

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^* ?



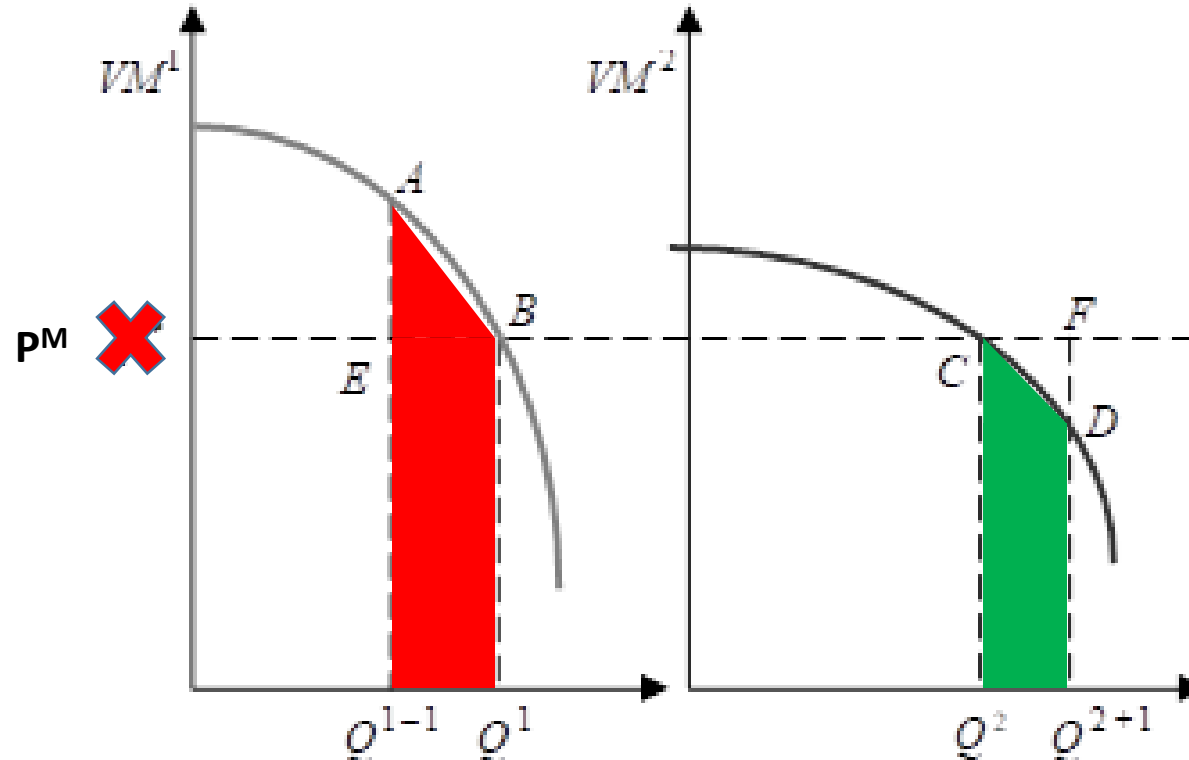
The efficiency of monopoly

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.

$mP \cdot Q_1$ and $mP \cdot Q_2$.

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?

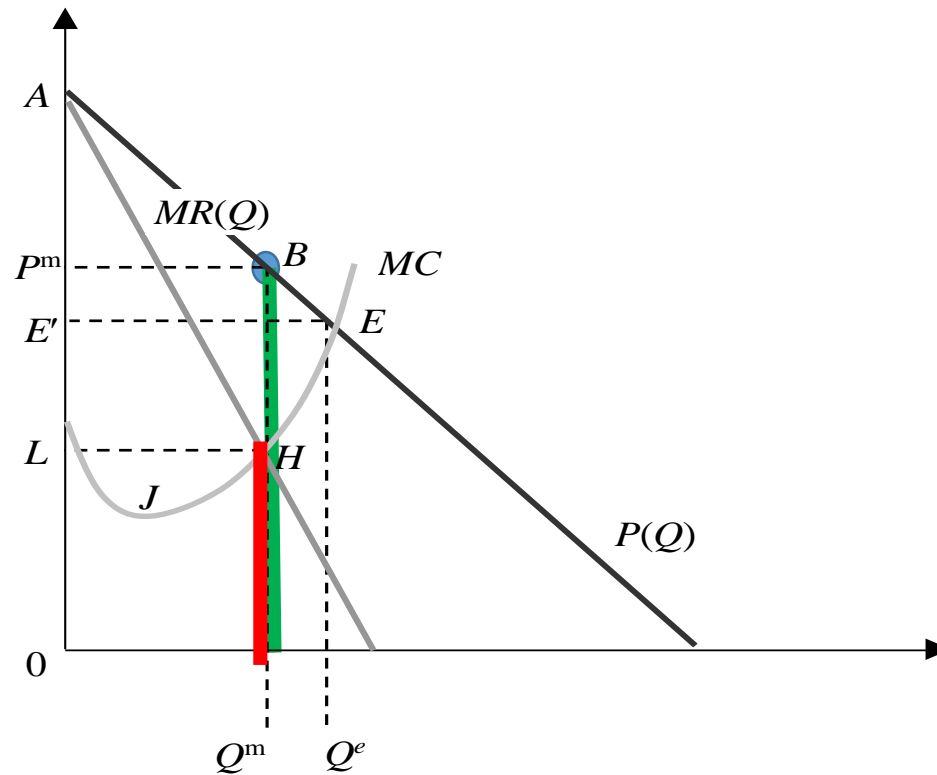
There are ~~two~~ ways to improve the production of a given level of output: **produce it at a lower cost** ~~or change the division of production between the different companies in the industry.~~

