

STANDARD & NEW TRADE THEORY AND POLICY MAKING

Jacob A. Jordaan
Utrecht University School of Economics
j.a.jordaan@uu.nl

Outline

- **Literature**
- **Introduction**
- **Standard trade theory**
 - Origins
 - Main findings
 - Policy implications
- **New trade theory**
 - Why?
 - Main components
 - Policy implications
- **Current state of affairs**
- **Discussion on policy implications**

Literature

- Sen, S. (2005) International trade theory and policy: What is left of the free trade paradigm? *Development and Change*, vol. 36.6, p. 1011-1029
- Krugman, P. (1987) Is free trade passé? *The Journal of Economic Perspectives*, vol. 1.2, p. 131-144
- Deraniyagala, S. and Fine, B. (2001) New trade theory versus old trade policy: A continuing dilemma. *Cambridge Journal of Economics*, vol. 25, p. 809-825

Introductory question

Why is there no free trade?

Introduction

- **Trade theory core component of field of international economics**
- **Standard theory on free trade increasingly accepted**
- **Following WWII, great progress has been made towards freer international trade**
 - (and in line with this, also capital, services, people)
- **Key role of standard free trade theory**
 - Show that, when moving from a case of no trade to free trade, welfare improves
 - Should apply to all participating countries
 - Policies should facilitate the materialisation of the benefits from free trade
 - Neo-liberal economics at the national and international level

Mercantilism

- **Prior to free trade: Mercantilism**
- **Popular policy in 15th-17th century**
- **Goal: maximise net exports to increase gold and silver**
- **Trade seen as zero-sum game**
- **Why? To strengthen the nation**

- **Also: use gains from international trade to invest in economy**

- **Mercantilist ideas, policies and attitudes are still around**
 - e.g. Recent discussion in US on the need to make sure that NAFTA provides a good deal for US citizens

Origins of free trade

- **Adam Smith (1776) “The Wealth of Nations”**
- **Founder of classical economics**



What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage. The general industry of the country, being always in proportion to the capital which employs it, will not thereby be diminished... but only left to find out the way in which it can be employed with the greatest advantage." (Adam Smith, The Wealth of Nations, Book IV:2)

Absolute advantage and trade

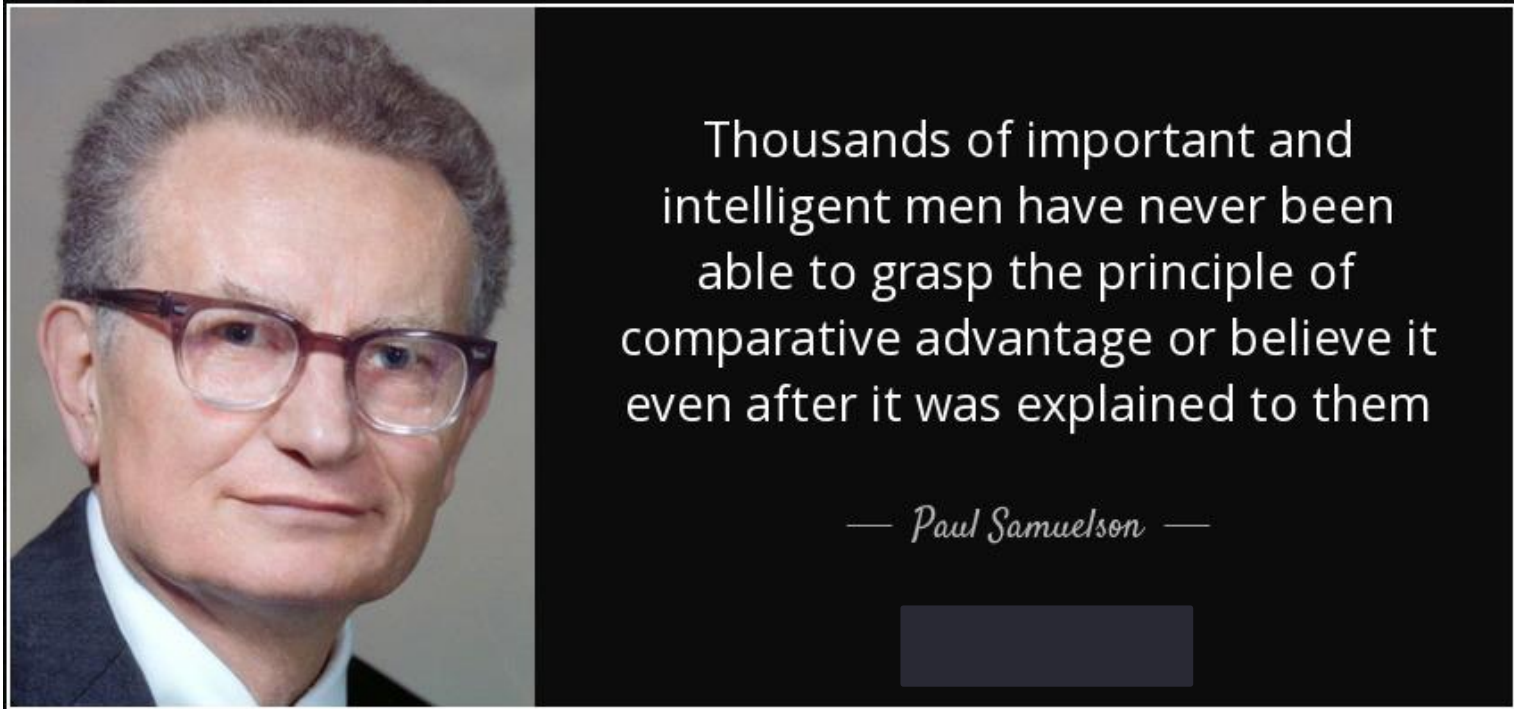
- **Key idea: specialisation necessary to increase production**
 - = \uparrow Production = \uparrow Consumption = \uparrow Welfare
- **Country maximises production through specialisation, intra-country trade required to allow increased welfare to materialise**
- **Same principle applies to international trade!**
- **But: trade only beneficial when countries have absolute advantage in product that they export**
- **(nowadays we would say productivity advantage)**

Concept of comparative advantage

- **David Ricardo (1817) “On the principles of political economy and taxation”**
- **Concept of comparative advantage**
- “Specialise in what you relatively do best”
- **Trade can be beneficial for a country even when trading with another country that has an absolute disadvantage**
- **Can you benefit from trading with a country through importing a product that you can make more efficiently yourself?**



Concept of comparative advantage



This is still true today; confusion and misunderstanding about concept of comparative advantage is very persistent!

Trump's misunderstanding of comparative advantage

The President's Mistaken Views on Trade

The New York Times. (Nov. 15, 2017): Opinion and Editorial: pA22(L).

Copyright: COPYRIGHT 2017 The New York Times Company

<http://www.nytimes.com>

Full Text:

To the Editor:

Re "Trans-Pacific Trade Allies Move On Without the U.S." (news article, Nov. 12):

President Trump may have graduated from the Wharton School but he either skipped international economics or failed to pay attention. The age-old concept of comparative advantage teaches that in most cases both parties to a transaction derive benefits from trading with each other those products and services in which each has a comparative cost advantage.

