

Pareto criterion? Excellent, but of limited use! Why, Pareto?

Now examine changes in the allocations in society, such that these dissatisfy some and make other individuals happier: **not** an improvement in the sense of Pareto. How to choose?

Ask those who are made **worse off** after the change "what amount of money would they need to feel as well off as they were before the change in the social situation" and those who are made **better off** by the change "what amount of money would they be willing to give up in order to remain in the new social situation ".

After that, Marshall said, add up losses needed to recuperate (- sign) and gains willing to be given up (+ sign) and call the total balance the **net sum**, which will be positive (negative) if the sum that those who are better off are willing to pay to remain in the new situation is higher (lower) than that those who are worse overall require to accept the new situation.

Marshallian improvement

We will call an **improvement in the Marshall sense**, a shift from one situation to another in which this net sum is **positive**, i.e. where **potentially** those who are better off can give part of their income to those who are worse off so as to make them at least indifferent and still benefit from the new situation.

Note that the Marshallian criterion does not require that such transfers be made: only that there is room to carry them out for the benefit of all. **Marshall-efficient** is a situation from which one cannot move away from with a Marshallian improvement.

Example: based on consumer and producer surpluses. A certain social change will be called a **Marshallian improvement** if the change of surplus into positive for the entrepreneur or the consumer exceeds the change of surplus into negative for the other actor.

Example: Fast-food city center of Rome?

When we compare monetary values taking into account the income we have to give up, we do not take into account that the “utility” of this income can be very different from person to person.

If, according to Marshall, we move to a social situation in which a rich man is willing to pay a maximum of 100 euro to keep staying in it and a poor man requires 90 euro to accept it and not be worse, we are almost all sure that those 100 euro are worth a lot less , in terms of happiness, for the rich compared to what 90 euro are worth, in terms of utility, for the poor.

It is therefore probable that in terms of "global happiness" the world is much worse with this Marshallian improvement, unless we are exclusively interested in the well-being of the rich individual, a criterion which however clashes with evident principles of equity.

Marshall: true, but in many real cases, these extreme situations do not happen; often social proposals for changes in allocations concern large composite groups of individuals: tobacco producers and consumers, retailers in the historic center and inhabitants of the historic center, etc.



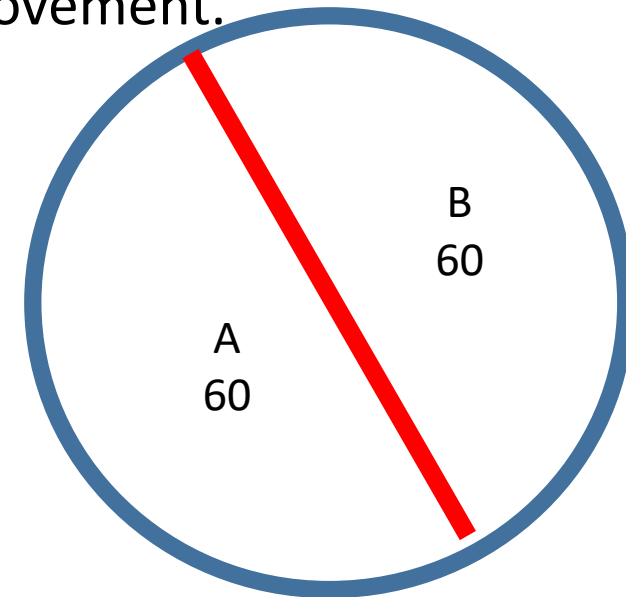
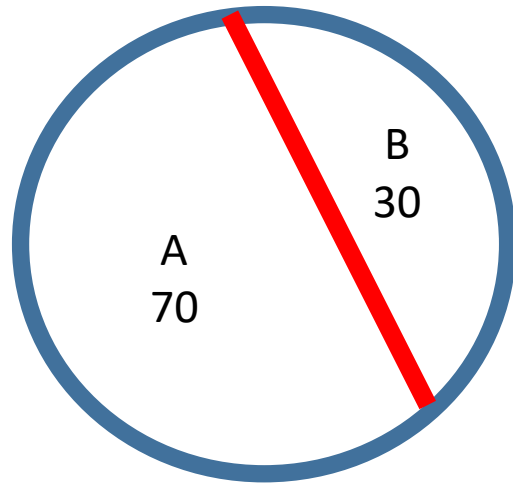
Pareto vs Marshall

A Pareto-improvement is a Marshallian improvement?

It is a Marshallian-improvement.

A Marshallian-improvement?

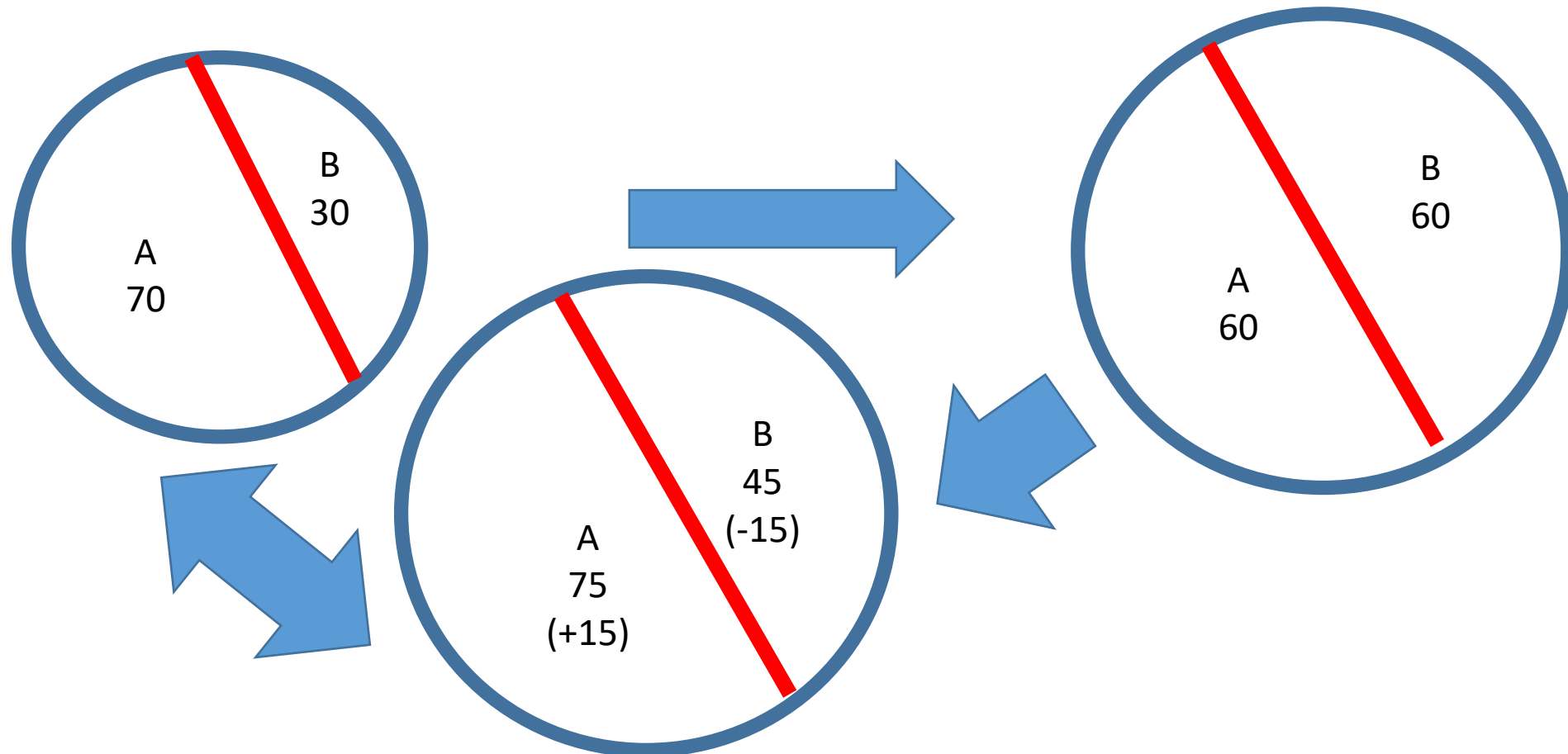
Non necessarily a Paretian-improvement.





