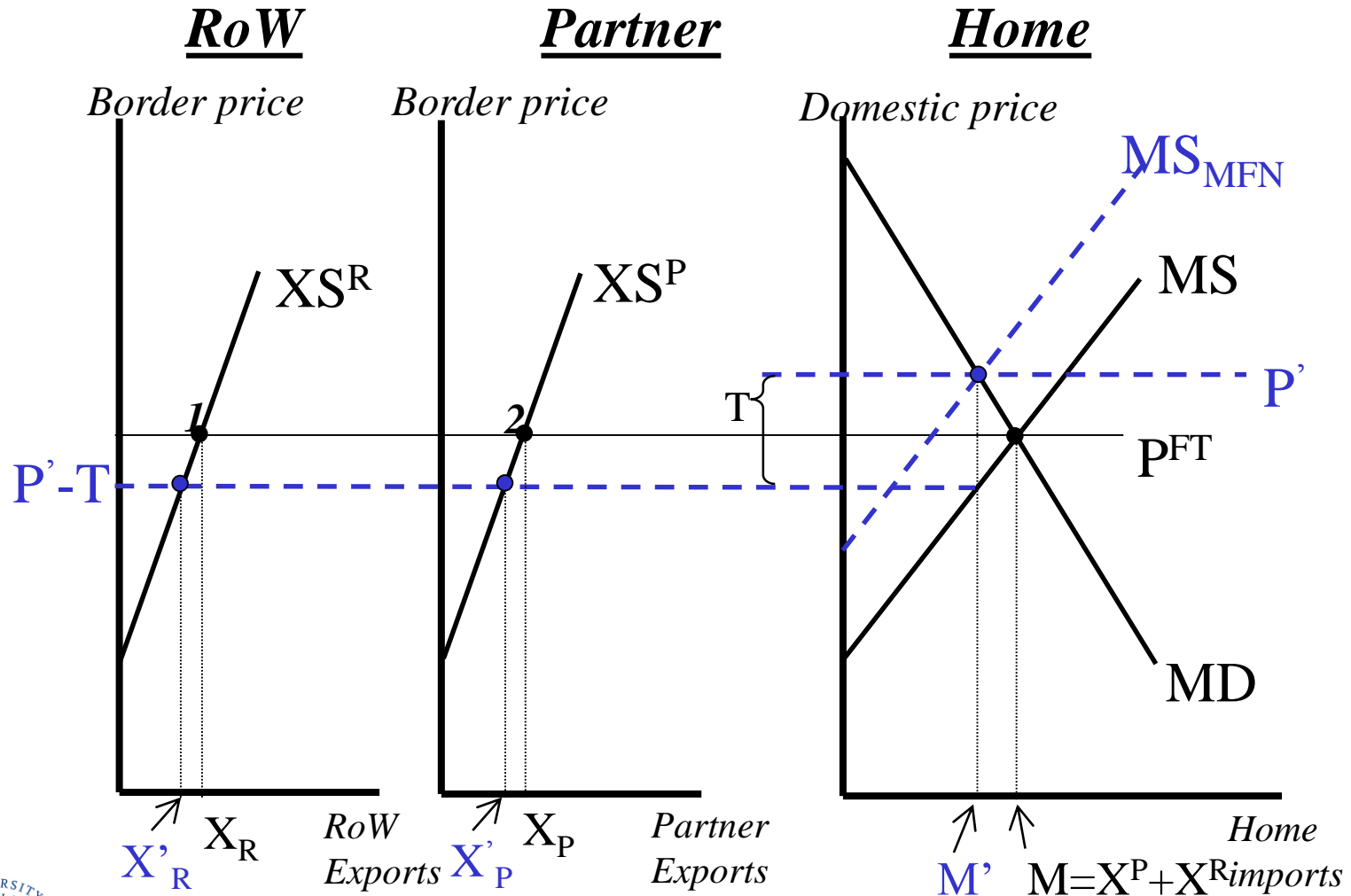
- No increasing returns to scale
- Perfect competition
- But: No small country assumption which allows tracking effects on third countries



The PTA Diagram: Free Trade Equilibrium



The PTA Diagram: MFN Tariff Equilibrium



Discriminatory, Unilateral Liberalization

To build up to analysis of real-world policy changes (e.g. customs union):

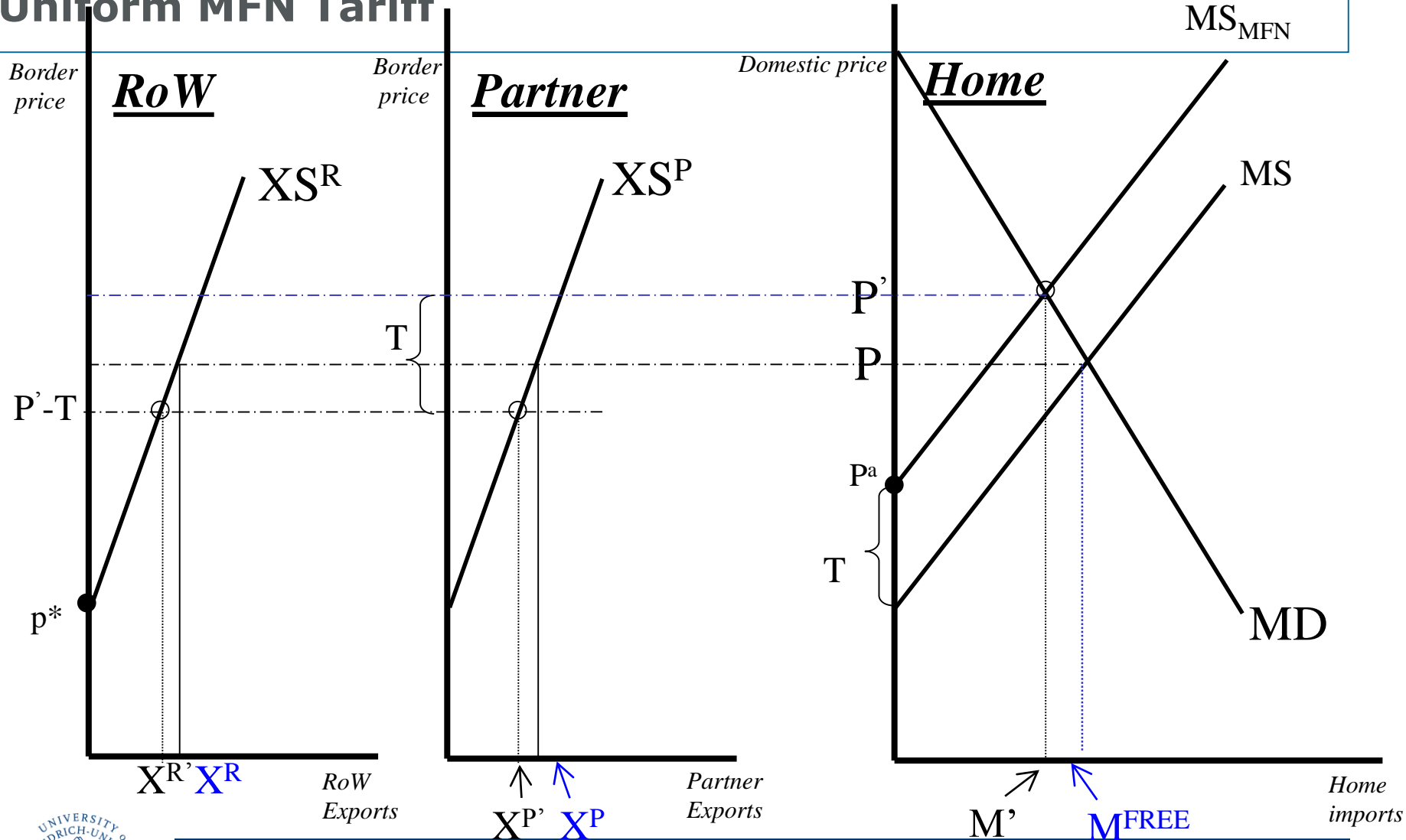
- Consider Home removes T on imports only from Partner

1st step is to construct the new MS curve

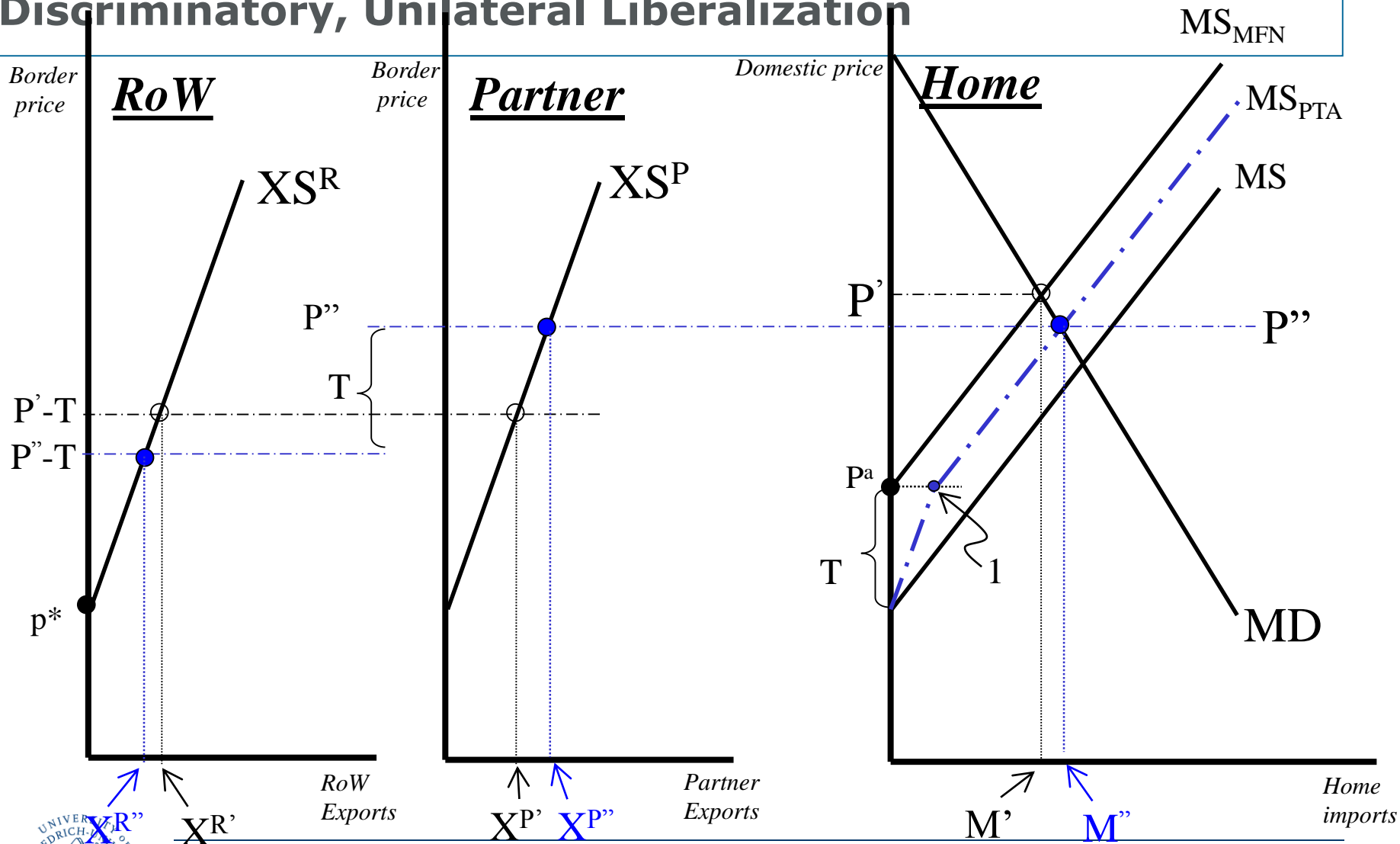
- The liberalisation shifts up MS (as with MFN liberalisation) but not as far since only on half of imports
 - Shifts up MS to half way between MS (free trade) and MS (MFN T), but
- More complex, kinked MS curve with PTA