Mistakenly, Mr. Trump thinks that every deal is a zero-sum game and that what one party gains is at the expense of the other. Nor has he learned about most-favored-nation treatment, which gives reduced tariffs to all signer nations. In the postwar period, this clause has promoted international trade on a vast scale and thereby raised living standards around the world.

By adhering to the false notion of trade as a zero-sum deal, Mr. Trump becomes a job killer rather than a job creator.

WILLIAM C. FREUND, SARASOTA, FLA.

The writer is a retired chief economist of the New York Stock Exchange.

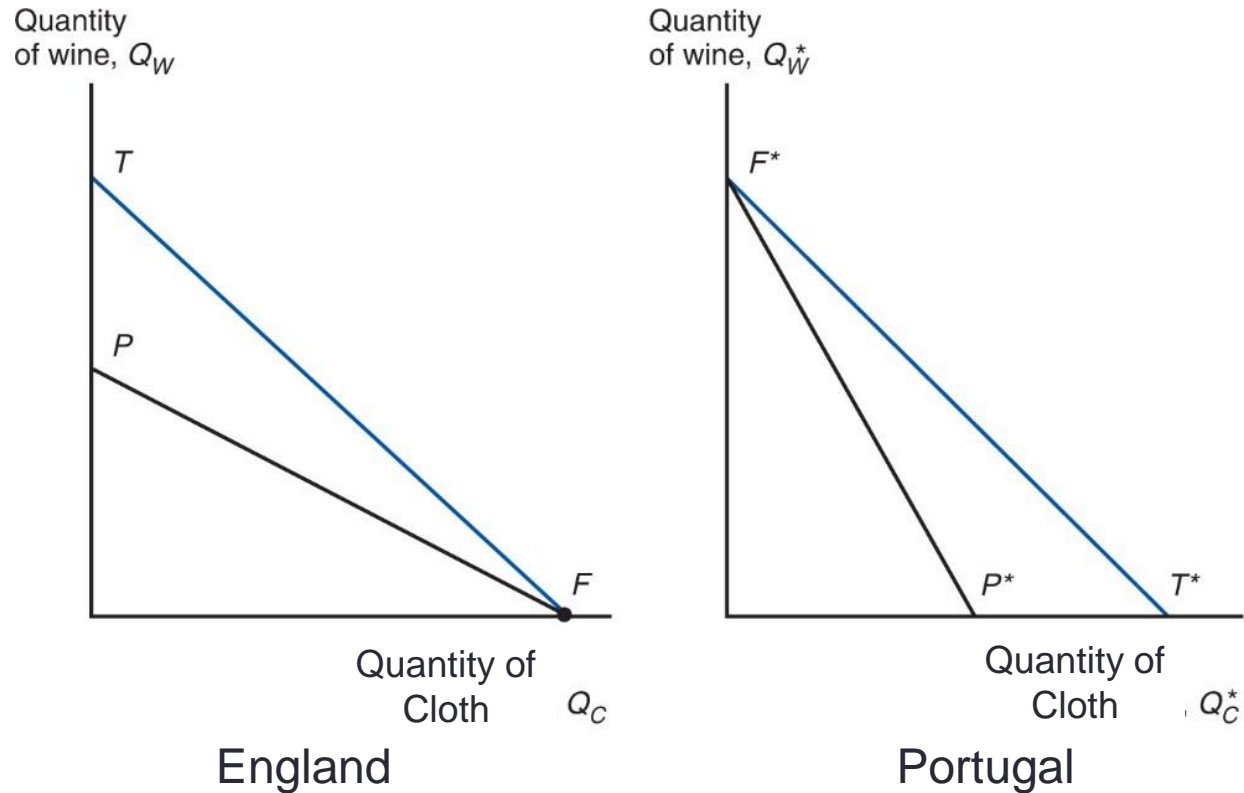
Ricardo's example

- England and Portugal
- Cheese and Wine; England is more productive in both

Unit labour requirements	Cloth	Wine
England	1 hour	2 hours
Portugal	6 hours	3 hours

- To consume wine, England has two options
 - a) Produce wine → 1/2 bottle with 1 cloth
 - b) Import wine → 2 bottles with 1 cloth
 - c) Actual quantity of wine will lie somewhere between the 2

Ricardo's example



England specialises fully in Cloth, Portugal in Wine to maximise joint production;
 Trade necessary for welfare maximisation!

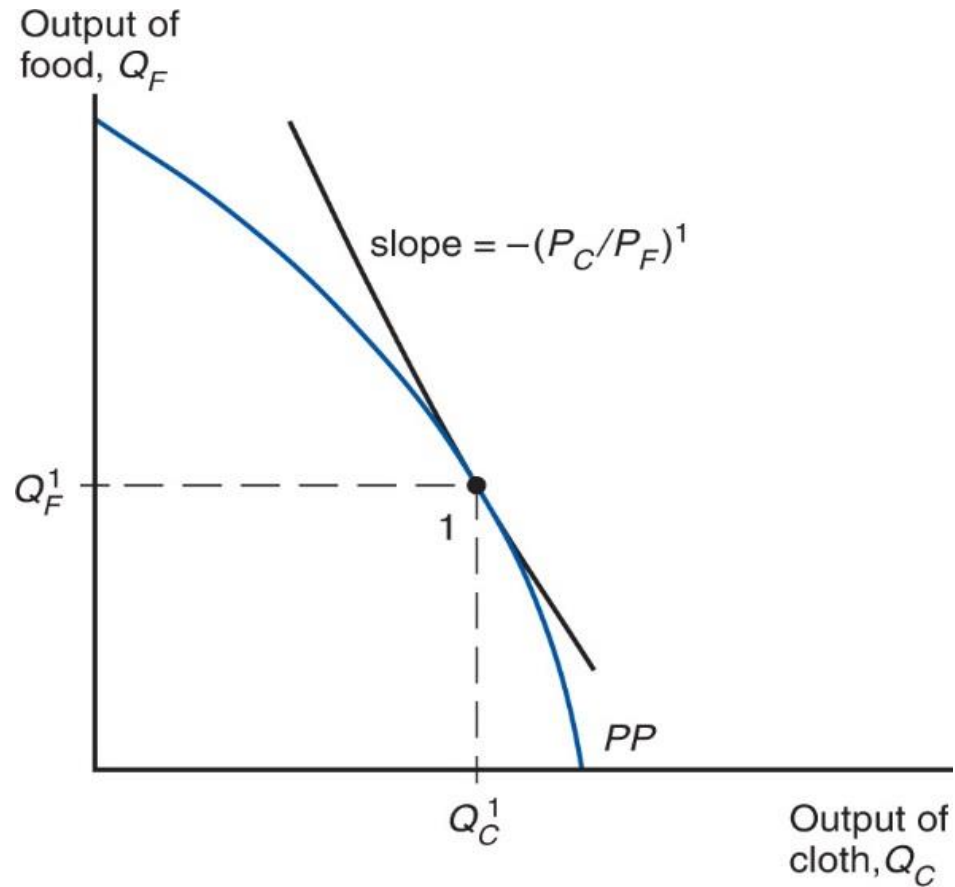
Heckscher-Ohlin Model

- **Ricardo's contribution big breakthrough!**
- **Limitations**
 - Only one production factor
 - No explanation for comparative advantage
 - Technology is key
- **Heckscher-Ohlin model**
- Factor proportions model
- $2 \times 2 \times 2$
 - 2 countries, 2 products, 2 inputs
- Comparative advantage explained by interplay between relative abundance of inputs and intensity of use of inputs to produce products