Pareto vs Marshall

A Marshallian improvement combined with an appropriate transfer of resources: a Pareto-improvement!



Can one improve on perfect competition?

$$(P^* = MC^i(Q_i^*) = MRS^j(Q_j^*) = \text{Min } AVC^i)?$$

- produce the same total quantity Q^* ($Q^d = Q^s = Q^*$) but allocate it in a different way among consumers?
- produce the same total quantity Q^* , allocate it in the same way among consumers, but modifying the way of producing it?
- produce a different quantity from Q^* ?

The efficiency of perfect competition

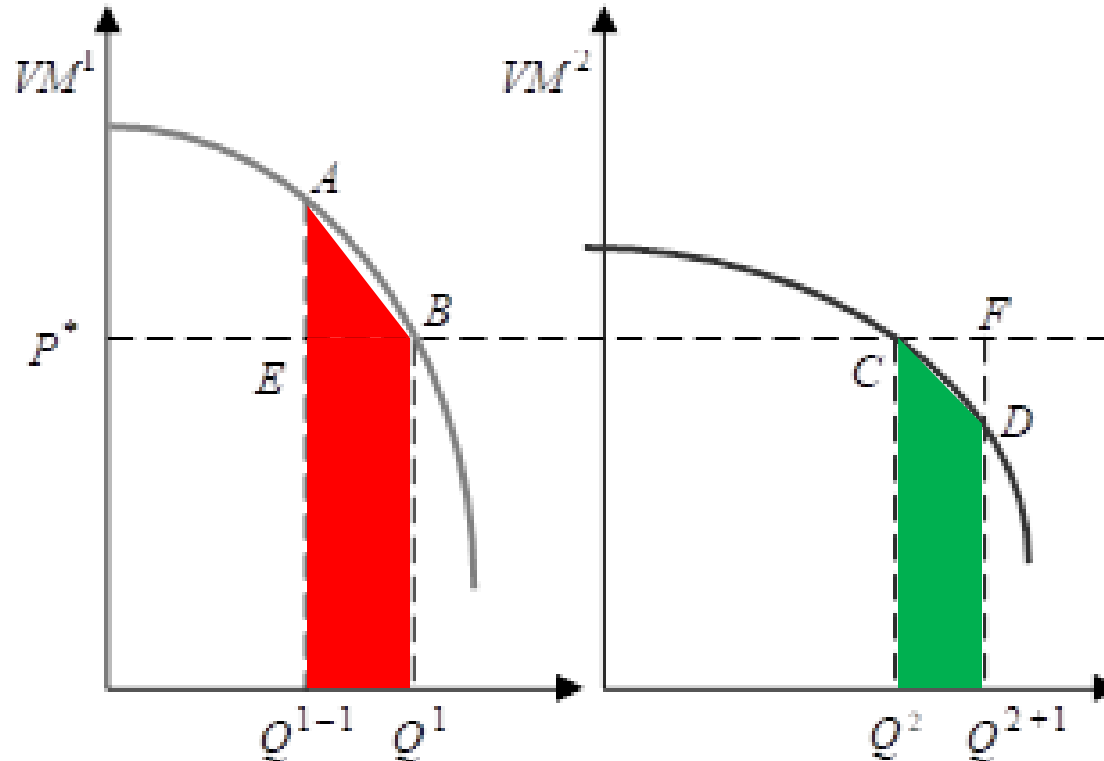
Produce the same total quantity Q^* but allocate it in a different way among consumers 1 and 2?

At the perfect competition equilibrium price P^* , total Q^* demanded is equal to $Q_1 + Q_2$.

Reduce by one unit the consumption of consumer 1 and give it to consumer 2.

Leaving (for the moment) 1 and 2 to continue paying P^*Q_1 and P^*Q_2 .

Pareto?



Marshall?

Net sum?

Negative!

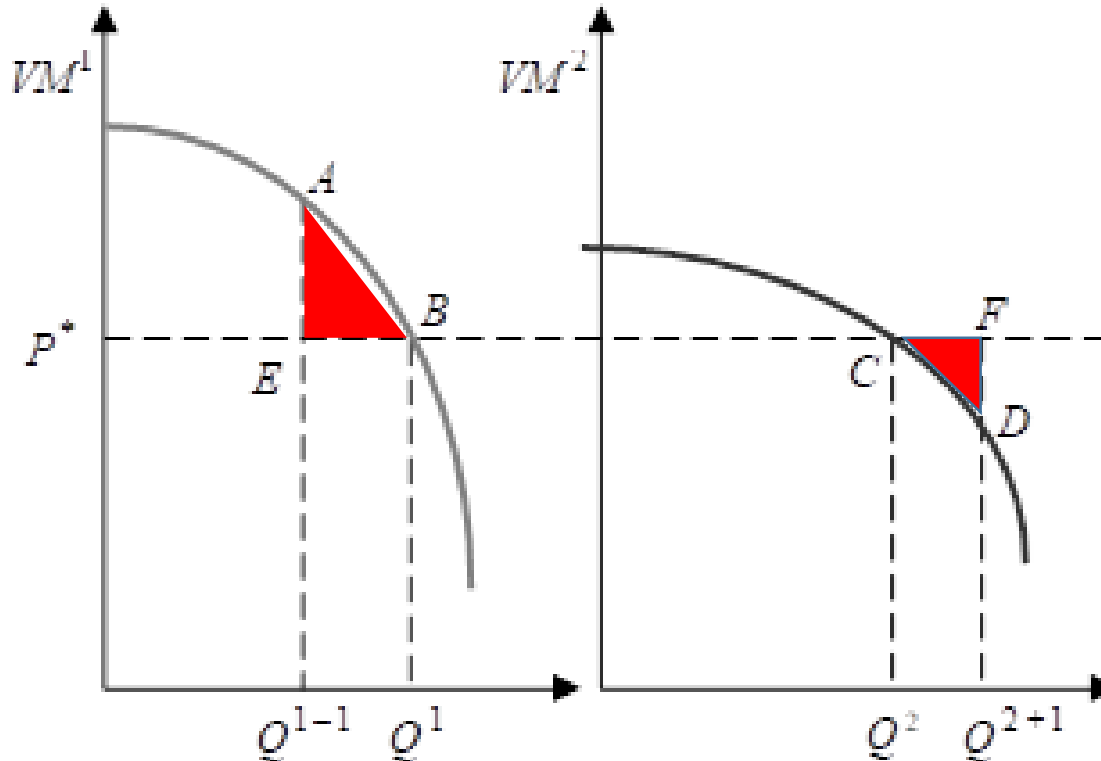
The efficiency of perfect competition

Produce the same total quantity Q^* but allocate it in a different way among consumers?