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 ?

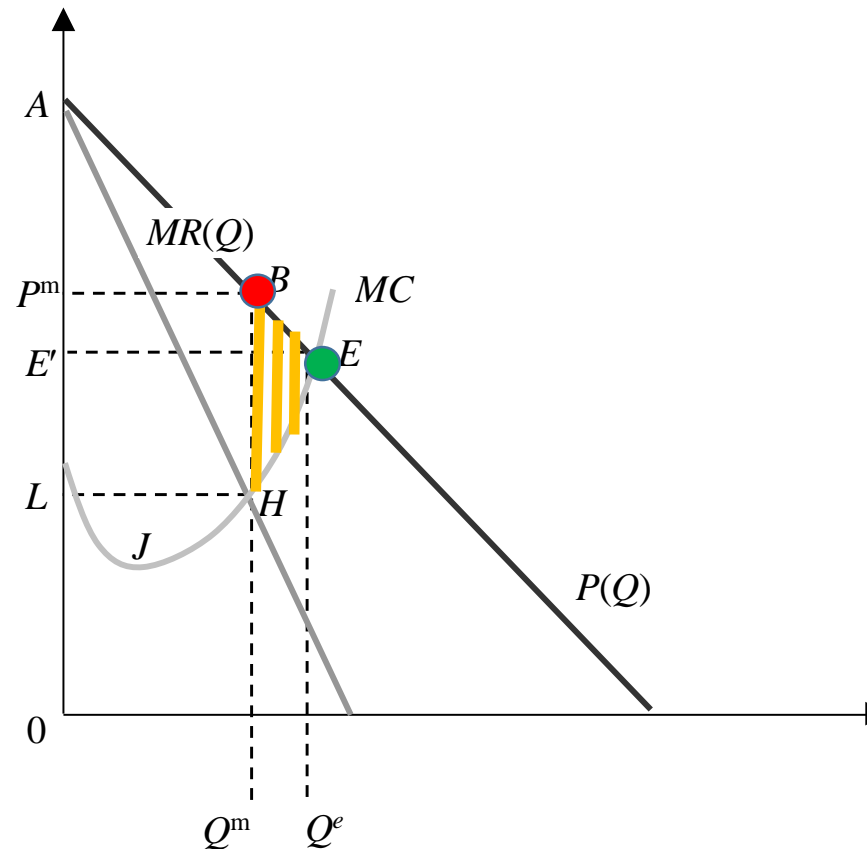


The inefficiency of monopoly

Produce a different quantity?

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!





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

Firm:

-C

+A

<0

Consumer:

+C

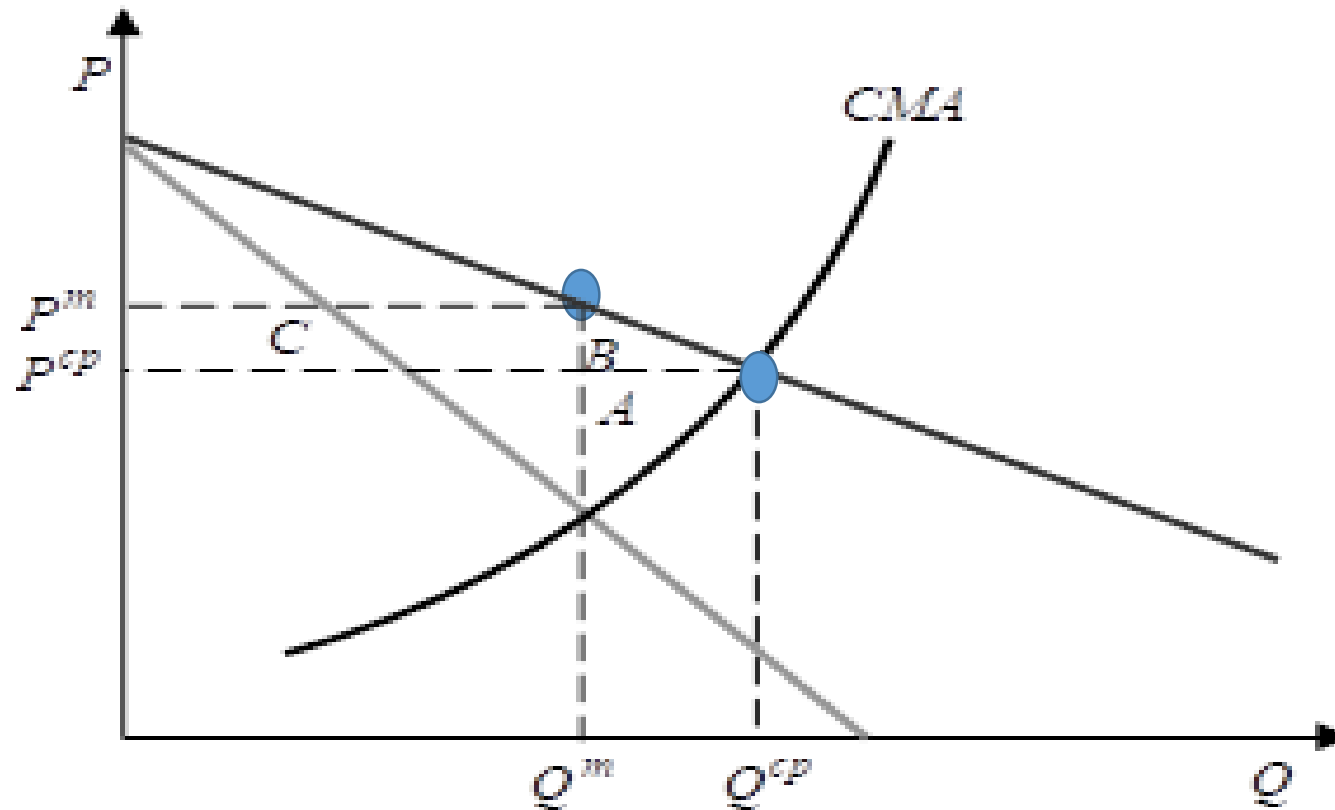
+B

>0

Pareto?

Society:

+A+B!