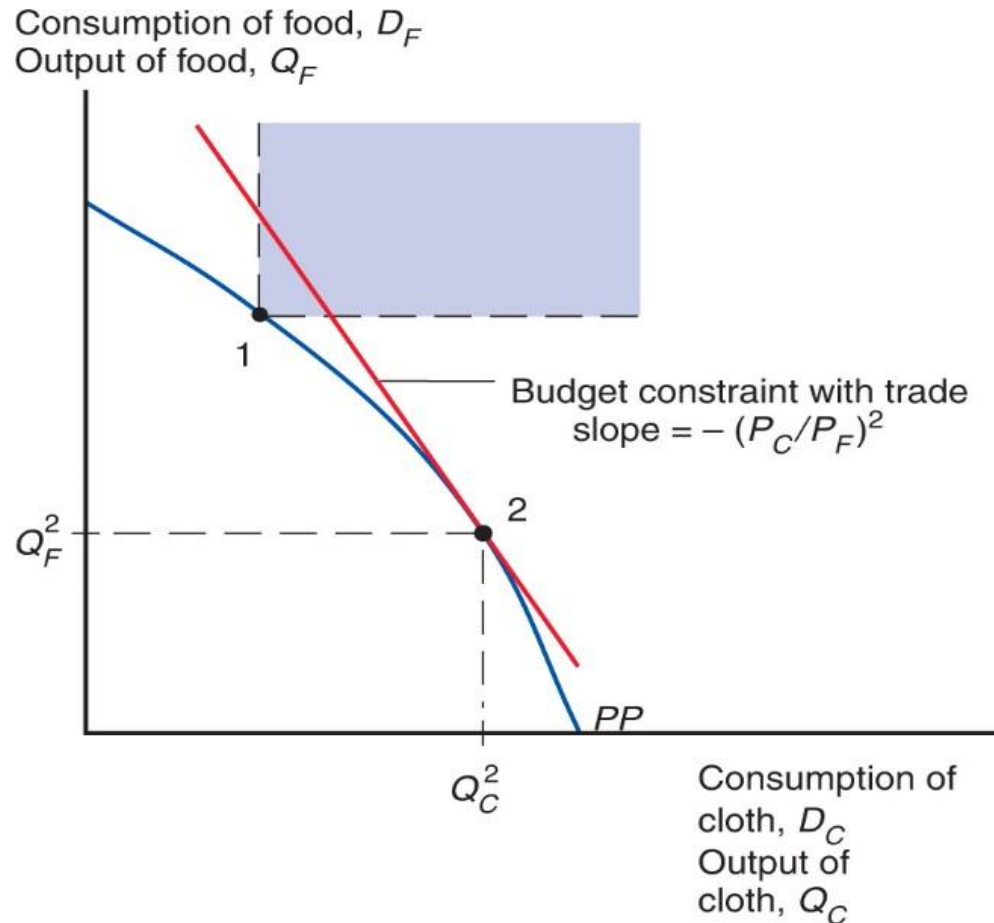
Heckscher-Ohlin model

- England and Portugal
- Cloth and Food
- Labour and land
- **Cloth is labour intensive, food land intensive**
- **England has relative abundance of labour**
- Portugal relative abundance of land
 - Substitution of inputs determines shape of production possibilities frontier
 - (see next slide)
- **England will specialise in cloth and trade cloth for food**
- Portugal opposite process
- **Again: specialisation required to maximise joint production**
- **Trade allows gains from trade to be shared**

No full specialisation



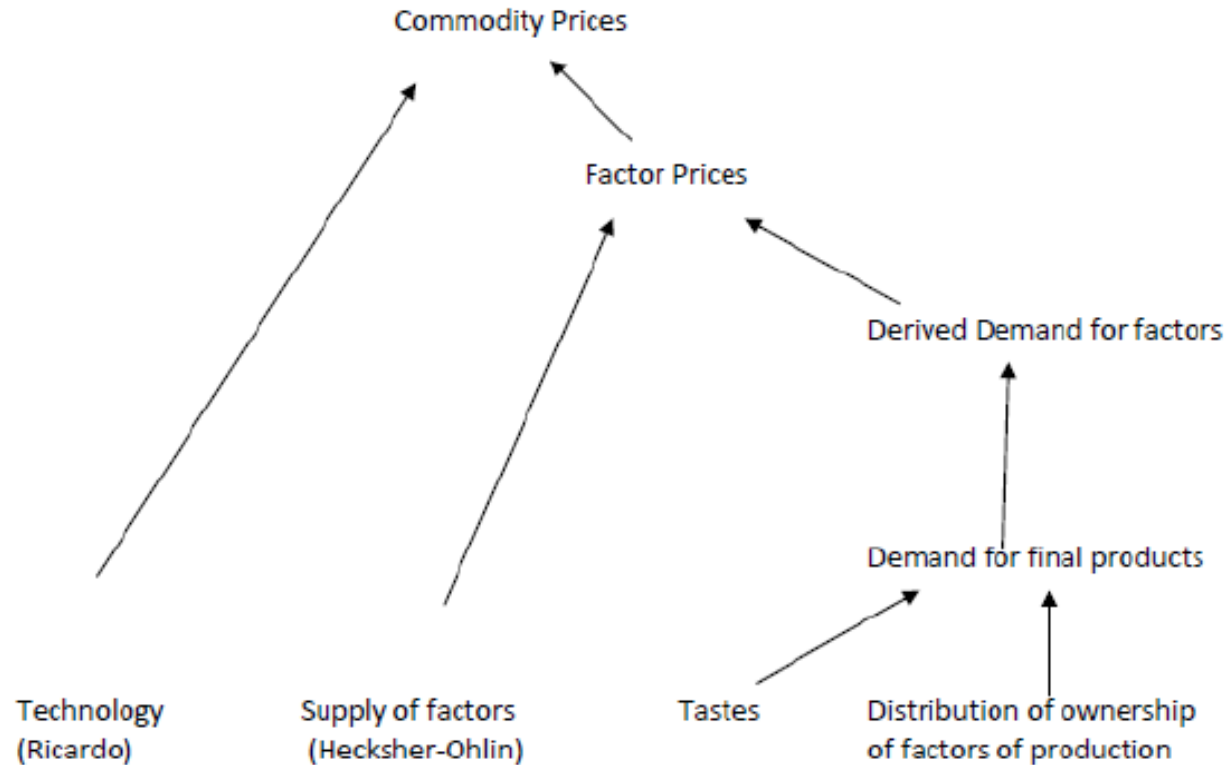
Trade allows higher level of consumption