Same result would have ensued if we had reimbursed P^* to consumer 1 asking consumer 2 to pay P^* for that additional unit.

$AEB + CED = ? < 0$
Equal to....

$(CQ^2Q^{2+1}D) - (AQ^{1-1}Q^1B)$
previous slide



Marshall?

Net sum?

Negative!

The efficiency of perfect competition

Produce the same total quantity Q^* , allocate in the same way among consumers, but modifying the way to produce it?

There are two ways to improve the production of a given level of output: 1) **produce it at a lower cost** or 2) change the **division of production** between the different companies in the industry.

1

If only a firm in perfect competition were to produce its share of the total quantity Q^* not at the minimum cost, a central planner could have increased the firm's surplus without decreasing the consumer surplus, obtaining a Marshallian improvement.

BUT: the assumption that companies maximize profit implies that each company is economically efficient, i.e. that it minimizes the cost of producing any quantity. If this were not the case, the company would not maximize the profits deriving from producing any quantity.

The efficiency of perfect competition

Produce the same total quantity Q^* , allocate in the same way among consumers, but modifying the way to produce it?

Change the division of production between the different companies in the perfectly competitive industry?

2

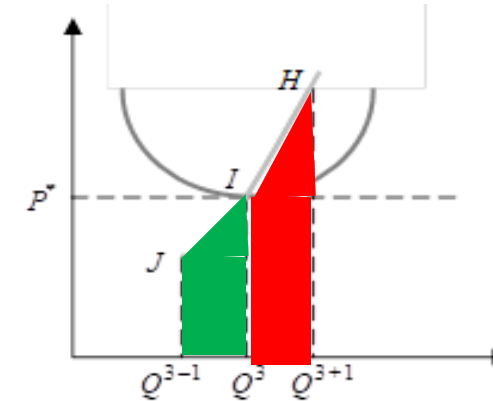
Let's try to close a company and ask each one of the others remaining to produce a share of that production (of the company that closed its doors) so as to always produce the same quantity Q^* at the industry level. Or we let a new company enter and existing companies reduce their production by just enough to keep production constant at Q^* .

But every company **already produces at minimum average costs**: any production change (check on the AVC U-shaped curve!), either more or less, requires that each company no longer produces at minimum average costs. The overall cost of producing a certain quantity cannot therefore be reduced by changing the way it is produced.

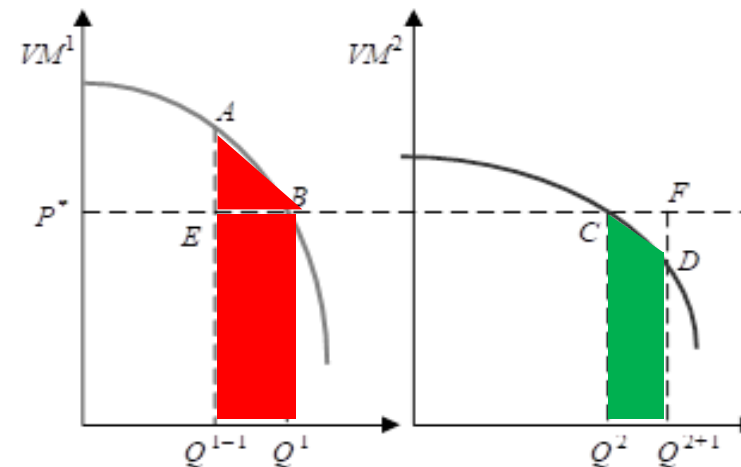
The efficiency of perfect competition

Produce a quantity different from Q^* (where for each firm $P^* = \min AVC$)?

One more unit? Assign *for free* an additional unit produced by a firm to consumer 2 (Pareto?). Passing from Q^3 to Q^3+1 :
greater cost for the firm (more than ... €).
Consumer 2 gains (less than ... €).
Less than the firm loses.



One less unit? Reduce by one unit the sales to consumer 1, without reducing the revenues of the firm (Pareto?).
 Q^3 a Q^3-1 :
lower cost.
Consumer 1 loses.
More than what the firm gains.



We cannot get any Marshallian improvement producing a different quantity from the perfectly competitive equilibrium one.



The efficiency of perfect competition

Producing a different quantity from Q^* ?

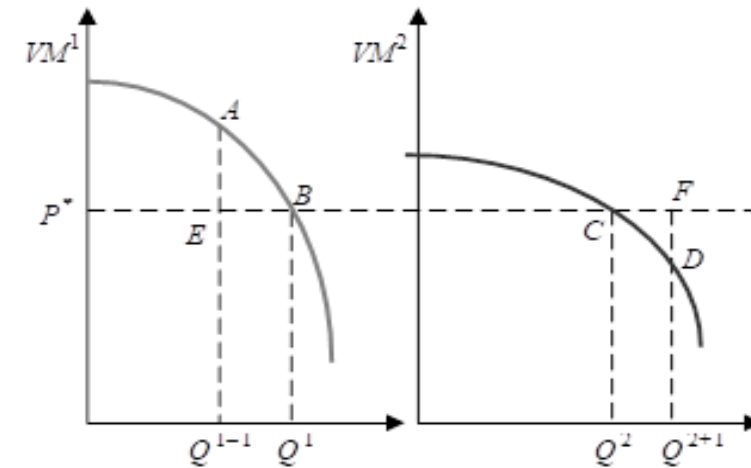
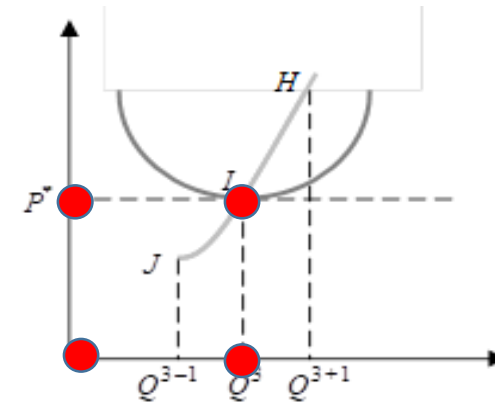
Let us assume to have a new firm that produces Q_3 additional units at the total minimum average cost $ATC(Q_3) = P^*$ (production thus rising from $n \times Q_3$ to $(n + 1) \times Q_3$ where n is the number of initial firms).

The additional cost of this production is equal to P^*Q_3 , i.e. also the minimum amount of euro that this new firm must obtain to expand production (obtaining 0 extra-profits).

However consumers will value this additional production at a value less than P^*Q_3 (why?) and will therefore be willing to give up less than P^*Q_3 to consume it.

Again, no Marshallian improvement leaving perfect competition!

Perfect Competition is MARSHALL EFFICIENT!



Can one improve on monopoly?

- produce the same total quantity Q_M^* but allocate it in a different way among consumers?
- produce the same total quantity Q_M^* , allocate it in the same way among consumers, but modify the way to produce it?
- produce a different quantity from Q_M^* ?