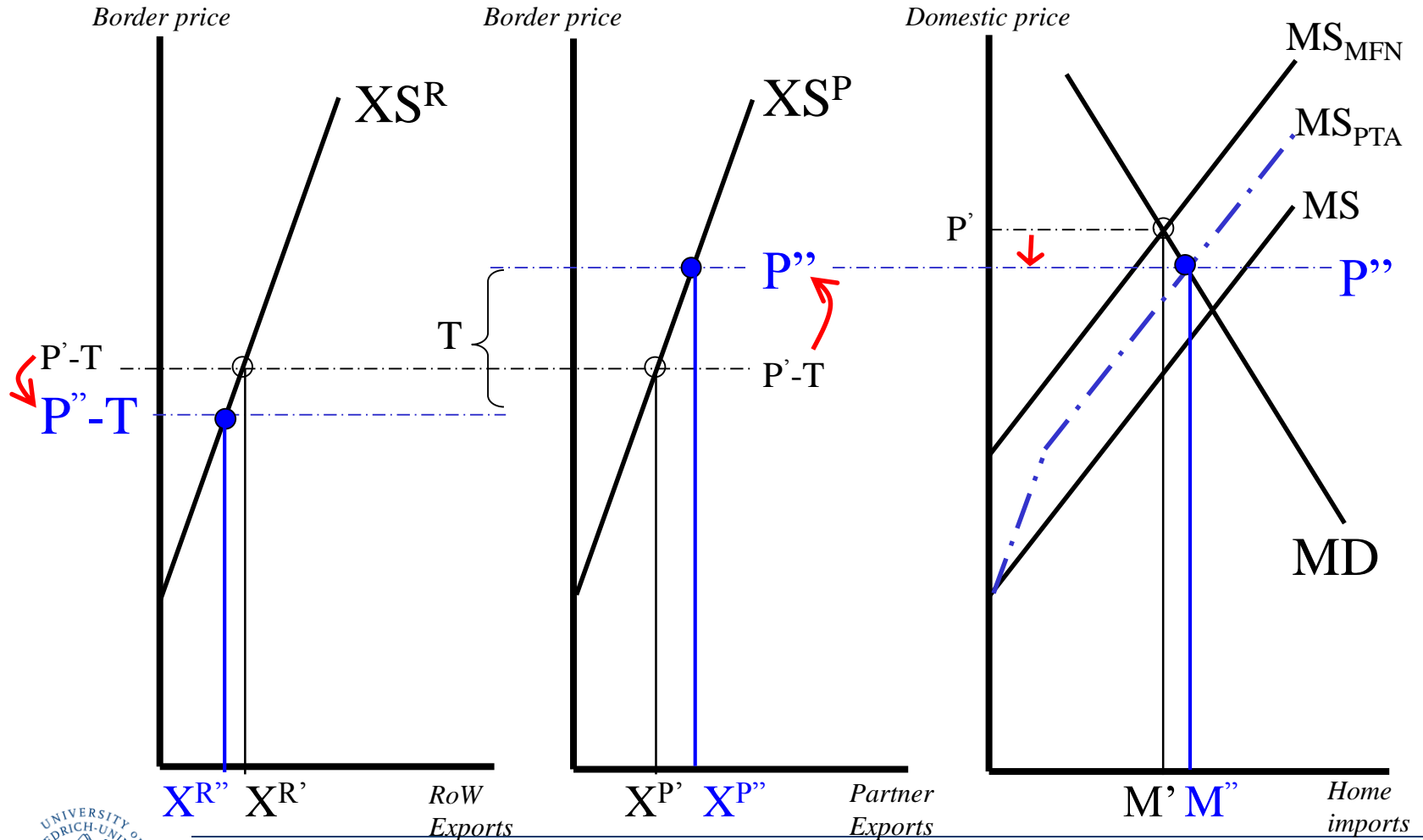
Uniform MFN Tariff



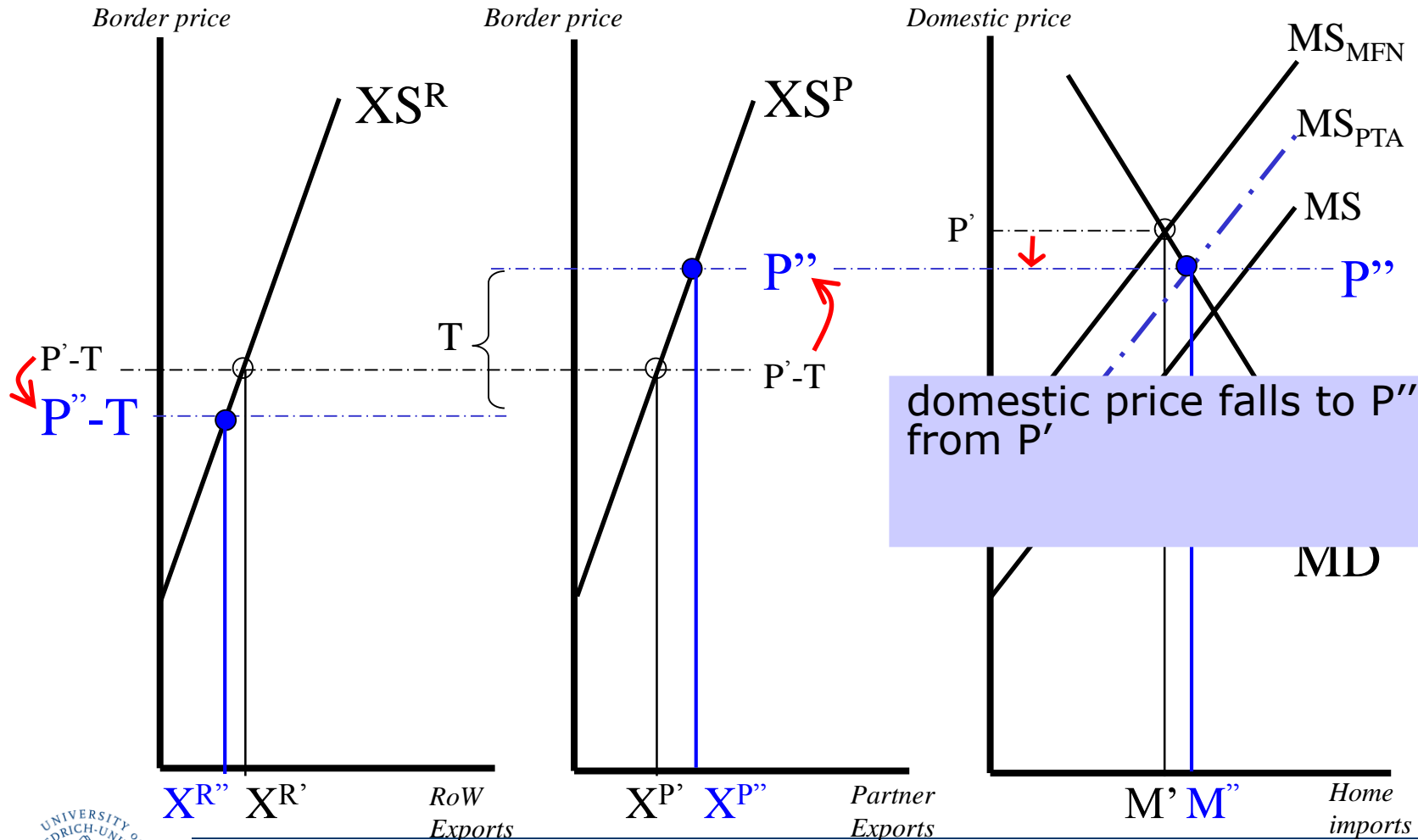
Discriminatory, Unilateral Liberalization