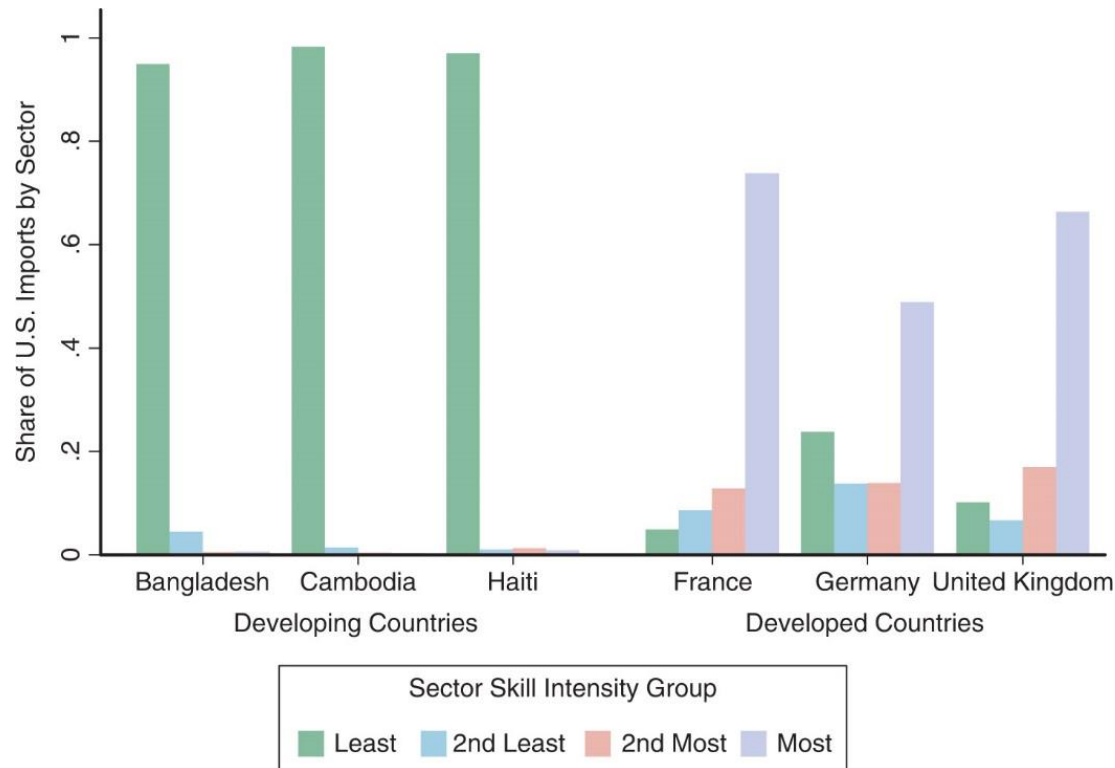
Key findings standard trade theory

- **HO-theorem: countries export goods that use inputs that country has in relative abundance**
- **Country should pursue free trade irrespective of actions other countries**
- **International trade affects the income distribution**
 - Stolper-Samuelson theorem
 - Two income groups: labour and land owners
 - Trade: change in relative price of the goods
 - Specialisation in e.g. cloth industry creates relative wage increase for labour w.r.t. land owners
- **Winners and losers, but overall welfare gain**
 - Strong policy implications: redistribution?
- **North-South trade effects not in line with this**
(see tomorrow's class)

Schematic linkages

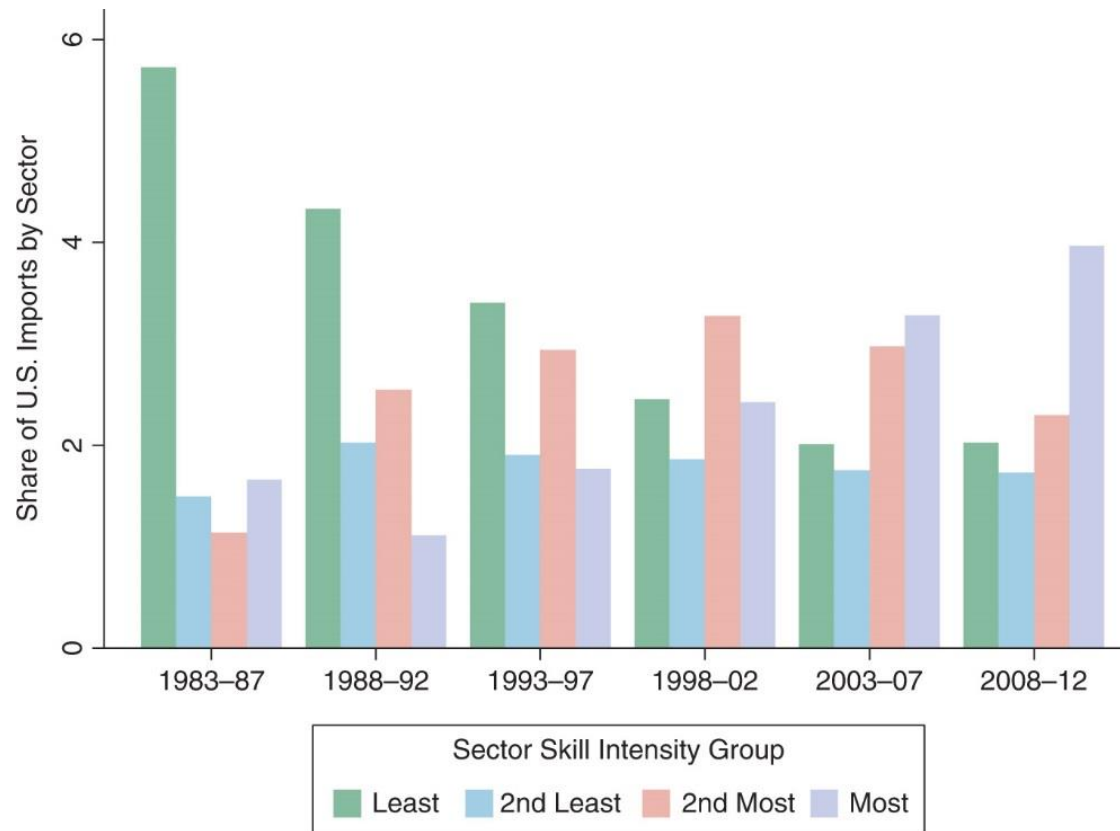


Skill content exports



Source: NBER-CES U.S. Manufacturing Productivity Database, U.S. Census Bureau, and Peter K. Schott, “The Relative Sophistication of Chinese Exports,” **Economic Policy** (2008), pp. 5–49.

Skill content exports



Source: NBER-CES U.S. Manufacturing Productivity Database, U.S. Census Bureau, and Peter K. Schott, “The Relative Sophistication of Chinese Exports,” **Economic Policy** (2008), pp. 5–49.

Policy implications

- **Countries should pursue policy of trade liberalisation**
 - All countries benefit from trade due to concept of comparative advantage
- **Stronger:** countries need to trade in order for gains from trade to materialise
- **Each country should facilitate trade liberalisation**
- **International organisations should promote and facilitate trade liberalisation**
 - World Trade Organisation, European Union
- **In addition, apply neo-classical policies that make economy more efficient**
 - World Bank, Washington Consensus
 - More efficient = more production = more gains from trade

Financial Times

Marcel Fratzscher FEBRUARY 21, 2013

There is a lot of hype about the prospects of an EU-US free trade agreement, especially in the wake of Barack Obama's State of the Union address last week. Supporters point to the benefits such an agreement could bring to both economies. Yet the costs are likely to outweigh the benefits. Most importantly, a transatlantic deal will undermine multilateralism, in particular the long-overdue completion of the Doha round, and weaken multilateral institutions such as the World Trade Organisation.