The efficiency of monopoly

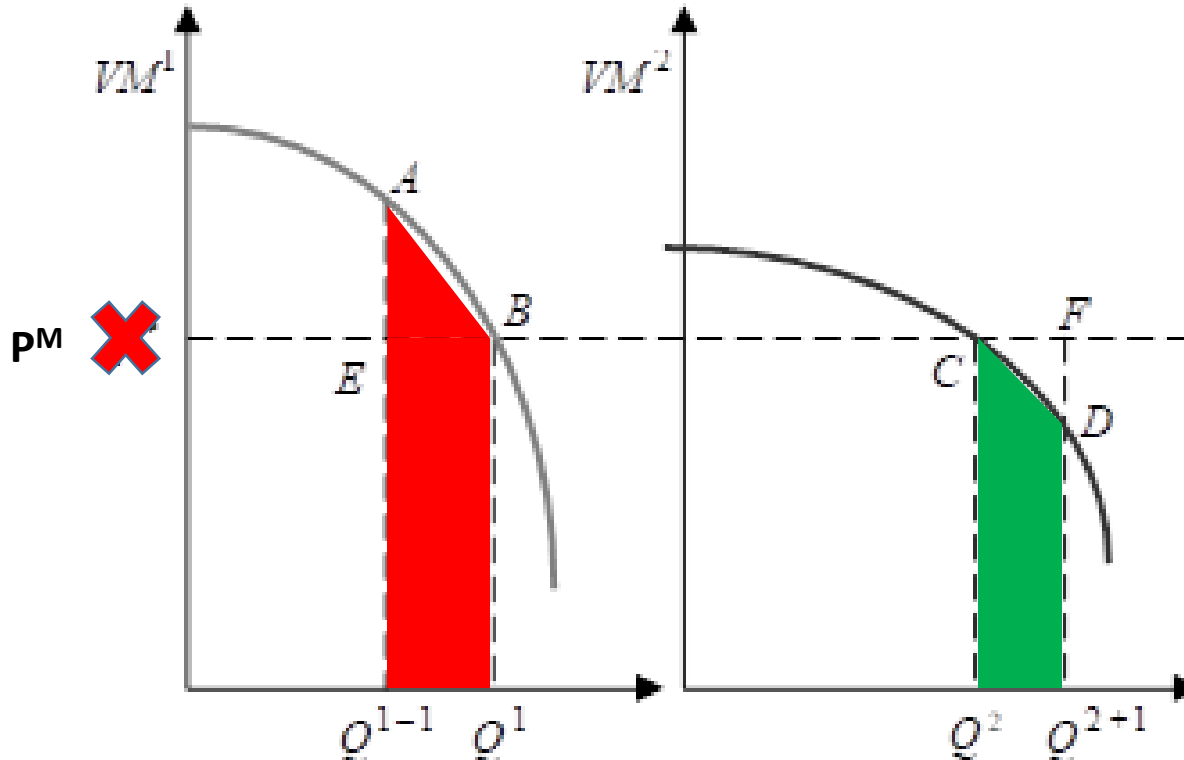
Produce the same total quantity $Q^M = Q_1 + Q_2$ but allocate it in a different way among consumers?

Reduce by one unit the consumption of consumer 1 and give it to consumer 2.

Leaving 1 and 2 to continue paying the same. P^M 

Careful:
($P_M ; {}_M Q_1$) and ($P_M ; {}_M Q_2$) .

Pareto?



The efficiency of monopoly

Produce the same total quantity Q^M , allocate it in the same way among consumers, but modifying the way to produce it?

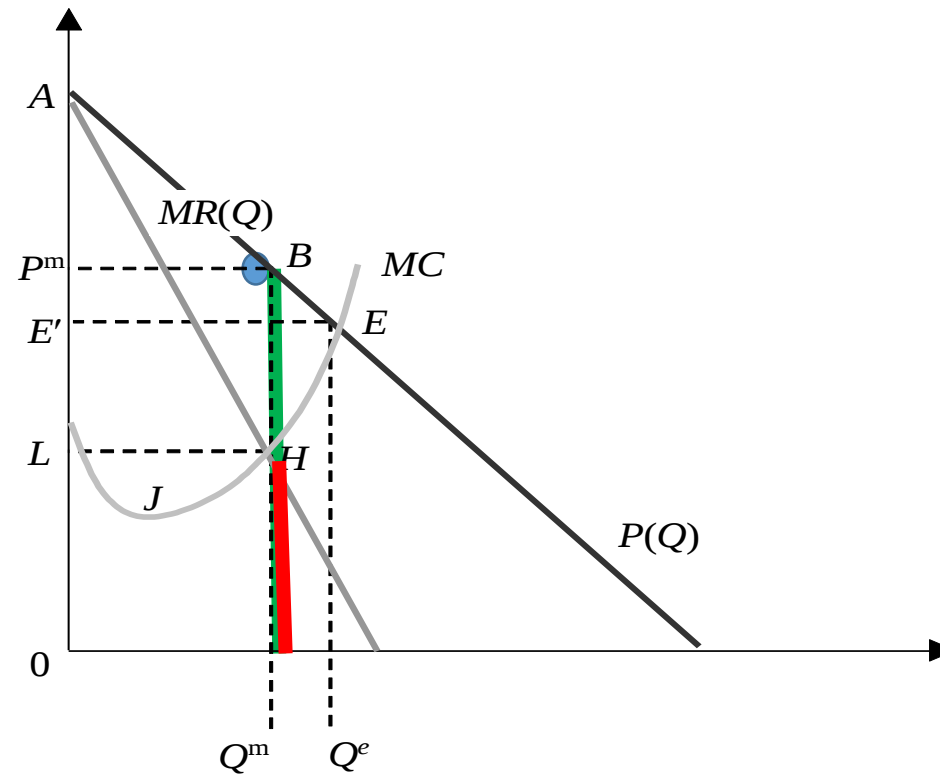
There are ~~two~~ ways to improve the production of a given level of output: **produce it at a lower cost** ~~or change the division of production between the different companies in the industry.~~

The assumption that the monopolist maximizes profit implies that it is economically efficient, i.e. that it minimizes the cost of producing any quantity. If this were not the case, the company would not maximize the profits deriving from producing any quantity.



The efficiency of monopoly

Produce a different quantity? Q^m+1 ?



Marshall?

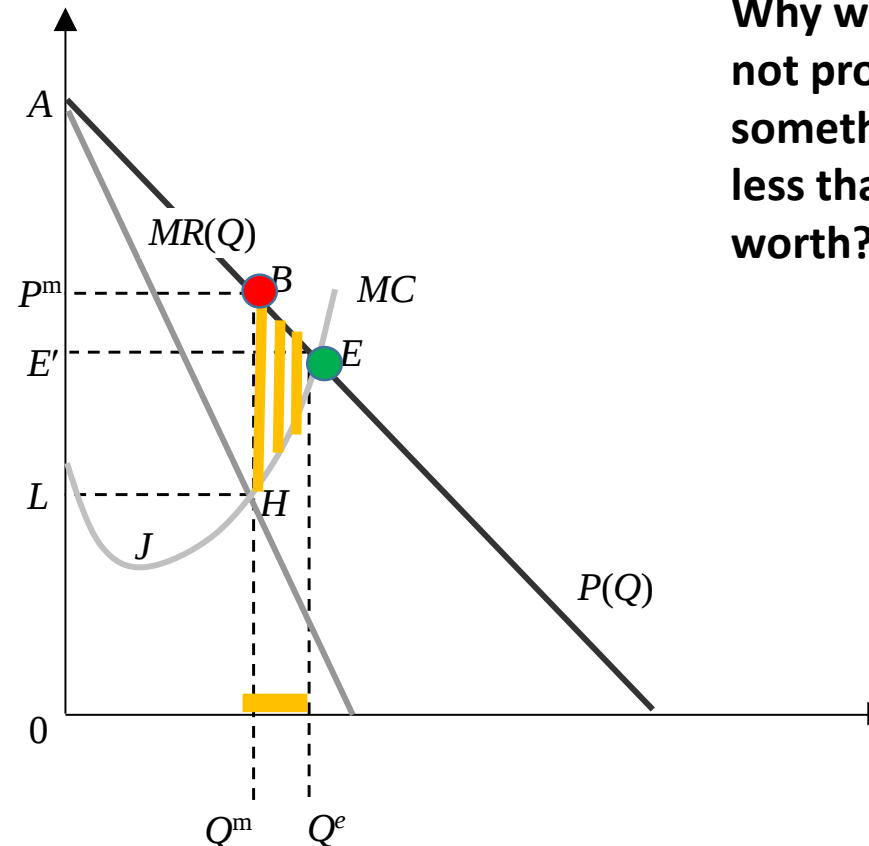


The inefficiency of monopoly

Produce a different quantity? Q^e ?