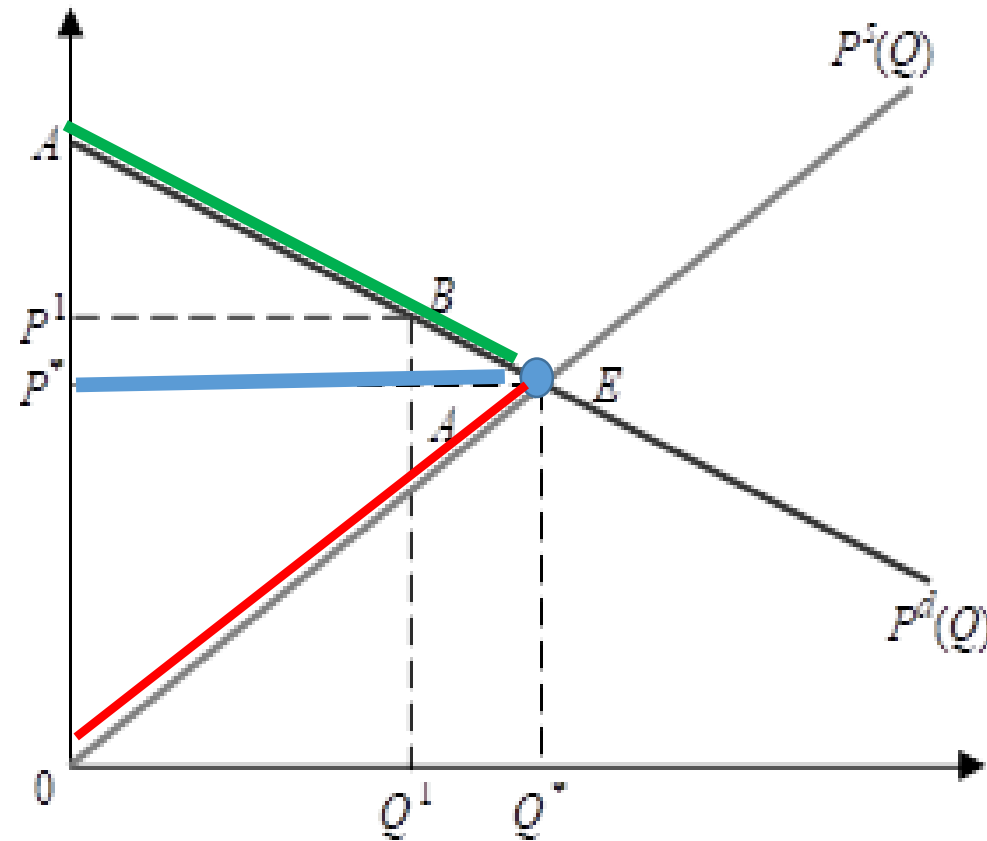


In competition, the last unit produced costs what "is worth" for consumers.

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.