An FTA will of course bring some benefits to the EU and the US via enhanced trade. The removal of trade barriers might raise the gross domestic product of the EU by €190bn and of the US by €100bn, according to estimates by the German Marshall Fund.

While these figures are not negligible, they constitute rather modest gains – boosts of only 1.5 per cent and 0.9 per cent of GDP to the EU and US respectively. The largest potential benefit from an EU-US free trade deal would be enhanced competition among companies that become part of a much larger common market. Yet that is difficult to quantify.

Financial Times

FEBRUARY 28, 2013

From Dr Jacob A. Jordaan.

Sir, I believe Marcel Fratzscher substantially underestimates the importance and the positive effects of a new trade agreement between the US and the EU (["Europe's free-trade deal with America could be a costly error"](#), February 22). Most trade economists, including myself, agree with the point he raises that the direct positive economic effects from removing trade barriers between these two large economic powers will be moderate at best, given the low level of existing tariffs. However, the importance of the trade pact reaches far beyond this direct impact.

First of all, it sends an important message to the world economy that these two large economic powers remain committed to abolishing trade restrictions, closely reflecting the primary goal of ongoing world trade negotiations. Second, a trade agreement between the EU and the US will undoubtedly create important dynamic positive effects that will be a multiple of the direct effects. In particular, the increase in market size that results from the trade pact will lead to more competition, scale economies and innovation, culminating in higher levels of productivity and the development of new industries and technologies. Importantly, other countries in the World Trade Organisation will also benefit from these effects as they will be able to purchase a wider variety of products that are produced most efficiently in the US and EU. Therefore, rather than representing a threat to the position of developing and emerging economies, the new trade pact will certainly improve welfare levels of these countries.

Limitations standard trade theory

- **Static analysis from no trade to free trade**
 - Dynamism not clear
 - One-off effects
 - Consensus that these effects are now limited
 - (Not surprising, given large progress!)
 - Adding dynamic gains makes a stronger case for larger gains
 - Increasing returns to scale, competition effects, productivity, innovation, entrepreneurship
 - Standard trade theory limited explanatory power for these issues
- **Only provides explanation for inter-industry trade**
 - Reality is a growing importance of intra-industry trade
 - Similar countries importing and exporting similar products!
- **Assumptions: perfect competition, constant returns to scale, etc.**
 - Large shares of international trade are linked to industries with very different characteristics

Intra-industry trade

- Grubel-Lloyd index

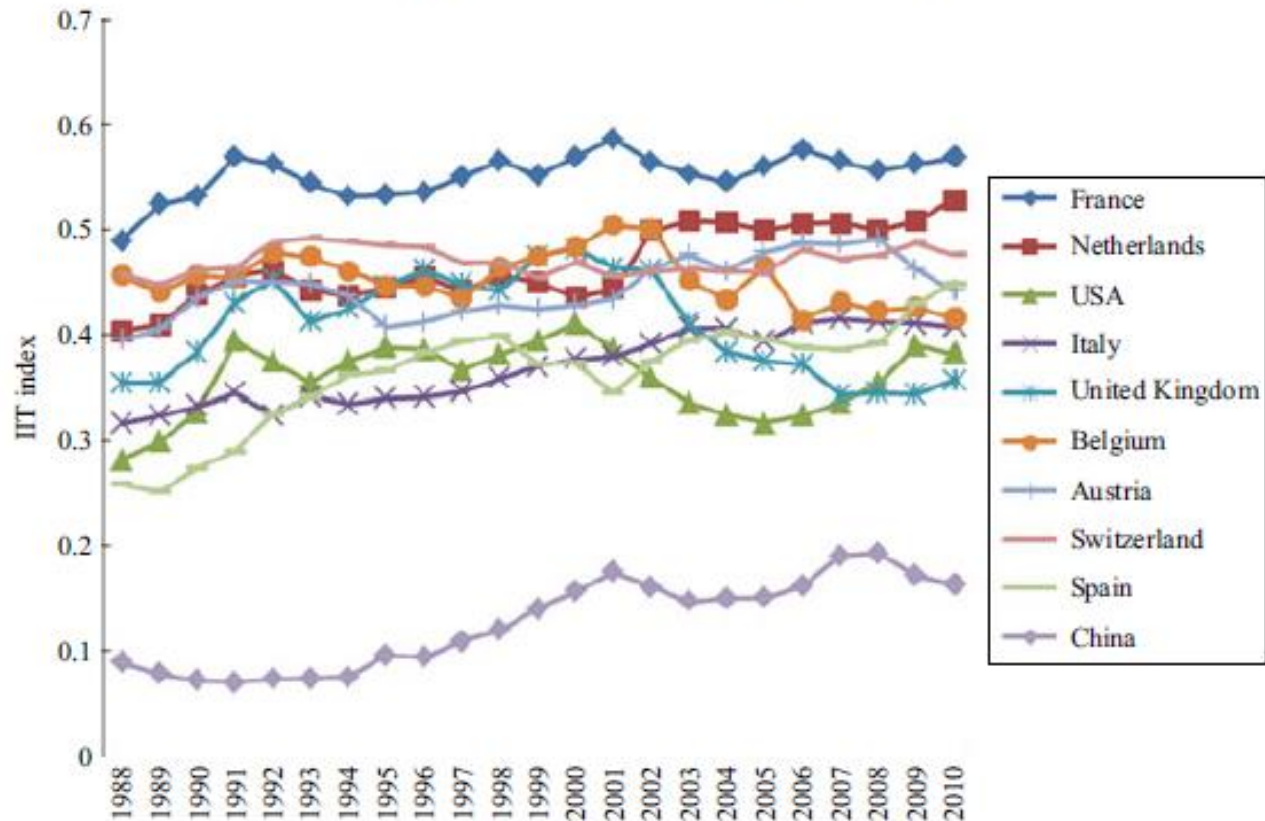
$$IITindex_k = 1 - \frac{|Ex_k - Im_k|}{Ex_k + Im_k}$$