The BHE area measures this net loss of potential well-being that could have been achieved, and represents a measure in euro of the loss that society must bear, due to the fact that the monopolist produces Q^m rather than Q^e . It is defined as the **net loss of monopoly**.

Note that Q^e could have been chosen by the monopolist!



Why would society not produce something that costs less than what it is worth?

In E, price equal to marginal cost: it is the quantity that would be produced in perfect competition!



From Monopoly to Perfect Competition ($MC=p$)

Firm:

-C

+A

<0

Consumer:

+C

+B

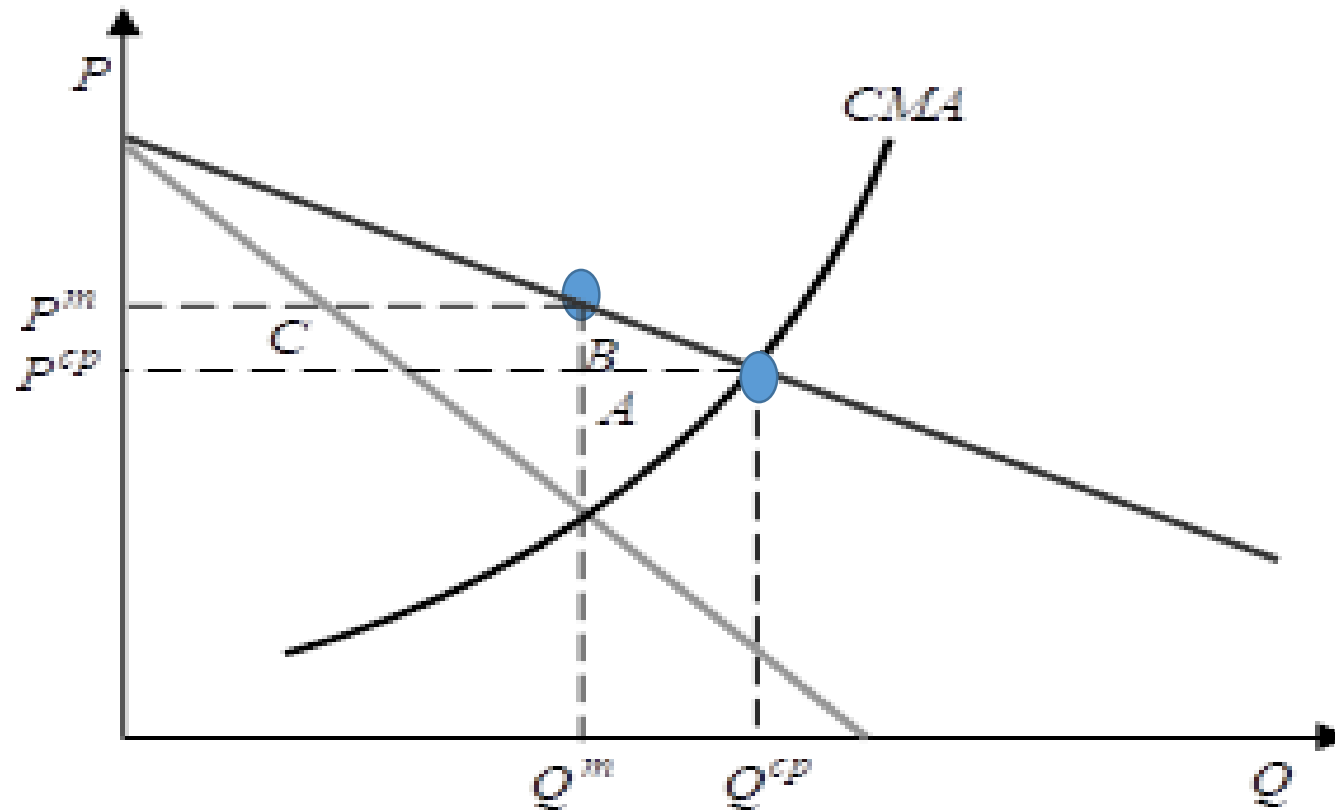
>0

Pareto?

Marshall?

Society:

+A+B!



In competition, the last unit produced costs what "is worth" for consumers.

The monopolist, on the other hand, takes into account the fact that the increase in the quantity produced generates a price decrease that affects all the infra-marginal units: he would be willing to sell 1 more unit at a lower price if and only if he did not also have to sell the other units at a lower price. The monopoly price is therefore too high not because the monopolist "cannot maximize profits" but because he knows too well how to do it.

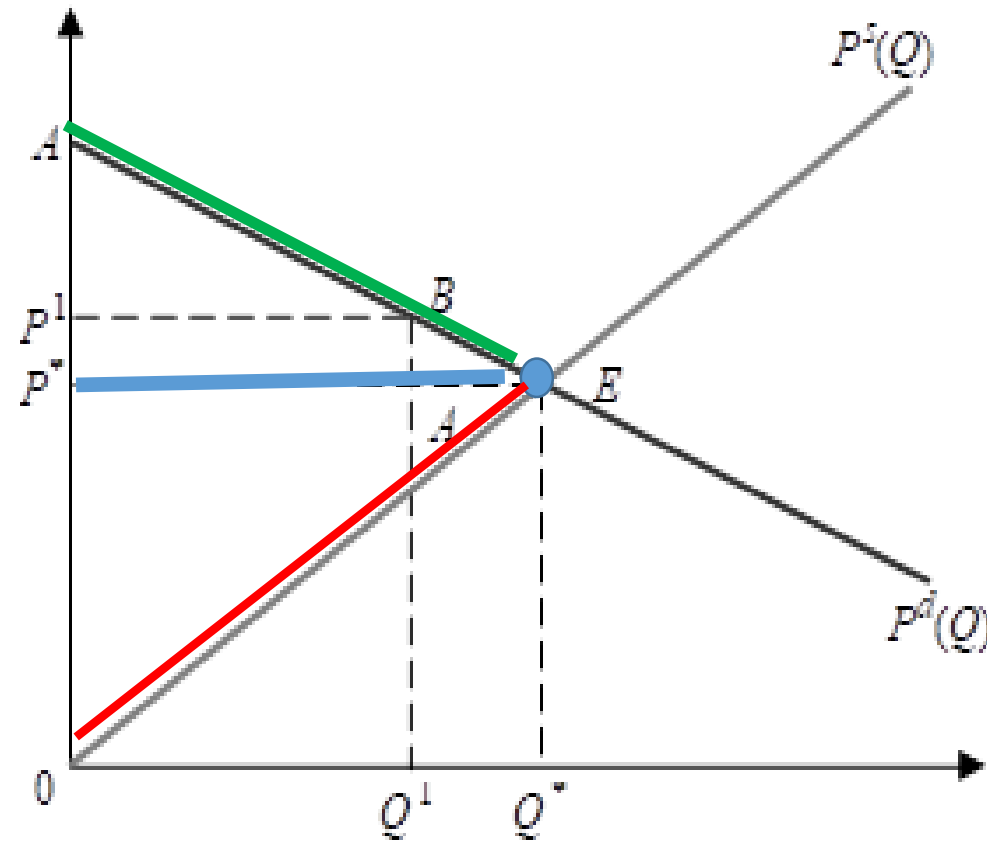
The socially optimum price: PC

Perfect
competition: can
you do better?