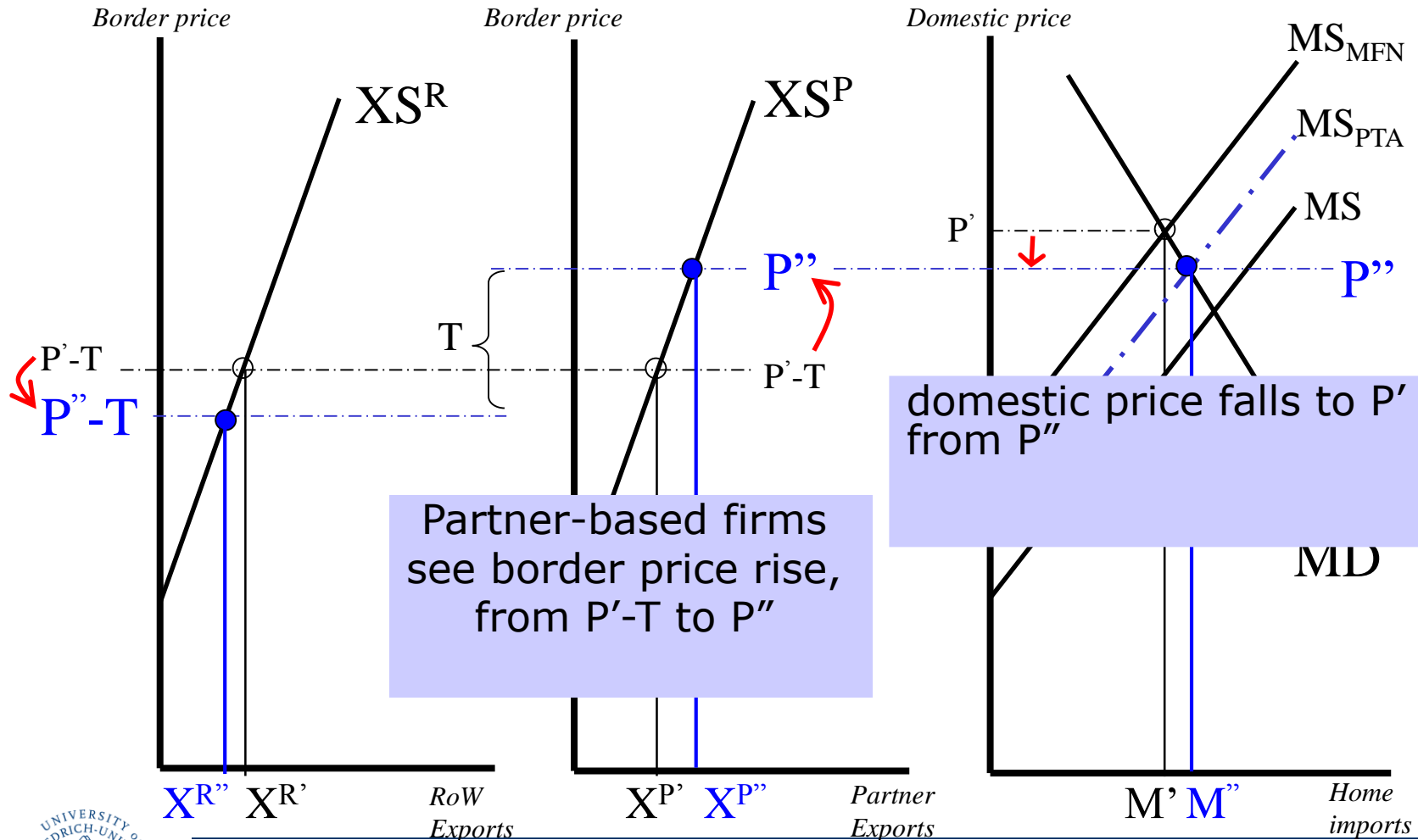
Domestic Price and Border Price Changes



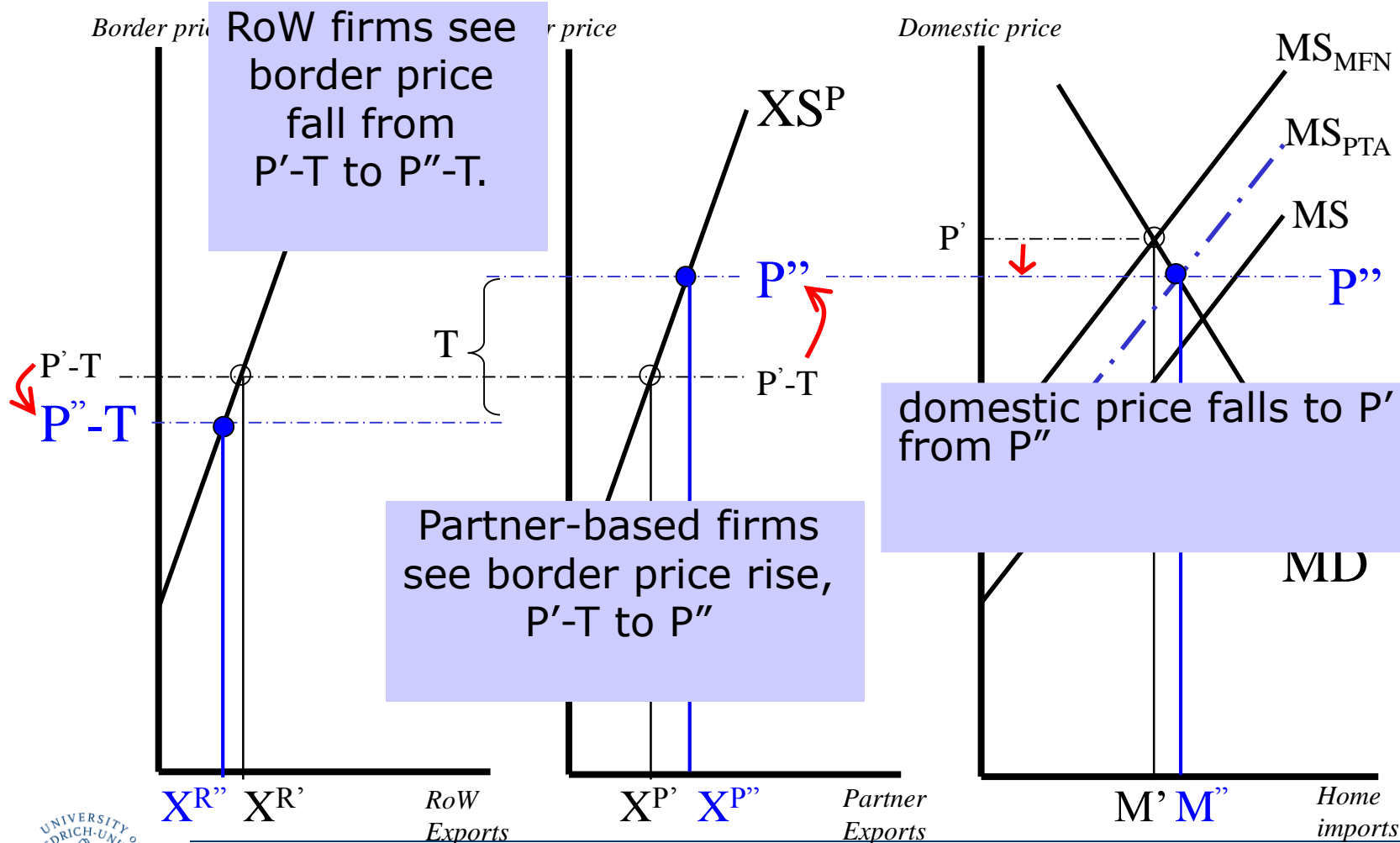
Domestic Price and Border Price Changes



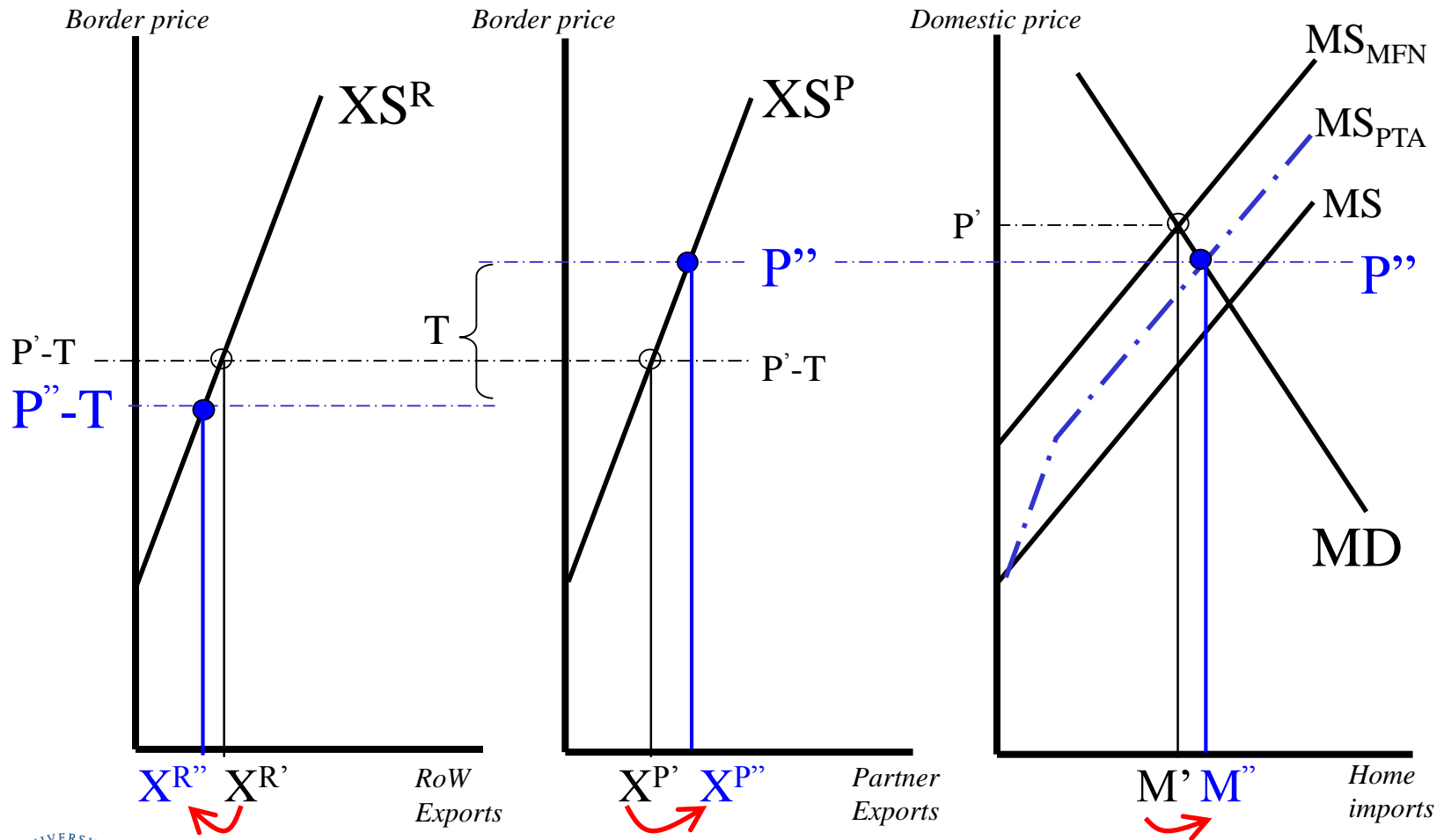
Domestic Price and Border Price Changes



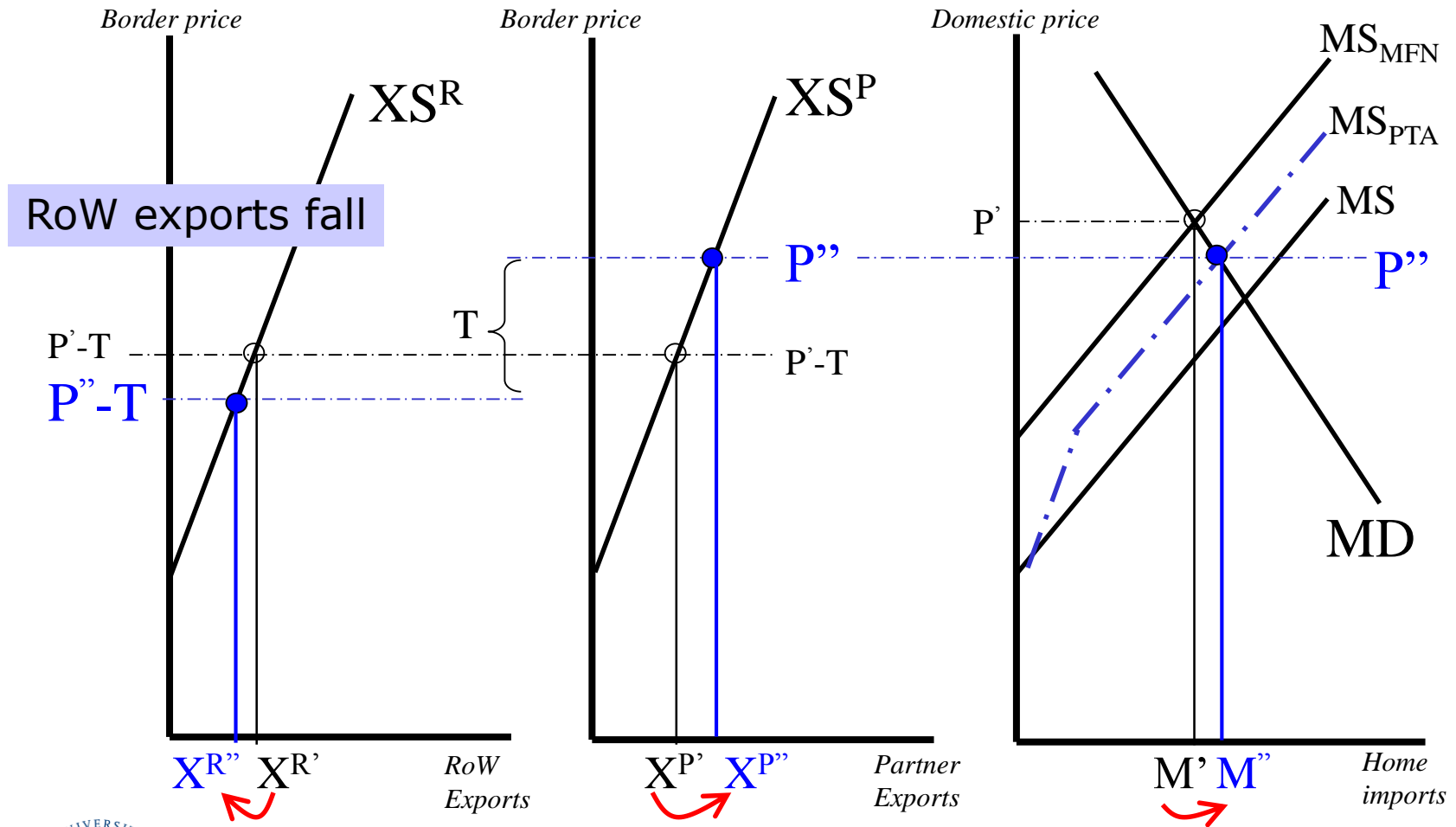