Inter-industry trade

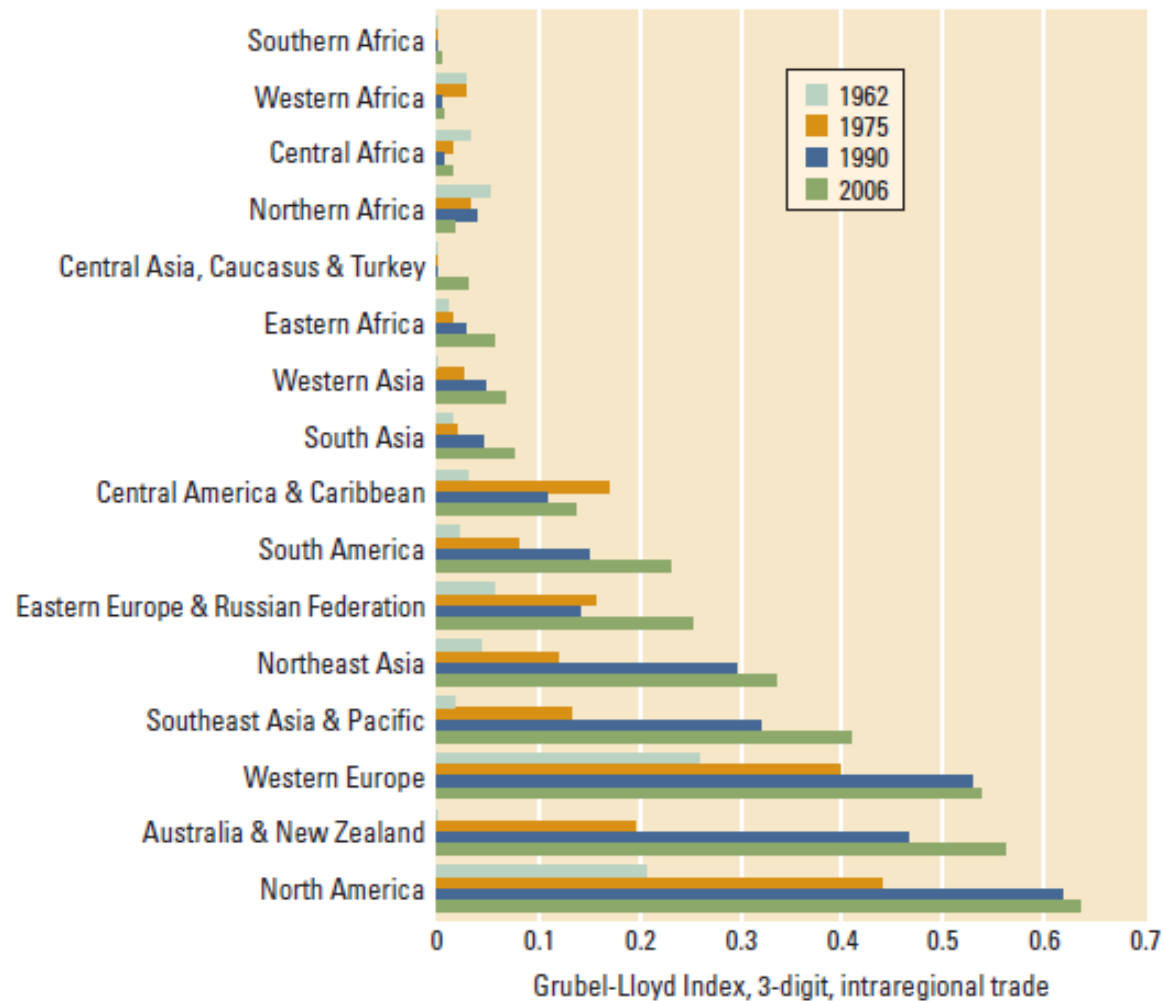
$$IITindex_{ij} = \sum_{k=1}^K \left(\left(\frac{Ex_{ijk} + Im_{ijk}}{\sum_k (Ex_{ijk} + Im_{ijk})} \right) \cdot \left(1 - \frac{|Ex_{ijk} - Im_{ijk}|}{Ex_{ijk} + Im_{ijk}} \right) \right)$$

FIGURE 1
Germany's IIT Index with the Ten Largest Trade Partners



Source: Tadashi Ito and Toshihiro Okubo (2012) New aspects of intra-industry trade in EU countries. *The World Economy*, vol. 35(9), p. 1126-1138

Figure 4 Intraindustry trade is high in North America, Western Europe, Oceania, and East Asia



Source: Brülhart 2008 for this Report.

Note: The Grubel-Lloyd Index is the fraction of total trade that is accounted for by intraindustry trade.

New trade theory

- **Starting from the late 1970s-early 1980s**
- **Main question: Can there be welfare gains when two countries that are completely similar engage in trade in similar products?**
 - Yes!
- **Captures aspects that STT ignores**
 - Scale economies
 - Imperfect competition
 - Heterogeneous products (within same industries)
 - Heterogeneous firms
 - Growing importance of technology spillovers
- **Models become more complex**
- **Rejection of simple principle that free trade is always best option**

Paul Krugman



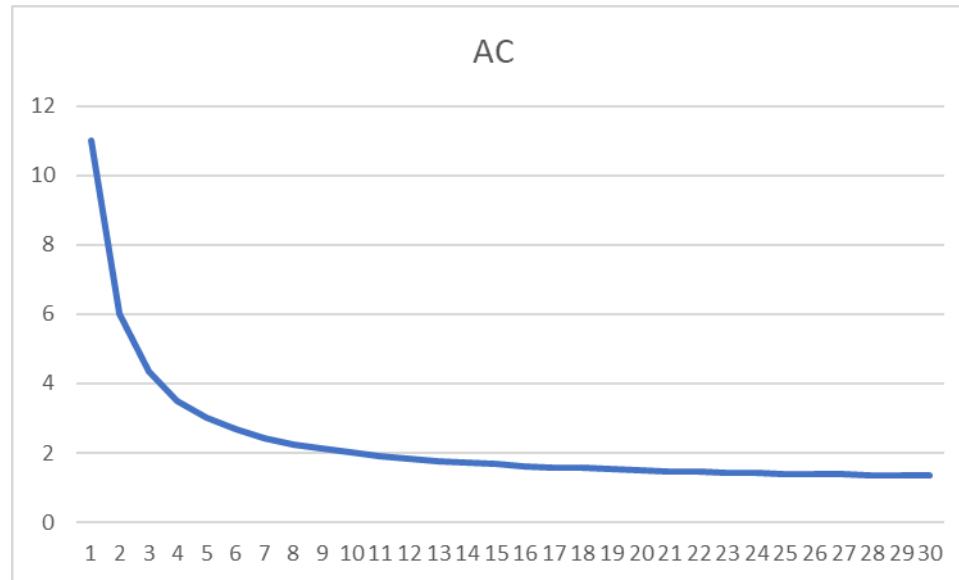
- Nobel price winner 2008
- Increasing returns, monopolistic competition, and international trade (1979) *Journal of International Economics*, vol.9, p. 469-479

This paper develops a simple, general equilibrium model of noncomparative advantage trade. Trade is driven by economies of scale, which are internal to firms. Because of the scale economies, markets are imperfectly competitive. Nonetheless, one can show that trade, and gains from trade, will occur, even between countries with identical tastes, technology, and factor endowments.