Try.

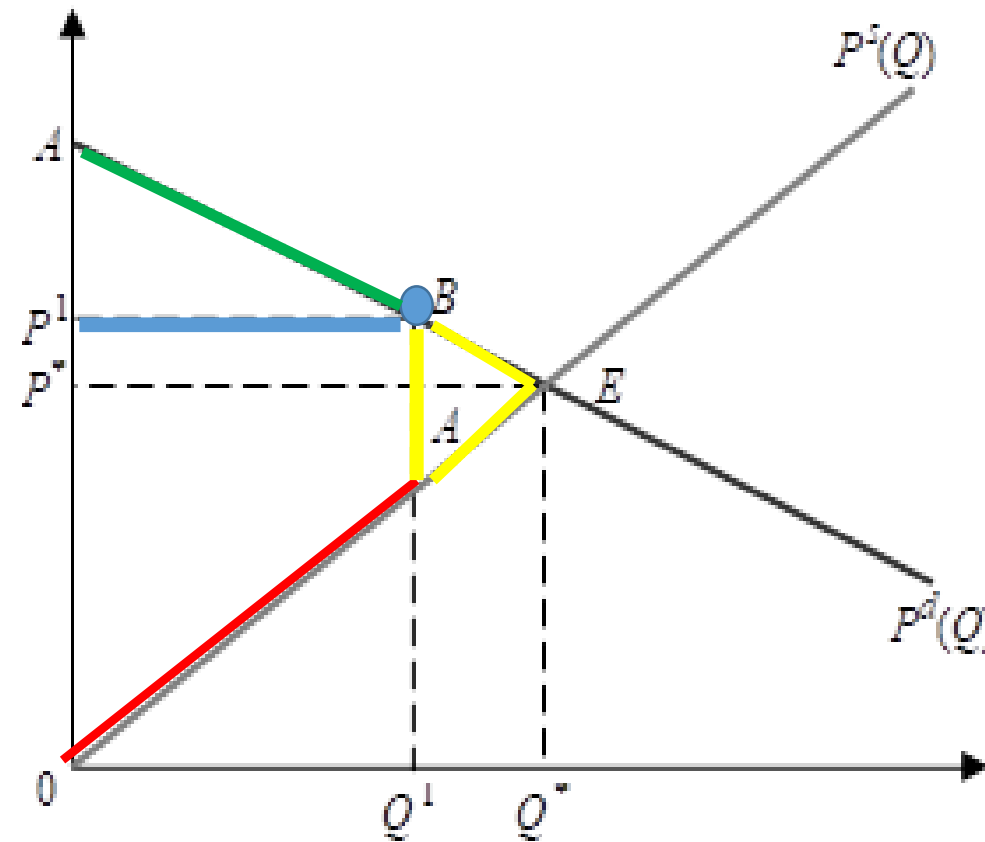
Try again.

And again.



The socially optimum price: not PC?

The absence of perfect competition: you can only do worse.

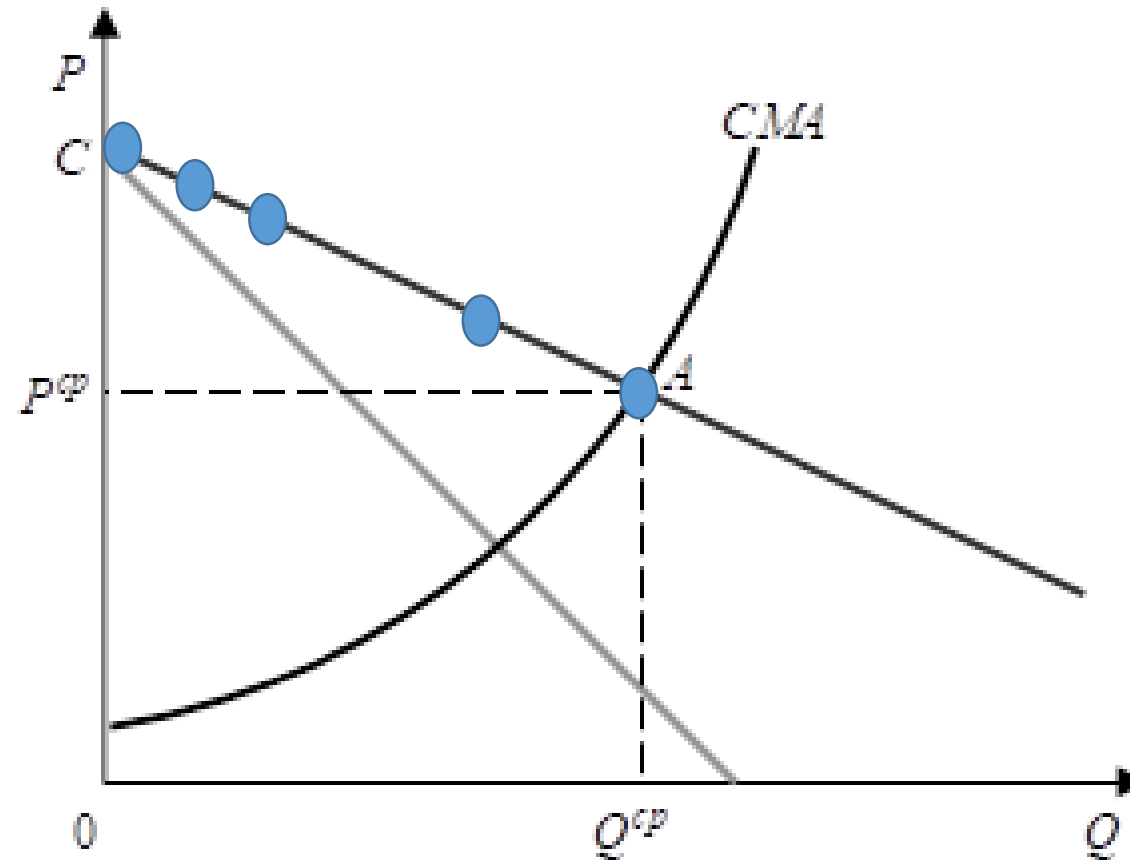




The perfectly discriminating monopolist

The psychologist
monopolist.

Her surplus?



$P=MC$ for the last unit

Marshall?

The monopoly, lobbying, studying

The surplus generated by a uniform-price monopolist, and even more so the greater surplus generated by a discriminating monopoly, are extremely attractive.

How many resources would you be willing to spend to get the right to become one? How much lobbying for the license? How much will you study to win the competition for it?