Domestic Price and Border Price Changes



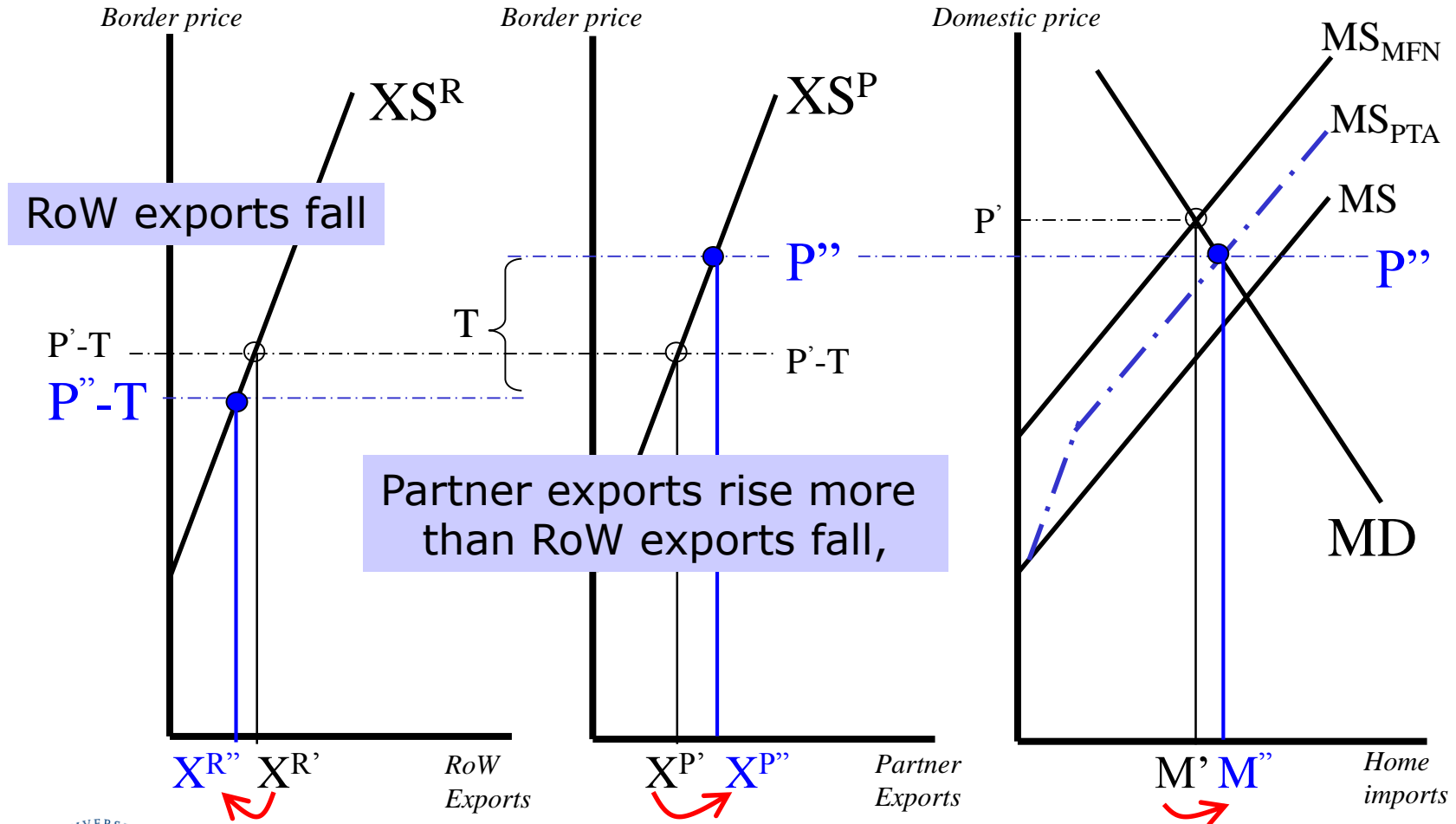
Quantity Changes: Supply Switching



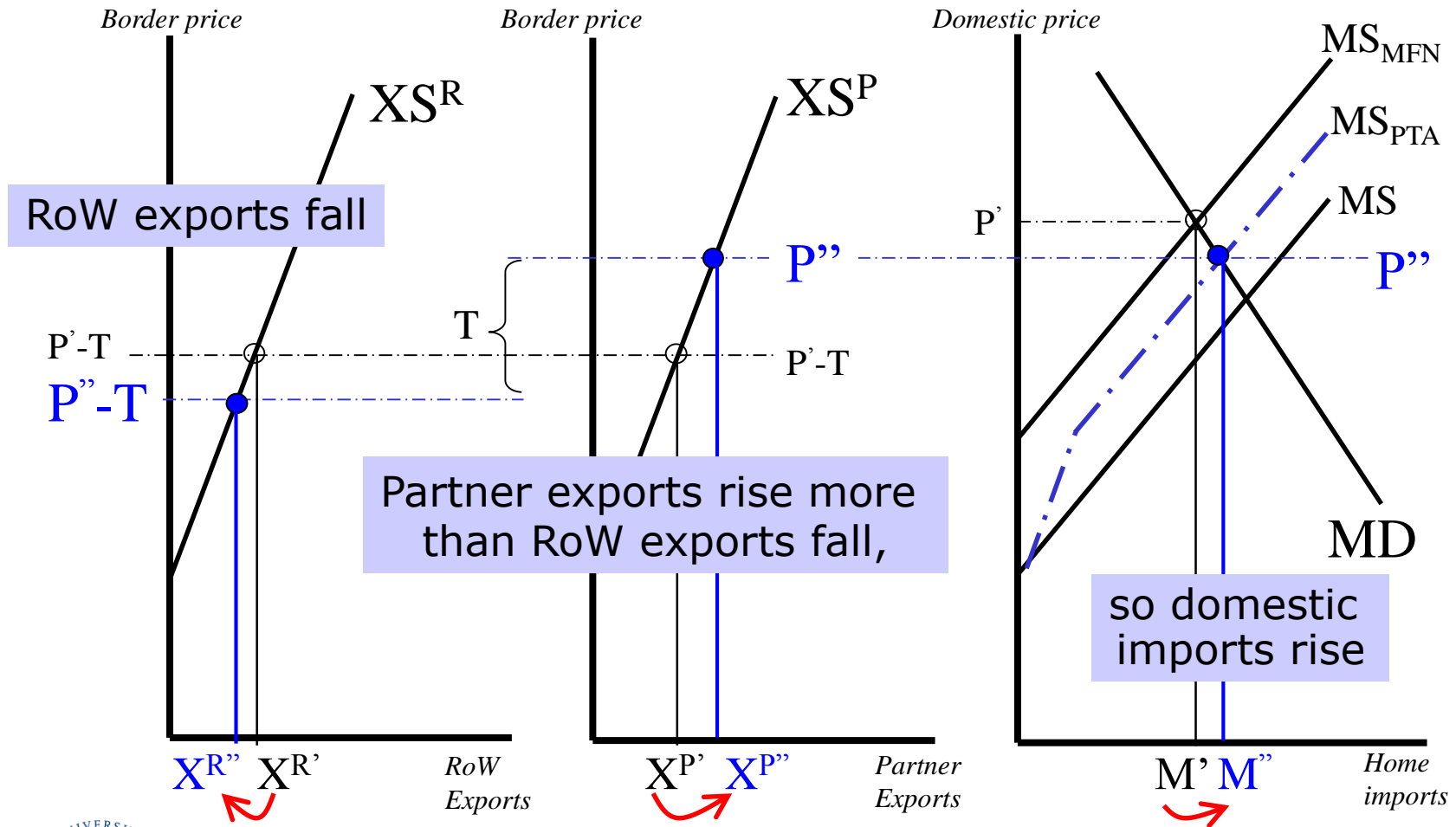
Quantity Changes: Supply Switching



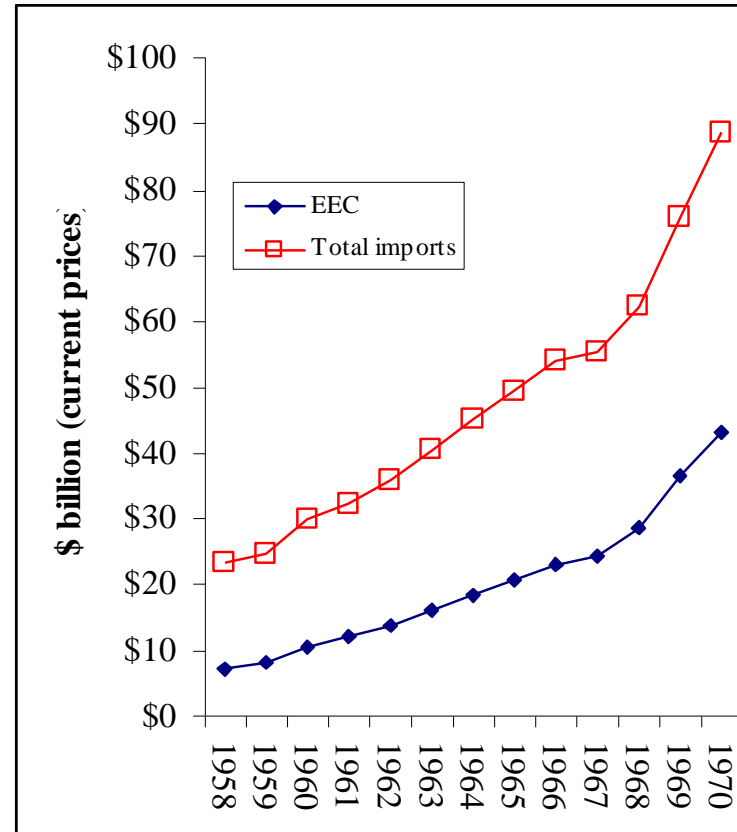
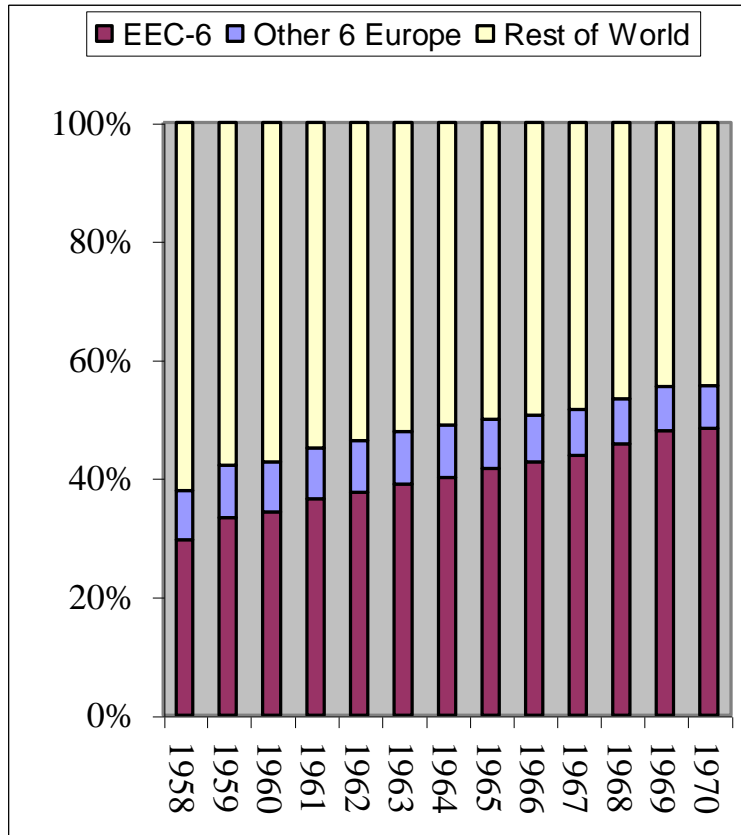
Quantity Changes: Supply Switching