- Later on: increasing importance of location

Scale economies

- $TC = 10 + 1 * Labour$ (wages=1)
- $AC = TC/Y$



- Scale of production creates competitive advantage compared to competitors

Sources of scale economies (1)

- **Internal to the firm**
- Production costs mixture of fixed and variable costs
- A company that produces more than its competitors will be able to export due to lower AC
- **Location: the location of the firm determines which country is the exporter**
- **Tricky case, because imperfect competition!**
- Possibility of strategic behaviour (collusion, etc.)
 - A firm's actions are influenced by another firm's (expected) actions
- **Models of monopolistic competition required**
- Countries trade in different varieties of the same product
 - Each producer specializes in one variety to maximise scale economies
 - e.g. car industry

Sources of scale economies (2)

- **External to firm, but internal to industry of firm**
- A spatial concentration of firms creates scale economies that each firm in the cluster benefits from
- Country that has the cluster of firms will be the exporter to other countries



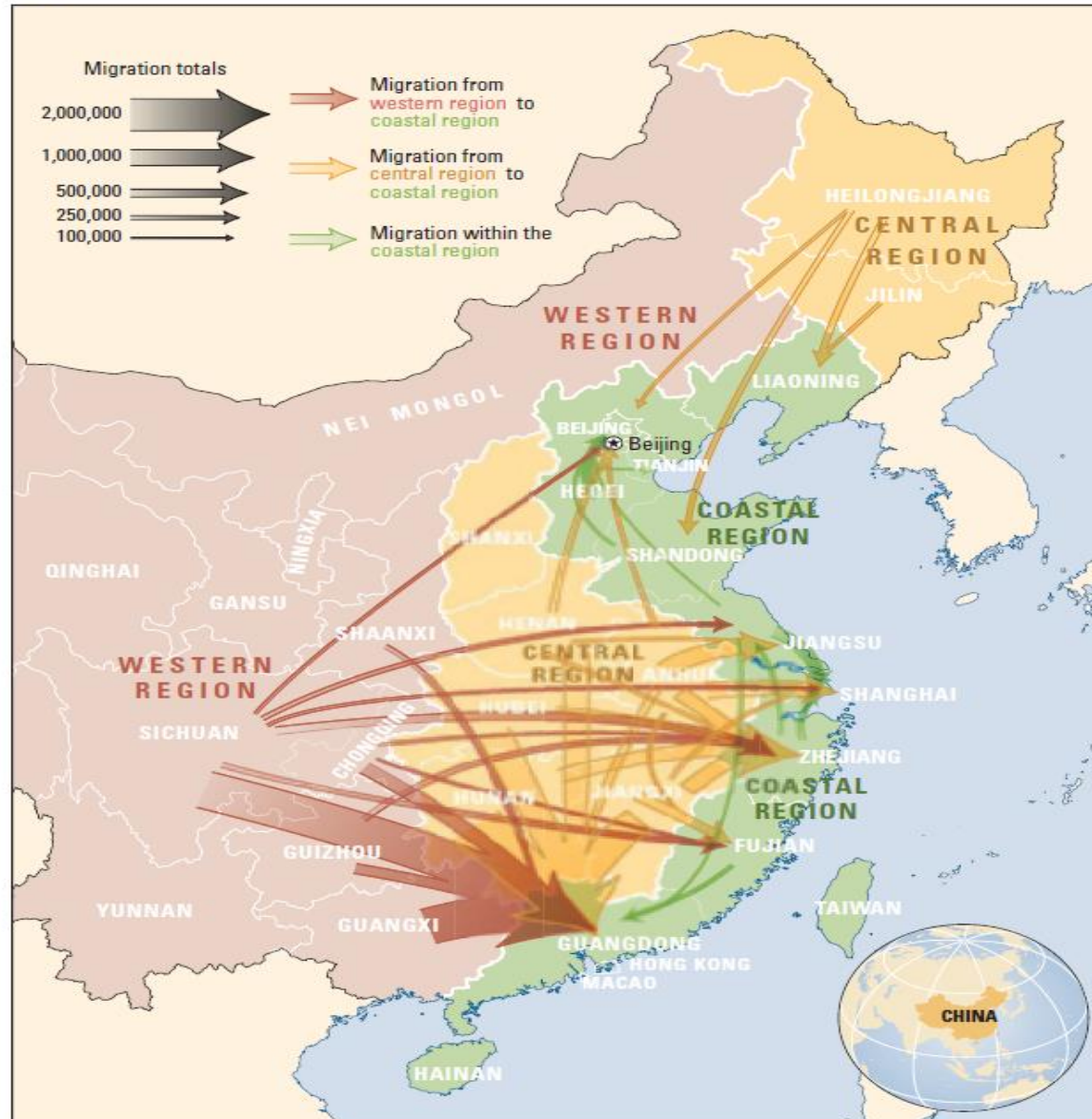
70% of world production of cigarette lighters concentrated in Wenzhou (Used to be higher, but has been affected by trading restrictions!)

Industry of hand-blown glass products



- Qianxian county
- Industry of 20,000 workers
- Over 50% of Chinese exports of handblown glass products

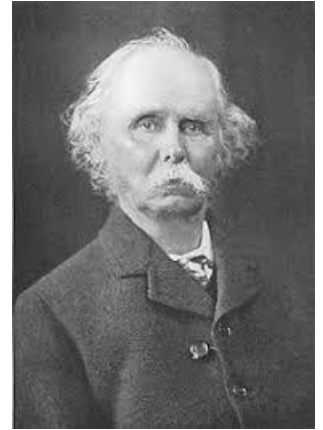
Map 3 Migrating to reduce distance to density: Despite the obstacles, Chinese workers have migrated in the millions



Source: Huang and Luo 2008, using data from the population census of China.

Industrial districts

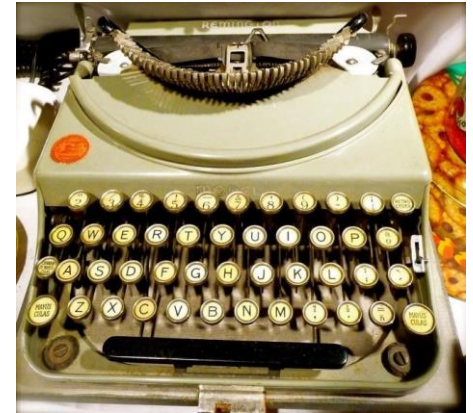
Alfred Marshall (1890) Principles of Economics



§ 3. When an industry has thus chosen a locality for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously. Good work is rightly appreciated, inventions and improvements in machinery, in processes and the general organization of the business have their merits promptly discussed: if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas. And presently subsidiary trades grow up in the neighbourhood, supplying it with implements and materials, organizing its traffic, and in many ways conducing to the economy of its material.

Implications of new trade theory

- Importance of 'historical accidents' and path dependence
- Qwerty keyboard good example
- Why do we use this lay out of keyboard?
 - Is this still valid today?
- Advantages when everyone uses same lay out
- What would it costs to change?