If there is competition between lobbyists or between potential psychologists, we will end up exhausting all the extra profit present in the monopoly sector!

But with different implications.

Lobbying: no benefit for consumers who get the same product with or without lobbying.

There is therefore a waste of resources, represented by the free time of the lobbyists, which could be made available to the community in producing new products or works of charity.

Waste of resources is additional to the net monopoly loss.

On the other hand, the problem is less serious in the case of those goods in which competition to obtain a monopoly leads to an improvement in the characteristics of the product of the monopoly. For example, in the case of the psychologist, his study to win the license entails accumulation of knowledge that can lead to better consumer service and therefore greater consumer surplus for consumers.

“There are other reasons for the increase in market power. Digital platforms glean and process information that gives them a competitive advantage over other firms, and the larger platforms may be able to glean more information than smaller platforms. Profits can be generated not by being more productive or selling more relevant products but by being better able to exploit consumers through sophisticated means of price discrimination. For instance, platforms figure out which consumers will pay more and charge them a higher price for the same product.

This undermines the principle underlying the efficiency of the market economy, where all individuals and firms face the same price...

The high price leads to a transfer of income from ordinary people to the monopolist, creating more inequality”

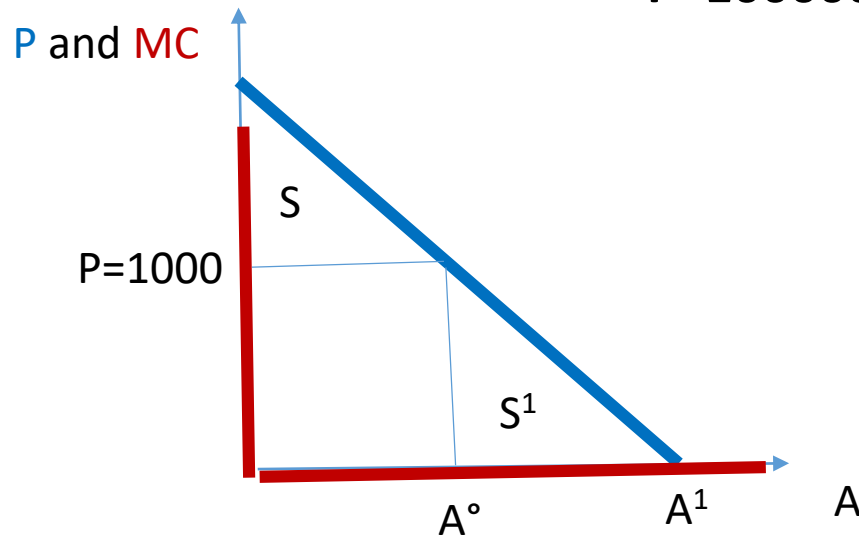
The transition to monopoly does not always constitute a loss for the community in the Marshall sense, even if it maintains a price higher than the marginal cost.

Consider conferring a 20-year patent on an inventor for the invention of a machine capable of detecting, in airports, the presence of imperceptible bombs that machines currently in use don't.

Each airport using this equipment will have to pay (price) 1,000,000 euro to the inventor. Smaller airports thus will not demand it. But how much does it cost this inventor, once the machine is invented, to sell one more unit?

The marginal cost for the inventor once invented is 0! And therefore we have the usual monopoly result:

$$P=1000000 > MC=0$$



Ludwig Von Drake

Pico de Paperis



Socially optimal would thus be to price at 0 ($p=MC$) and then all airports, even the small ones, would demand the machine. That implies giving out for free the results of the invention.

But the end result for society cannot be compared to that of the uniform price monopoly, despite the similarities. What if the price was set at zero? Inventor, what would you be doing?

Not invent!

Sometimes moving from nothing to a monopoly constitutes a Marshallian (and sometimes Pareto) improvement for society.

But again....



But.... Patents - Stiglitz



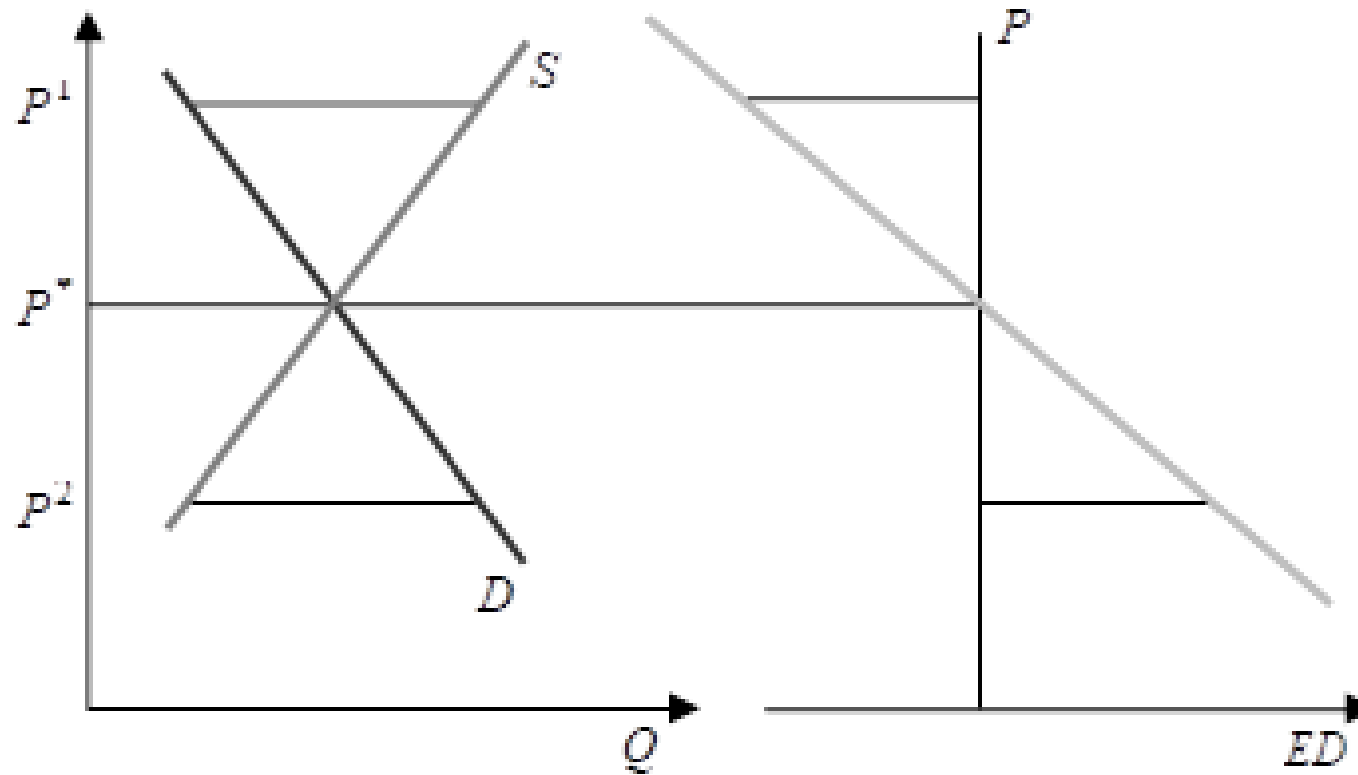
«Does or should owning a patent on a critical drug give me the right to charge as much as I want? The US and Europe differ in their answers. In the US, if my monopoly power is legitimately acquired, I can charge whatever price I want. In Europe, abuses of monopoly power are not allowed... It's not because America generates better outcomes. It's because the powerful, and in particular the powerful drug companies, hold greater sway in setting the rules. Looking at matters through the eyes of someone accustomed to European norms, the huge excess profits of American drug companies using their monopoly power have **no moral legitimacy**. Society has every right to take back those excess profits. This is not hypothetical. American drug companies charge some ten times more for insulin than those in Europe do because of the exercise of this monopoly power, part of the US property rights system.»