Quantity Changes: Supply Switching



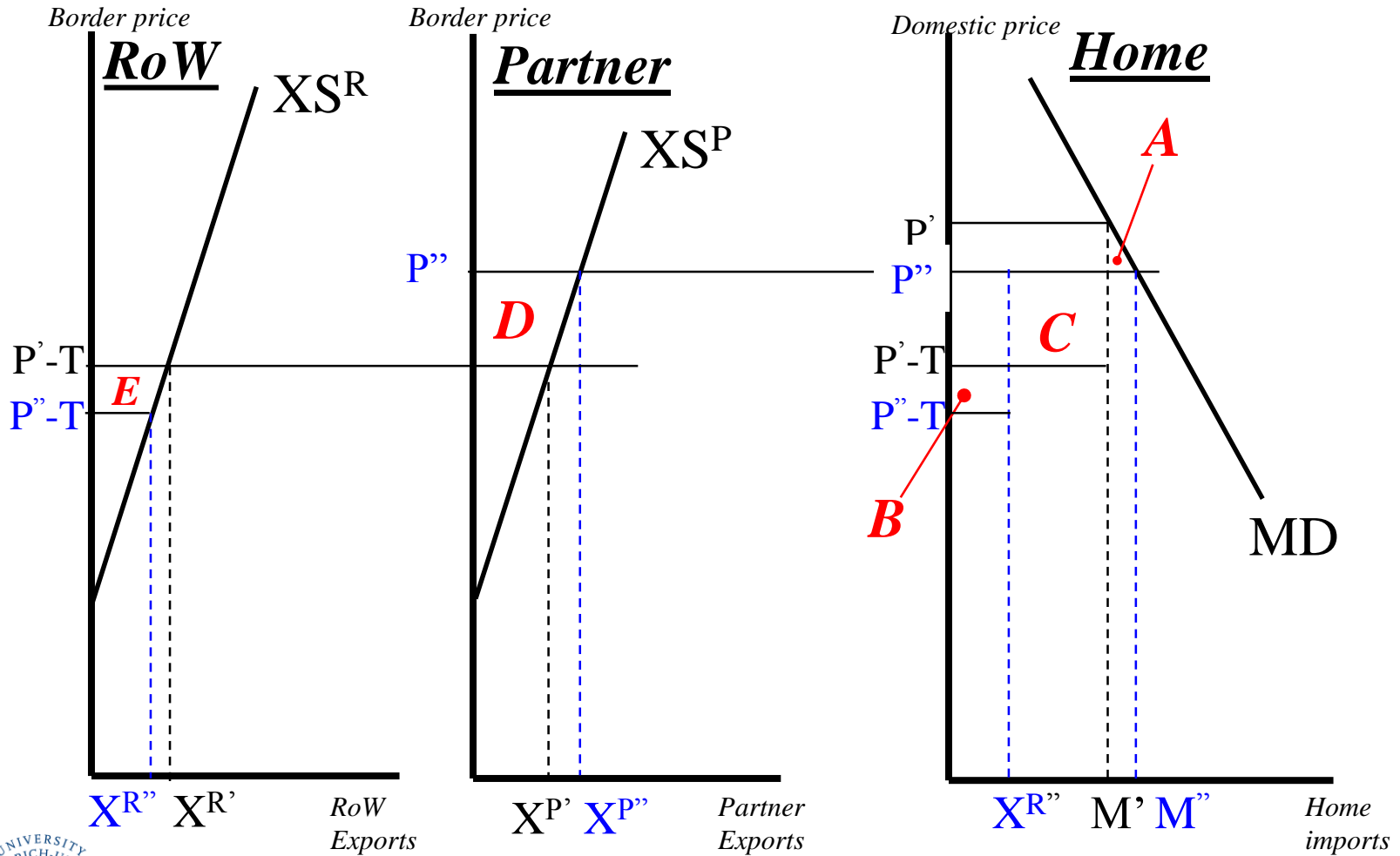
Impact of Customs Union formation



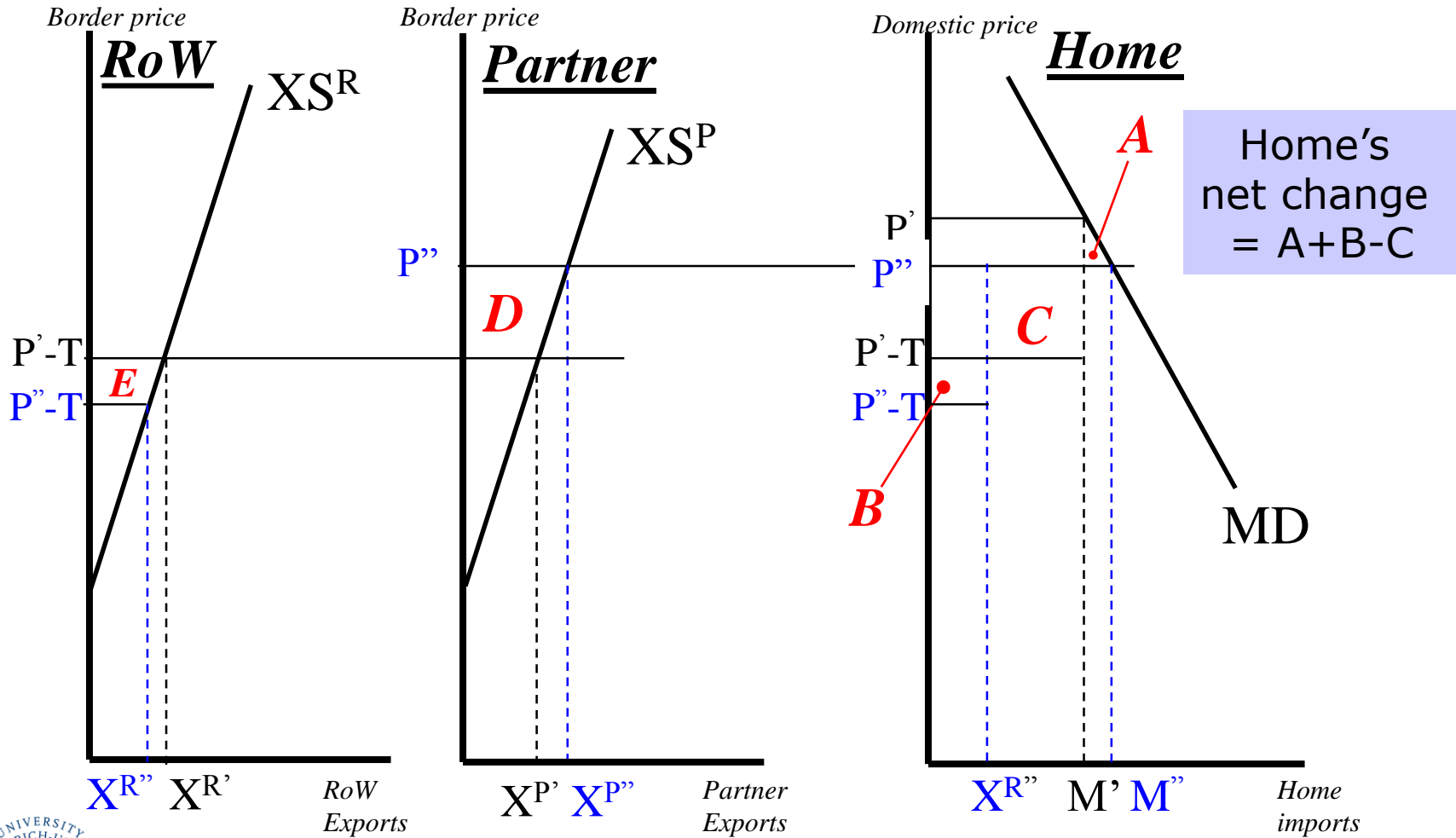
Note: Left panel shows share of EEC6's import from the three regions. Other Euro-6 are the 6 countries that joined the EU by the mid 1980s, UK, Ireland, Denmark, Spain, Portugal and Greece.

Source: Table 5, External Trade and Balance of Payments, Statistical Yearbook, Recapitulation, 1958-1991,