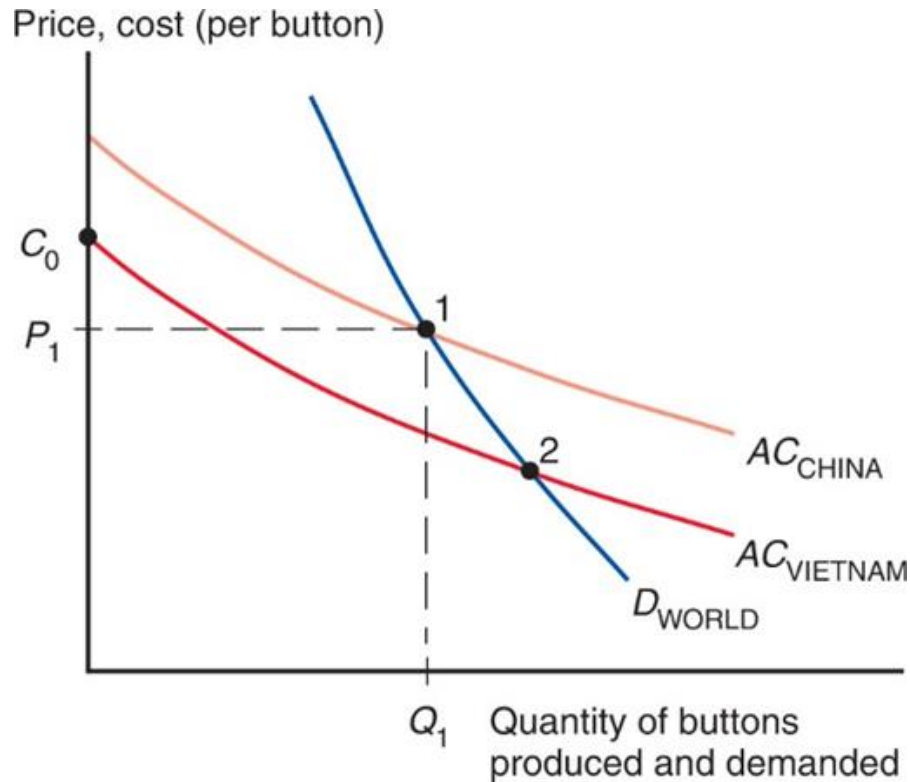


Sweden September 3 1967

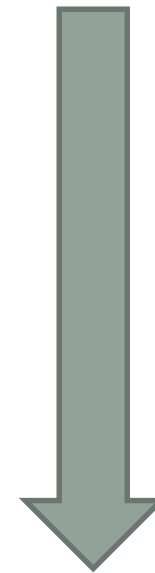


Stockholm, morning rush hour

First mover advantage



We would like to have Vietnam produce the buttons, but if China comes first, it will take the market

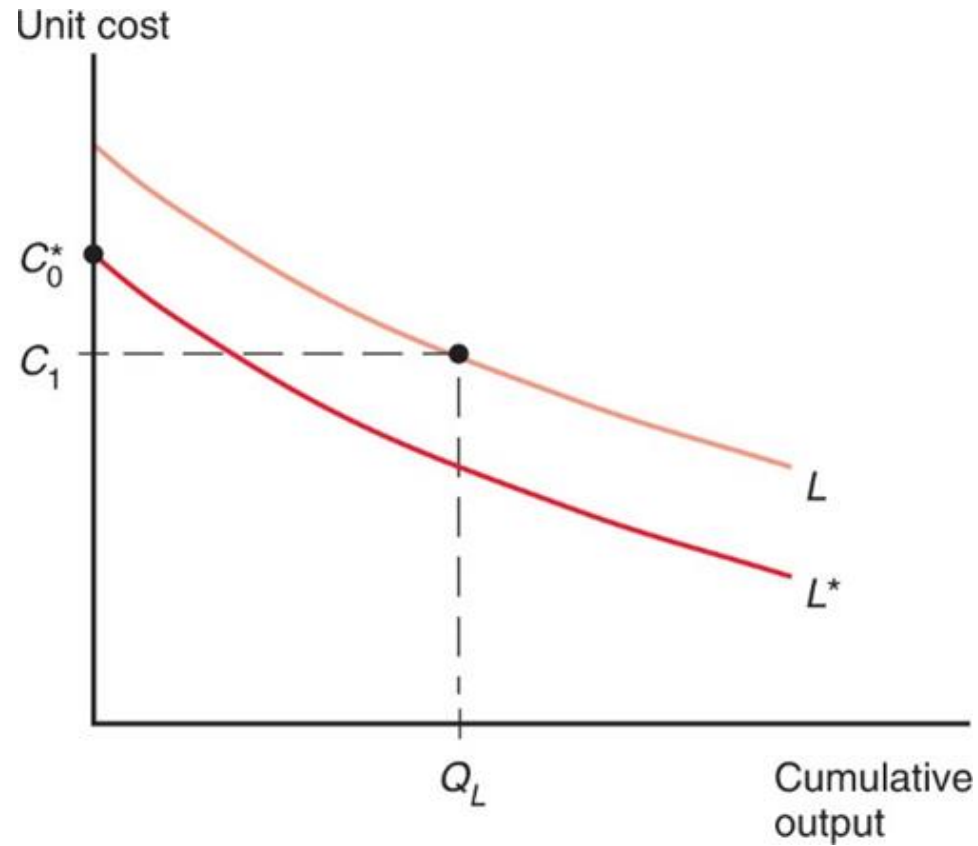


Even more tricky:

Suppose that China is producing the buttons

- China can show that it is achieving scale economies, so that looks good;
- We don't know what the AC curve of Vietnam looks like (because it is not producing)

Dynamic dimension: learning curve



Implications for policy making

- **NTT opens up the possibility of strategic trade policy**
 - Industrial policy becomes real option in trade policy
 - Trade increases the pie, but can you implement policies that ensure that your share of the pie is larger?
- **Internal scale economies**
 - Supporting an industry at the right moment may give the industry a kick start, allow it to move along the downward sloping AC curve and capture the entire export market
 - Promote exports and/or restrict imports
 - e.g. dumping
 - “Low cost policy” in terms of resources?
- **External scale economies**
 - Every country wants to have high tech industries
 - Investing in one industry may result in increasing competitive advantage of other industries
- **Very different message from free trade is the best option!**

Damage limitation by NTT

- **Dealing with oligopolistic industries is difficult and full of uncertainty**
- **How to design policies to facilitate external economies?**
 - Difficult to measure
 - May have broader reach than expected
- **General equilibrium concerns**
 - Promotion of one sector takes resources away from other sectors
- **Retaliation and trade wars**
- **Subject to lobbying and special interests**

- **Is this sufficient to convince politicians, industries, lobbyists, etc. to not pursue strategic trade policy?**
 - Probably not

Current state of affairs (1)

- **Mixture of Standard trade theory and new trade theory**
- **Growing complexity of new trade theory**
- **Developed versus developing countries**

- **Decreasing popularity of concept of free trade**
- **Why?**
 - Not surprising, given large progress that was made in the past?
 - New static gains small
 - Dynamic gains may be larger but take time and more difficult to link to trade liberalisation
 - Growing links between trade and other areas
- **Slow down / stagnation of trade liberalisation under WTO**

Current state of affairs (2)

- **Difficult task to separate trade issues from other issues**
 - This is not easy for governments
- **What is the alternative?**
- **Standard trade theory: trade maximises welfare**
- **New trade theory: trade increases welfare**
- **Krugman (1987):** “It is possible, then, both to believe that comparative advantage is an incomplete model of trade and to believe that free trade is nevertheless the right policy. In fact, this is the position taken by most of the new trade theorists themselves. So free trade is not passé – but it is not what it once was”.

Main points

- **Standard trade theory provides solid explanation of why trade increases welfare**
 - Criticisms of STT only applicable as special cases
- **See STT in context of post WW II developments focusing on trade, liberalisation, globalisation and international governance**
- **Starting in 1970s/80s: more and more “non-comparative advantage” trade**
 - Intra-industry trade, imperfect competition, scale economies (internal and external)
- **New trade theory offers new explanations, at the expense of rapidly increasing complexity**
- **Strategic trade policy has become real policy option**
 - Critics of international trade do have real point here

Policy implications

- **Policy making following STT**
- **Policy making following NTT**
- **Governance of international trade**