WRAPPING UP



Market equilibrium and stability



From the auctioneer to auctions

From partial to general equilibrium: Existence

The demand curve of a good is drawn keeping the price of all other goods constant: but if the price of tea changes, the demand for coffee also changes and therefore the equilibrium price of coffee...? If the price of the labor factor in Southeast Asia changes, the supply curve of computers in Italy changes and so its (**partial**) equilibrium.

The equilibrium price in each market depends on the prices that are formed in other markets.

The system reaches a (**general**) equilibrium when the prices of **all** goods and the prices of **all** factors of production are such as to put in equilibrium each market for goods and factors.

Under perfect competition **does there exist** a **vector of prices and quantities** such that, at those prices, all consumers maximize their utility by demanding those quantities and all entrepreneurs maximize their profits by offering those quantities, and such that **excess demand** for each good are they either null (in which case the plans of the different agents are compatible with each other and can therefore be realized) or negative (supply greater than the demand) in which case the prices are null (what are called free goods)?

YES if ... important **assumptions** to achieve this result will be the **convexity of preferences and technology** and the continuity of the demand and supply curves of goods. Without these hypotheses, the results obtained must be at least qualified.

✓ *First welfare economics theorem:*

Any competitive equilibrium is Pareto-efficient (*and Marshall-efficient!*). That is, you cannot allocate inputs and outputs in the economy in a different way without damaging **at least one individual in society**.

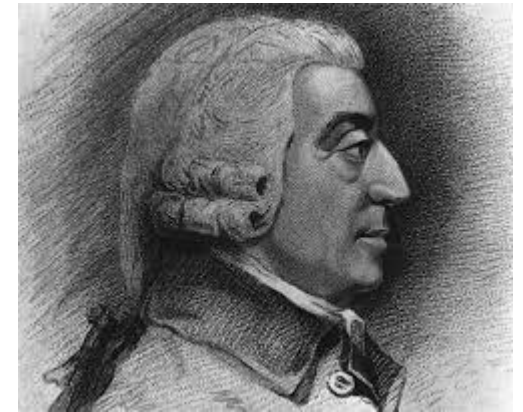
Contract curve points are reached in perfect competition.

✓ *Second welfare economics theorem :*

Any Pareto-efficient allocation for the economy can be achieved as a competitive equilibrium by means of an appropriate redistribution of income.

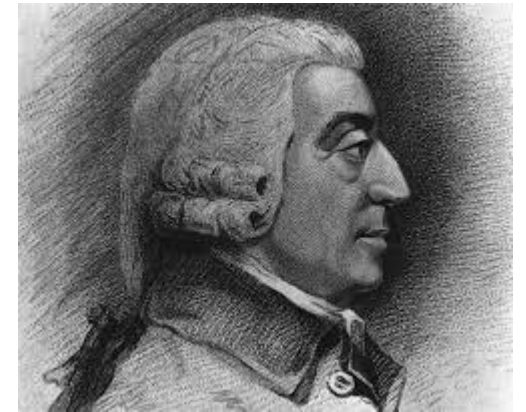
Which contract curve point? “Minimal” state intervention.

The producer “generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. [By preferring the support of domestic to that of foreign industry, he intends only his own security]; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an **invisible hand** to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.” Book IV, Chapter 2, The Wealth of Nations.



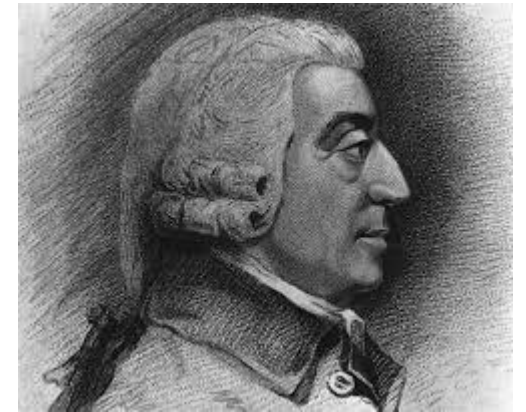


“People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.... But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies, much less to render them necessary.” *The Wealth of Nations*, Book IV Chapter VIII.



“How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.”

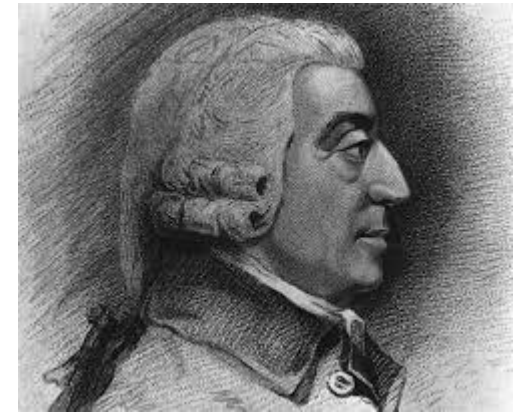
The Theory Of Moral Sentiments,
Part I, Section I, Chapter I.



Philosophy and Economics or

Physics and Economics?

https://pure.diis.dk/ws/files/354889/TheoryTalk72_Wade.pdf



Theory Talks

Presents

THEORY TALK #72

ROBERT WADE ON ZOMBIE IDEAS, BEING
INSIDE THE WORLD BANK, AND THE DEATH OF
ETHICS IN ECONOMICS AFTER THE MARGINAL
REVOLUTION

Toward (Global?) Justice

This leads us to one fundamental and almost completely unaddressed weaknesses of economics can be traced back to the [Marginal Revolution](#) in the late 19th century. From that moment onwards, there has been an attempt to model economics on physics, and that was very explicit on the part of people like Pareto and Walras, and Jevons, early Marginalist thinkers. They even drew up tables with terms of physics, like velocity, on one side, and then corresponding terms in economics on the other. That had a huge benefit in terms of the ‘science’ of economics, because it cut economics loose from Adam Smith’s and other classical economists’ preoccupations with issues of morality and ethics. Adam Smith thought his most important book was not the [Wealth of Nations](#) but his [Theory of Moral Sentiments](#), on which he was working, revising yet again, when he died. For Smith, economics and morals were never separate worlds, but intimately related. So for him, the *Theory of Moral Sentiments* and the *Wealth of Nations* were just twins. The point about the marginalist revolution, and the embrace of physics as the model, was that it cut economics free of all that sort of subjective stuff about values. So economics after the marginalist revolution set off with the assumption that not production, but the movement of individuals in markets engaged in trading with each other became the center of gravity of economics. Making the study of exchange rather than the study of production central was analogous to, say, Boyle’s Law in physics. [Boyle’s Law](#) in physics explained the movement of molecules in gasses, as a function of the pressure applied to the gas. So why did they make that analogy?

The point of likening of individuals in microeconomic actions with molecules in gasses was the following. *Everybody* knows that we do not apply any consideration of ethics or moral sentiments to the movement of the molecules in gas, so neither should we apply any notions of ethics or moral sentiments to the movements of individuals in market exchanges. And that was the way that all considerations of ethics, of morality were just removed from economics.