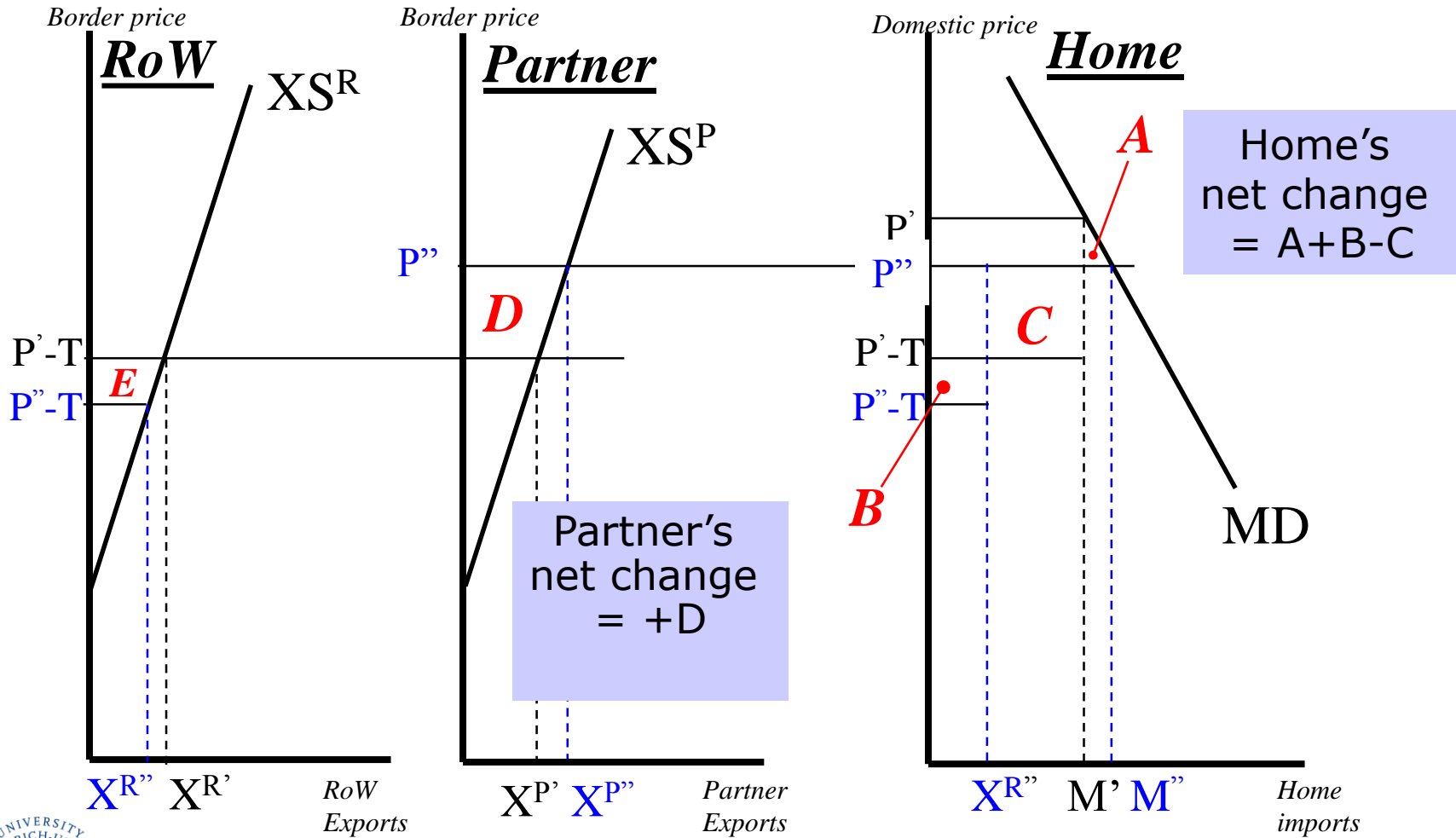
Welfare Effects



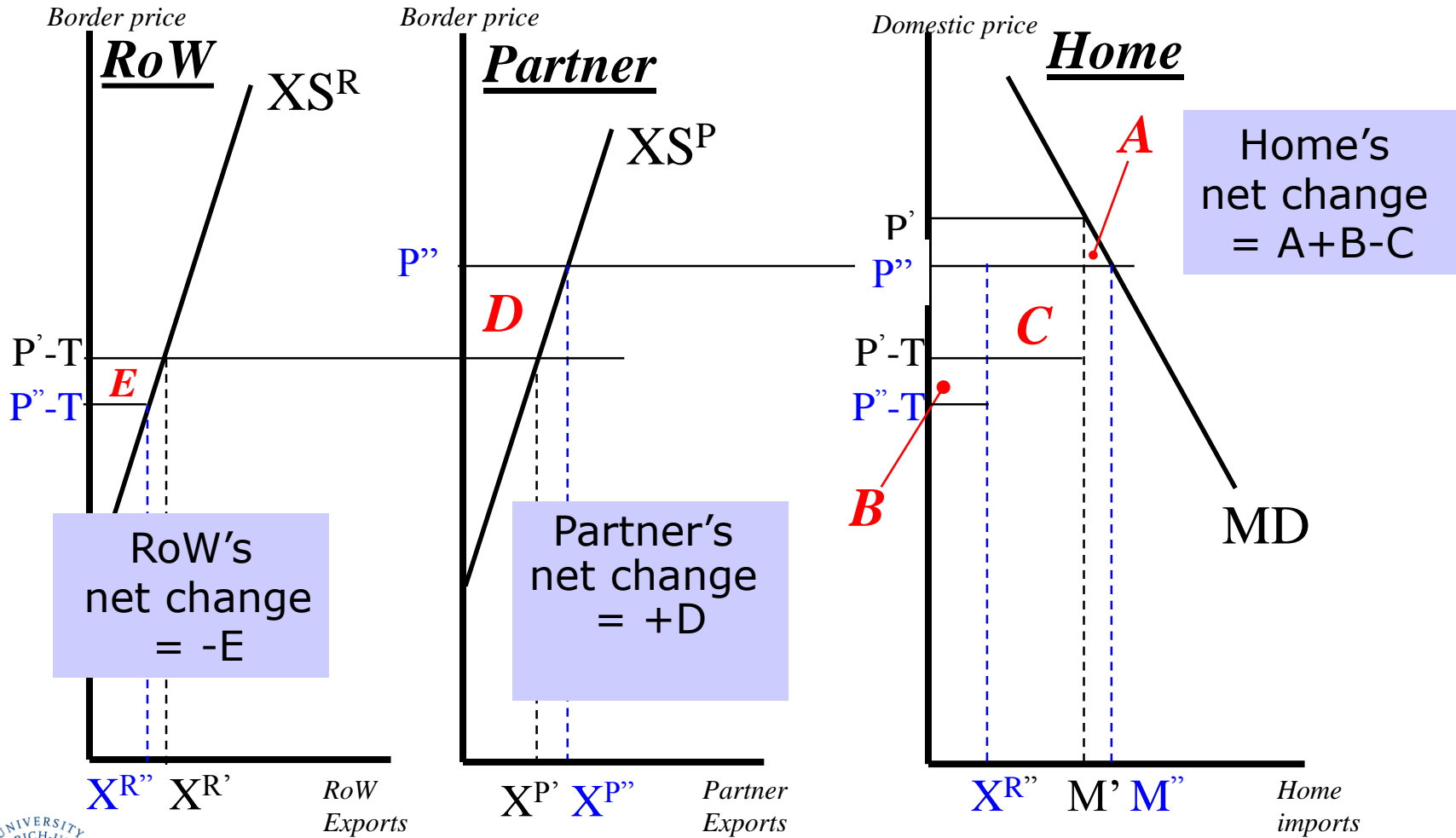
Welfare Effects



Welfare Effects



Welfare Effects

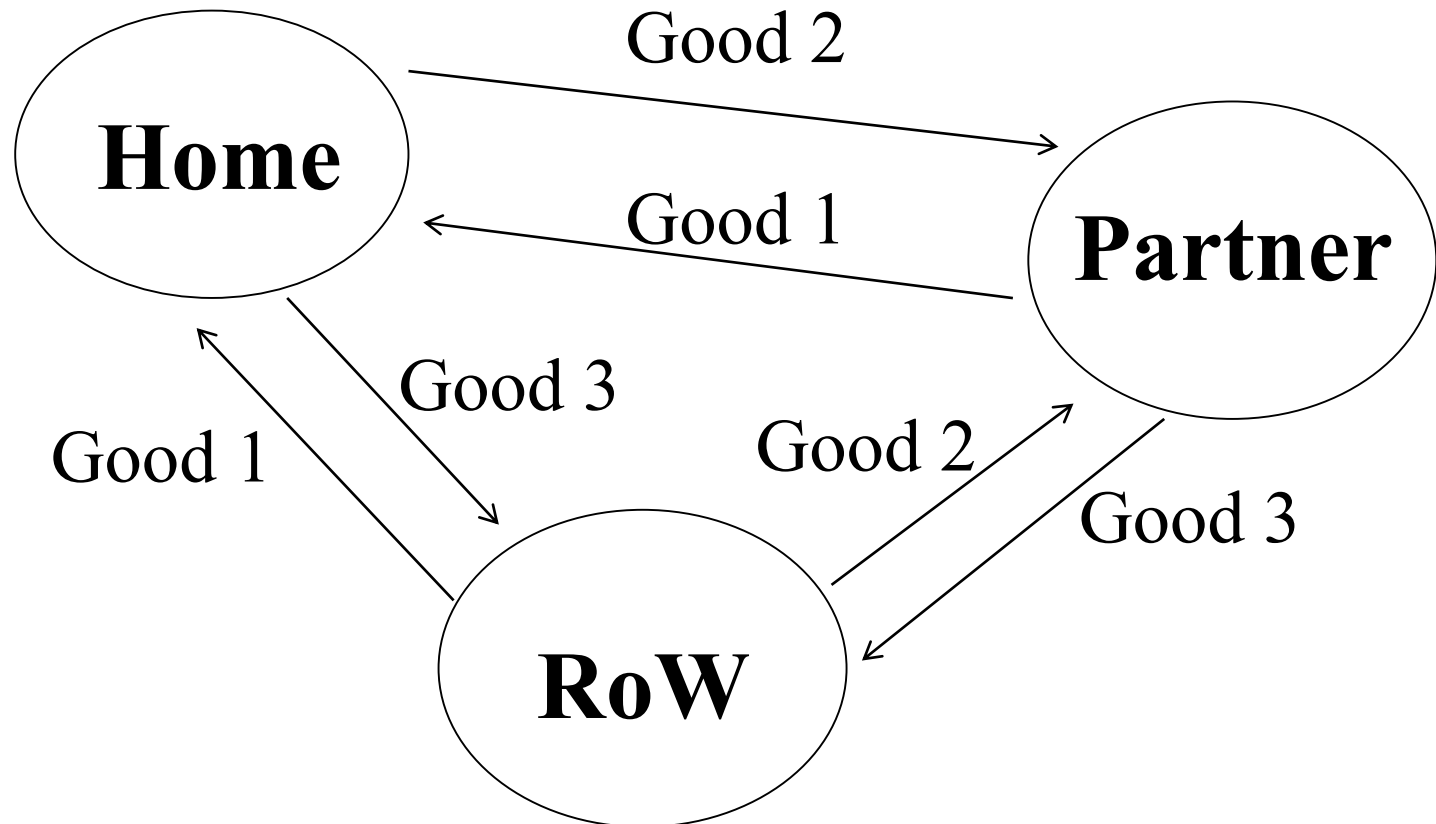


Analysis of a Customs Union

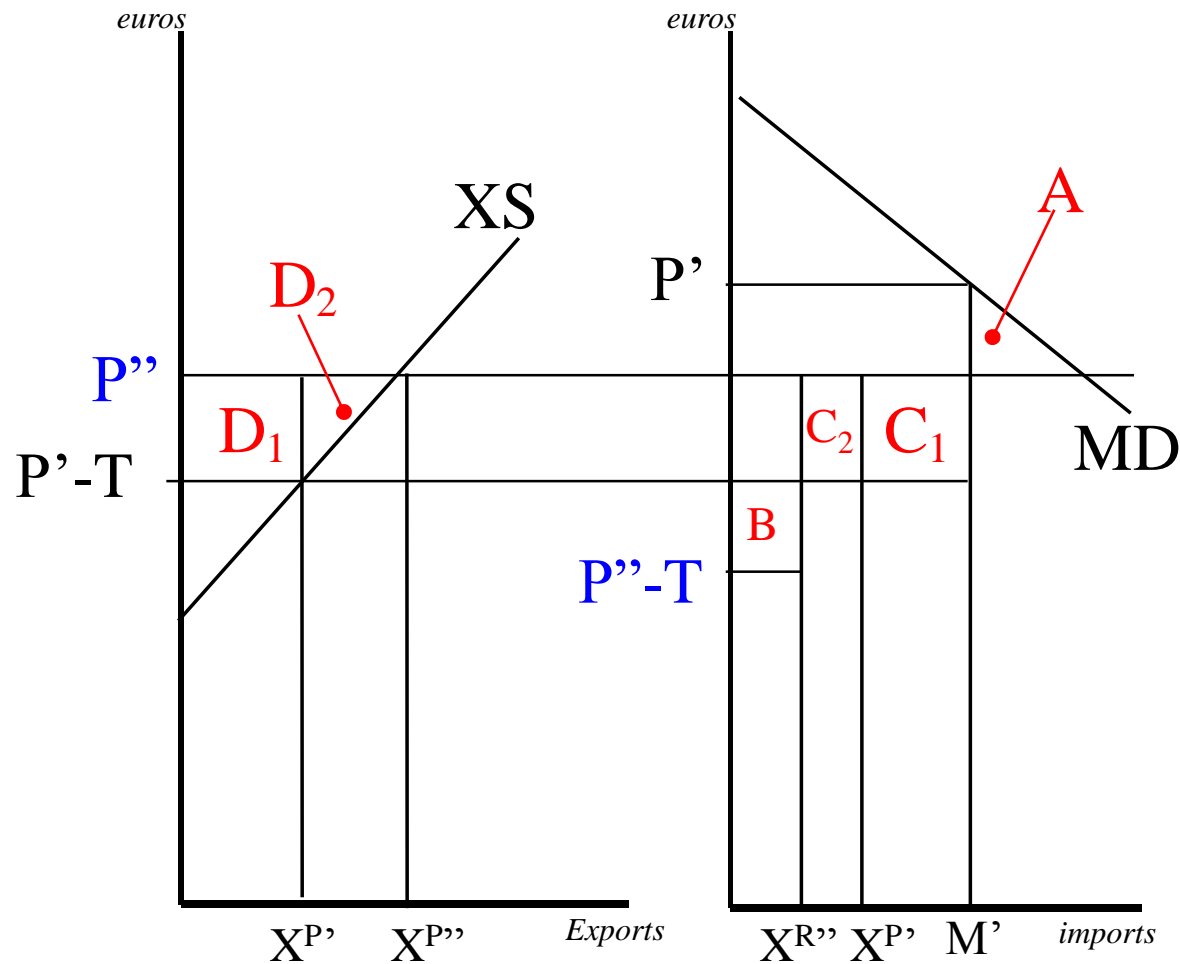
- FTA vs Customs Unions
 - Given symmetry 3-nation set up, FTA between Home and Partner is automatically a customs union
 - Home-Partner CU has Common External Tariff (CET) equal to T
 - in the real world, things are more complicated
- Analysis is simply a matter of recombining results from the unilateral preferential case
 - In market for good 1, analysis is identical
 - In market for good 2, Home plays the role of Partner
 - In market for good 2, Partner plays role of Home



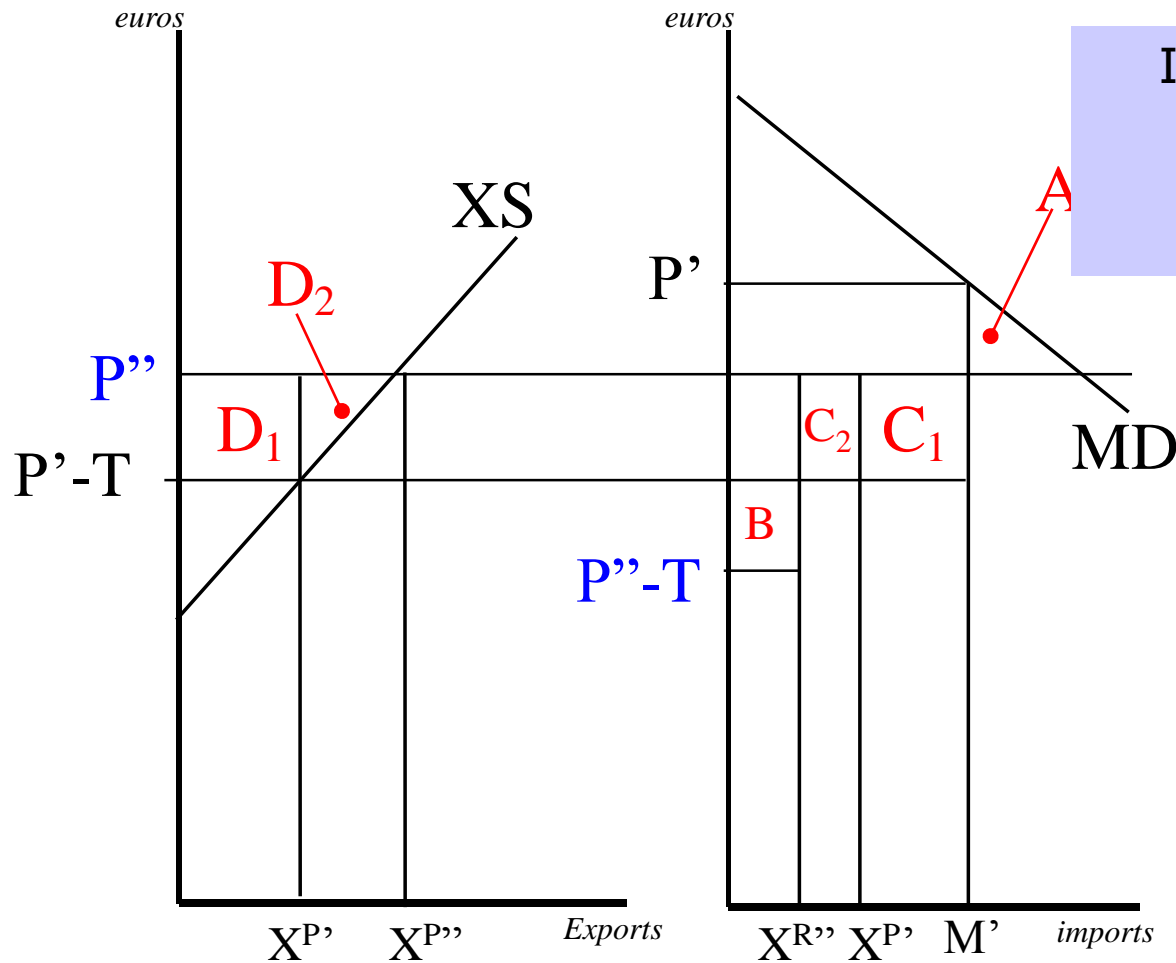
Symmetric three good case



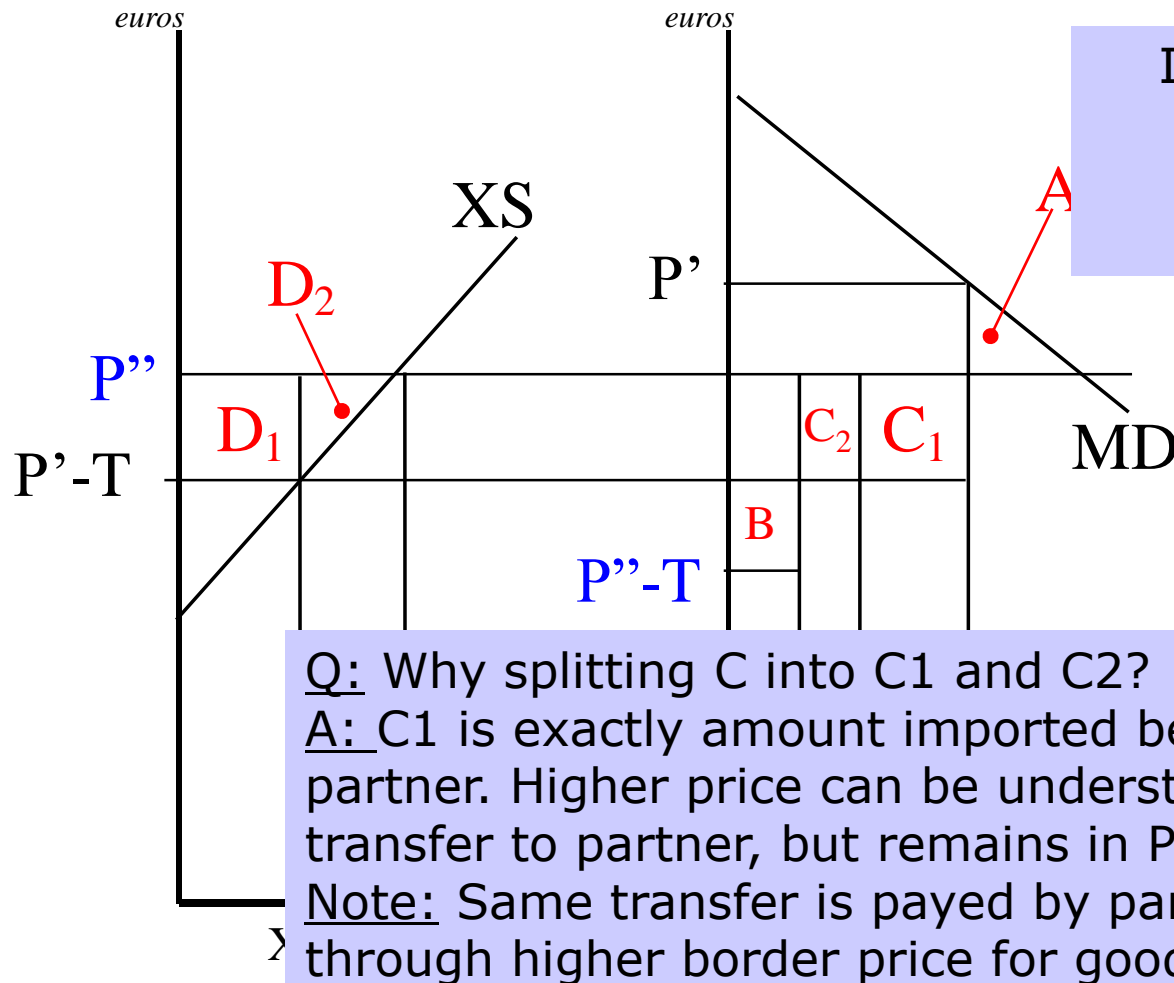
Welfare Effects of a Customs Union



Welfare Effects of a Customs Union

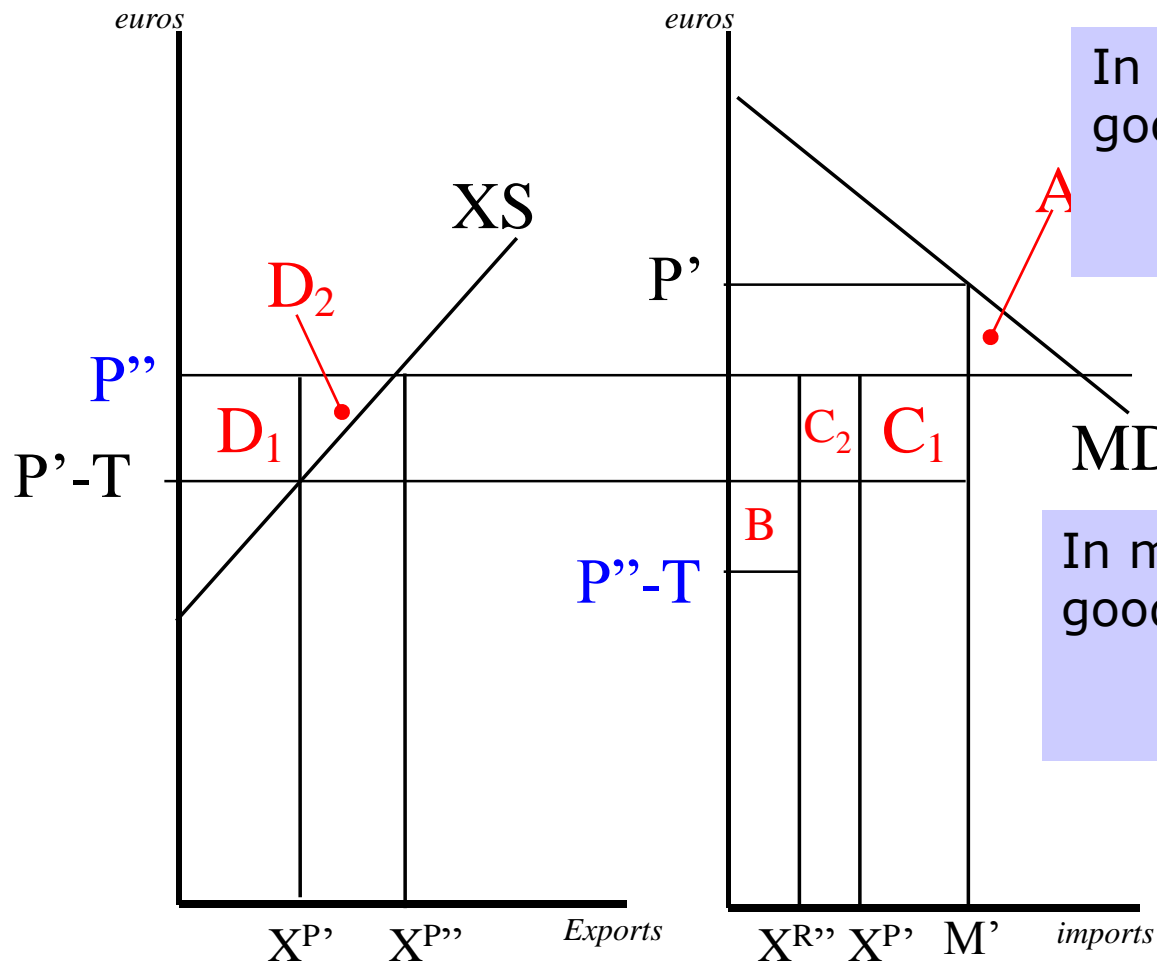


Welfare Effects of a Customs Union



In market for
good 1
Home change
= $A+B-C_1-C_2$

Welfare Effects of a Customs Union

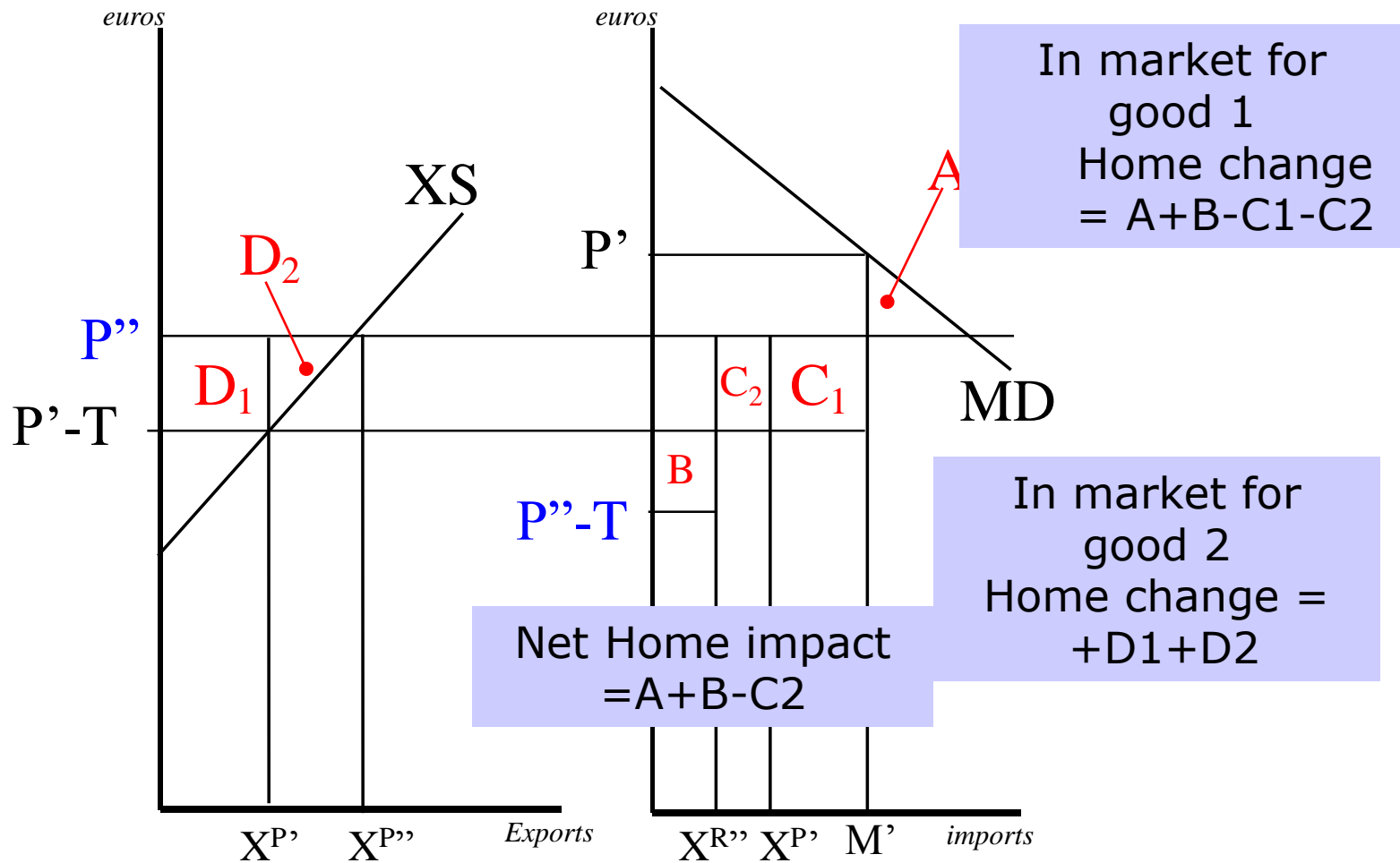


In market for good 1
 Home change
 = $A+B-C1-C2$

In market for good 2
 Home change
 = $+D1+D2$

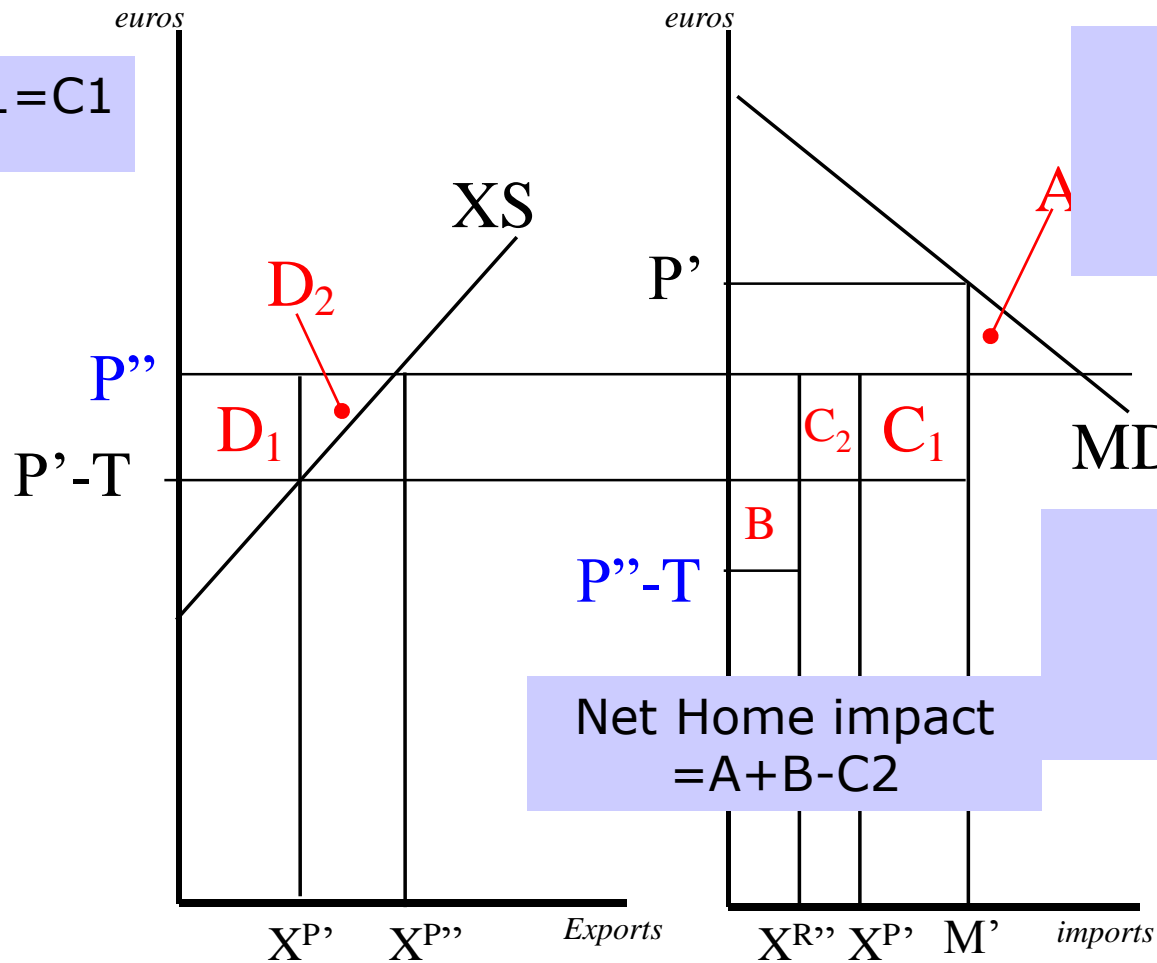


Welfare Effects of a Customs Union



Welfare Effects of a Customs Union

NB: $D_1 = C_1$



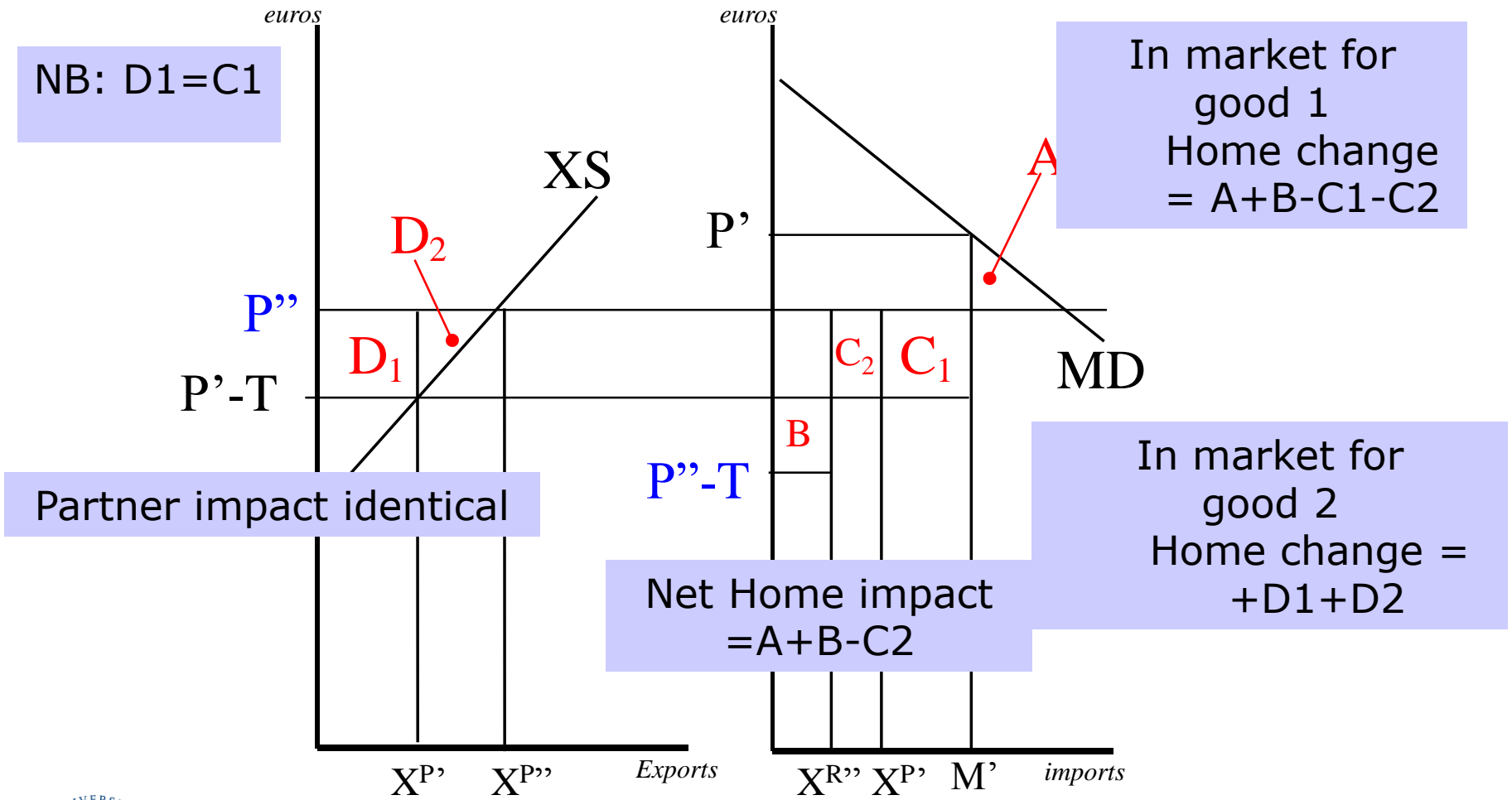
In market for good 1
Home change = $A+B-C_1-C_2$

In market for good 2
Home change = $+D_1+D_2$

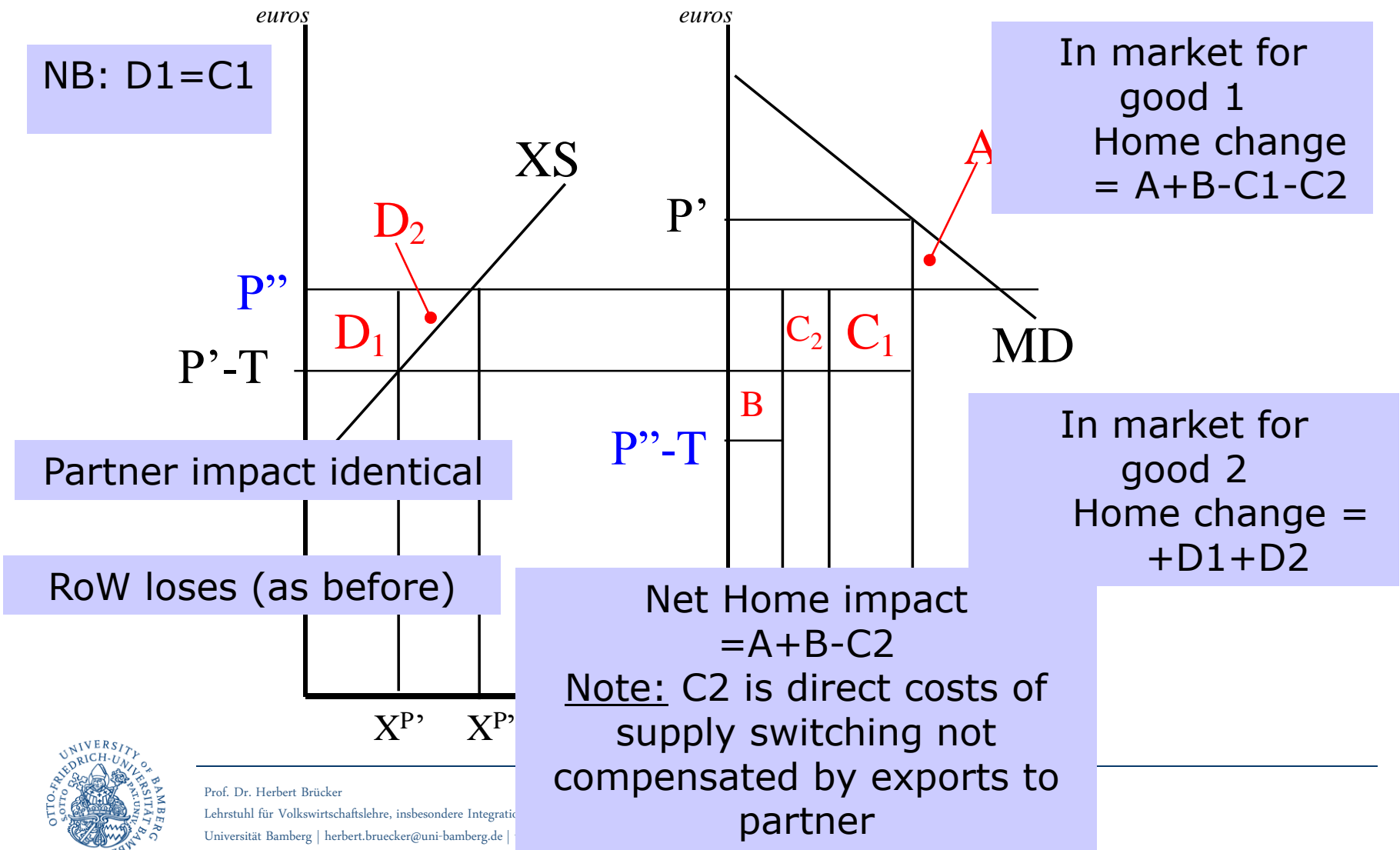
Net Home impact = $A+B-C_2$



Welfare Effects of a Customs Union



Welfare Effects of a Customs Union



Frictional Barrier Preferential Trade Liberalisation

In market for good 1

- Home change = $A+F$

In market for good 2

- Home change = $+D$

Net Home impact

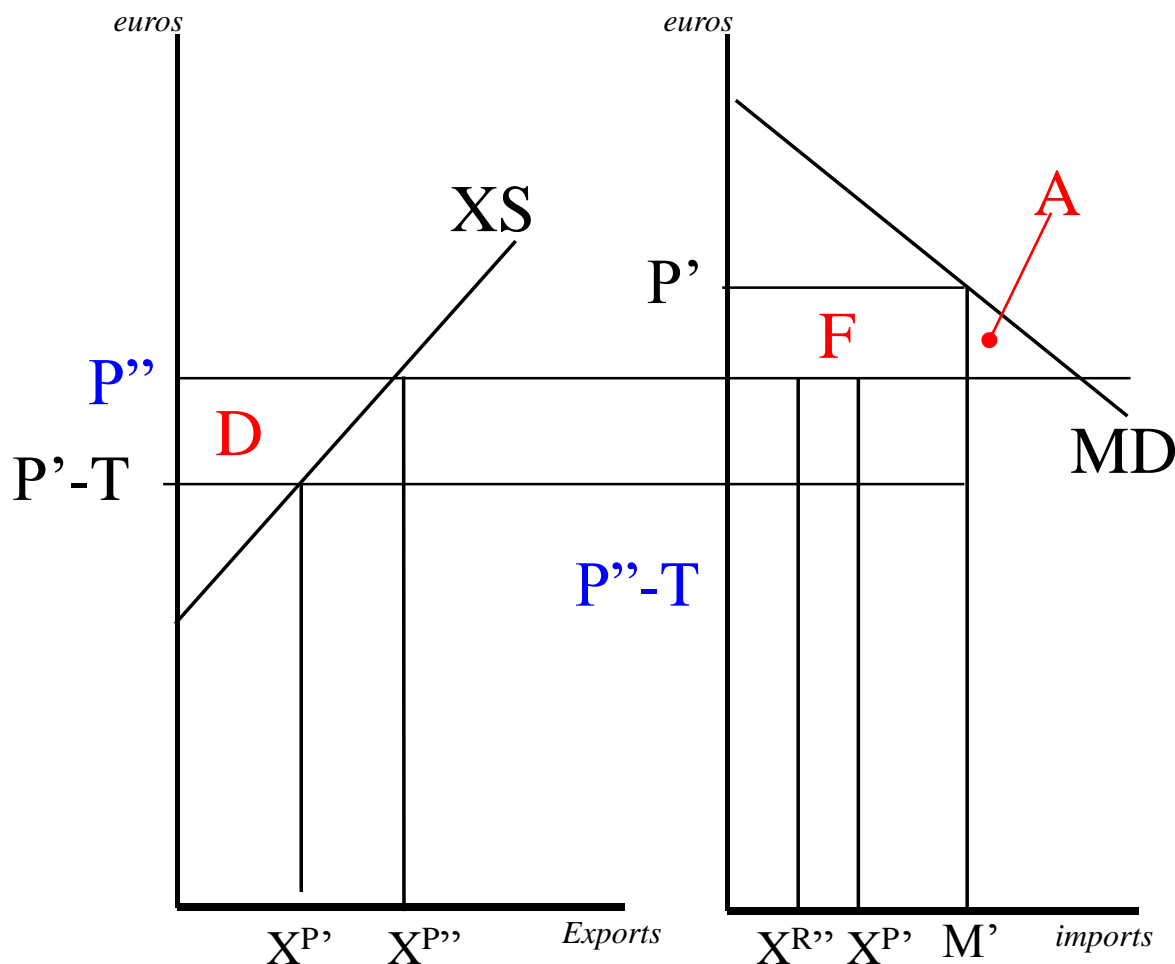
$$= A+F+D$$

- unambiguous positive

Partner gains same

RoW loses

T = tariff equivalent of frictional barrier



Customs Union vs. FTA

- FTA like CU but no Common External Tariff
 - Opens door to 'tariff cheats',
 - goods from RoW destined for Home market enter via Partner if Partner has lower external tariff, called 'trade deflection'
 - Solution is 'rules of origin' meant to establish where a good was made.
 - Problems: Difficult and expensive to administer, especially as world get more integrated
 - Rules often become vehicle for disguised protection
- Despite the origin-problem in FTAs, almost all preferential trade arrangements in world are FTAs.
 - CU's require some political integration
 - Must agree on common external tariff and how to change it, including anti-dumping duties, etc.



WTO Rules

- A basic principle of the WTO/GATT is non-discrimination in application of tariffs
- FTAs and CUs violate this principle
- Article 24 permits FTAs and CUs subject to conditions:
 - Substantially all trade must be covered
 - Cannot pick and choose products
 - Intra-bloc tariffs must go to zero within reasonable period
 - If CU, the CET must not on average be higher than the external tariffs of the CU members were before
 - In EEC's CU this meant France and Italy lowered their tariffs, Benelux nations raised theirs (German tariffs were about at the average anyway)



NEXT LECTURE

- **November 30, 2017**
- **Benefitting from a larger Market: Market Size and Scale Effects**
- **EU Trade and Competition Policies**
- **Reading:**
 - Baldwin & Wyplosz (2015) "The Economics of European Integration", McGraw-Hill, Chs. 6, 14, 15.