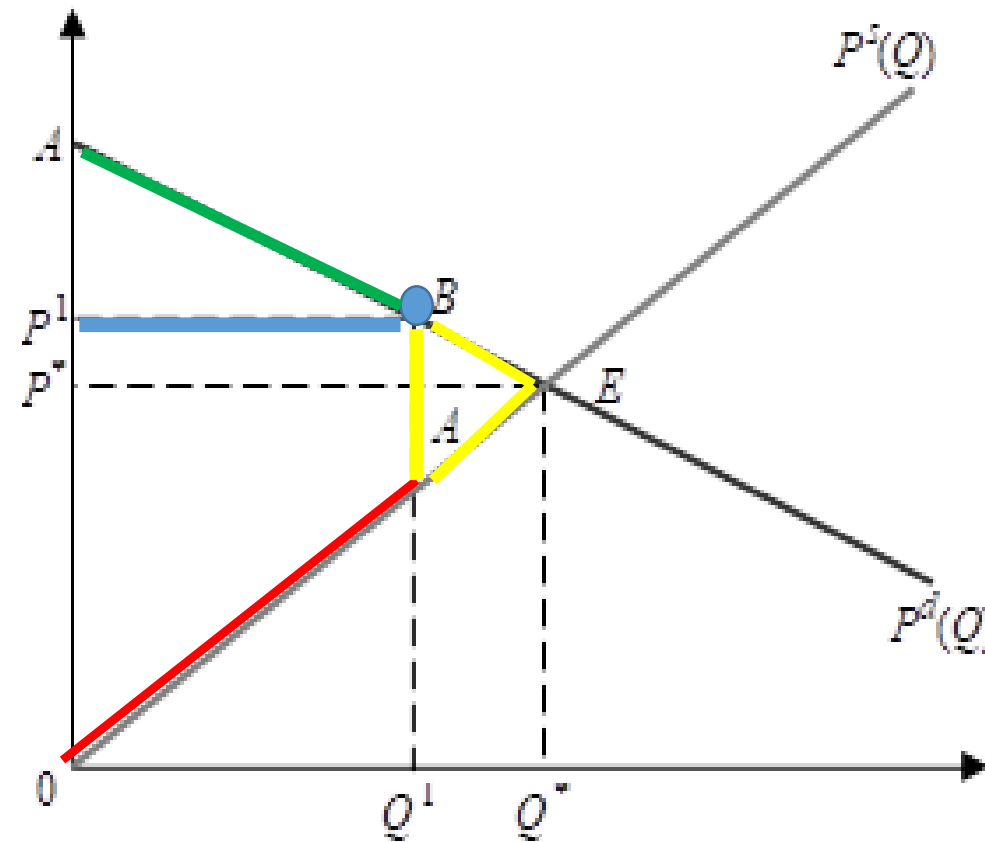
The socially optimum price: PC

Perfect competition



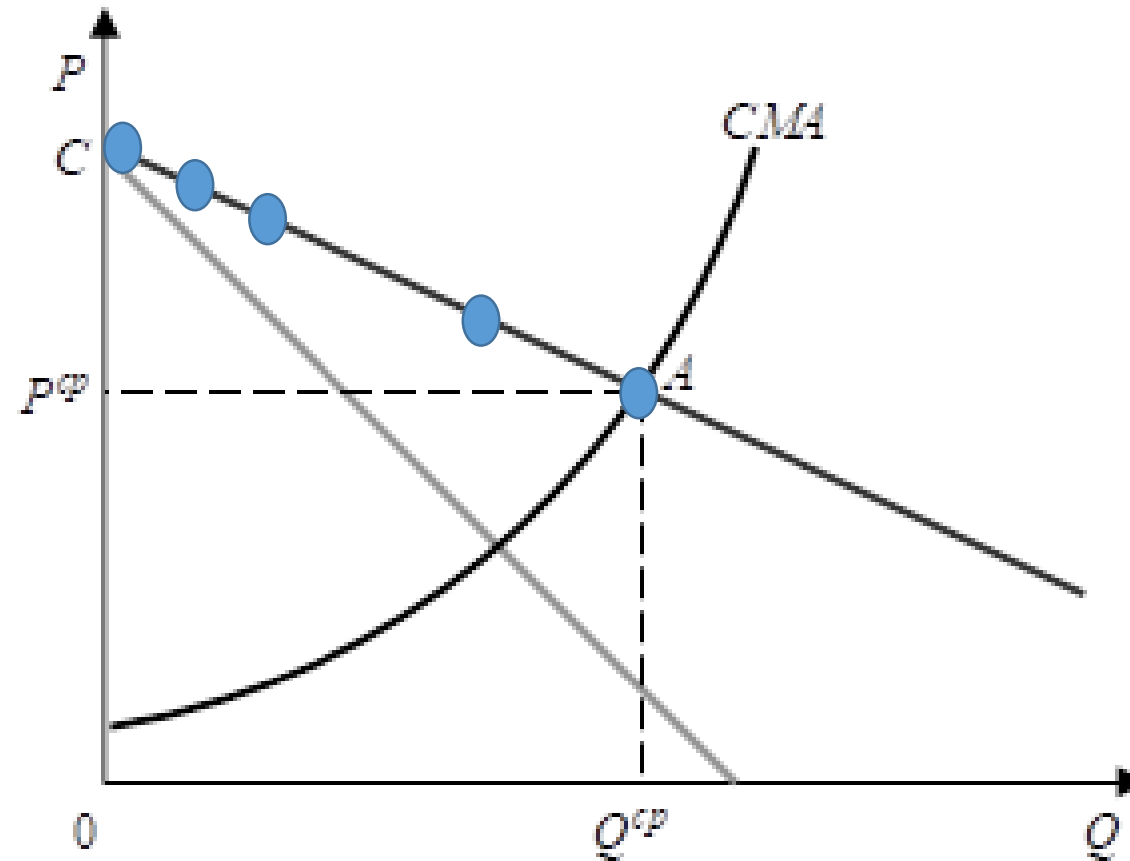
The socially optimum price: not PC?

The absence of
perfect competition





The perfectly discriminating monopolist



$P=MC$ 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”



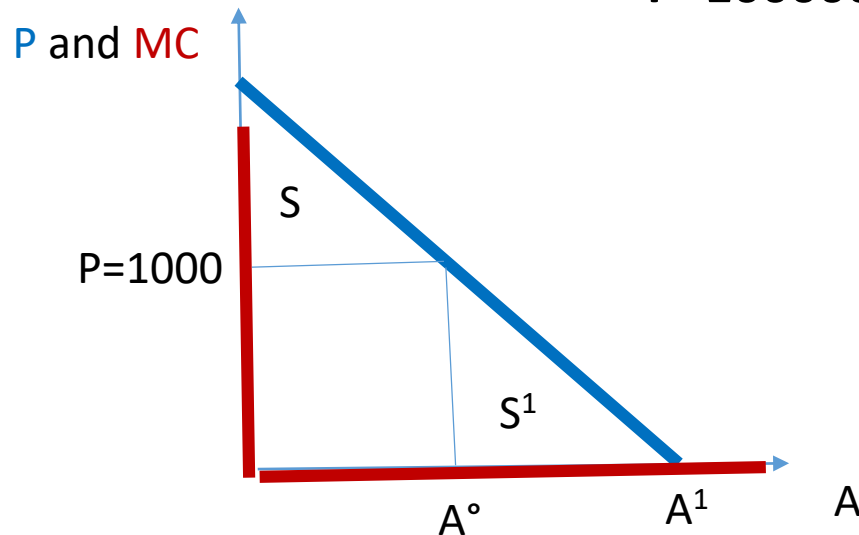
The transition to monopoly does not always constitute a loss for the community in the Marshall sense, even if it maintains a price higher than the marginal cost.

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:

$$P=1000000 > MC=0$$





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 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.

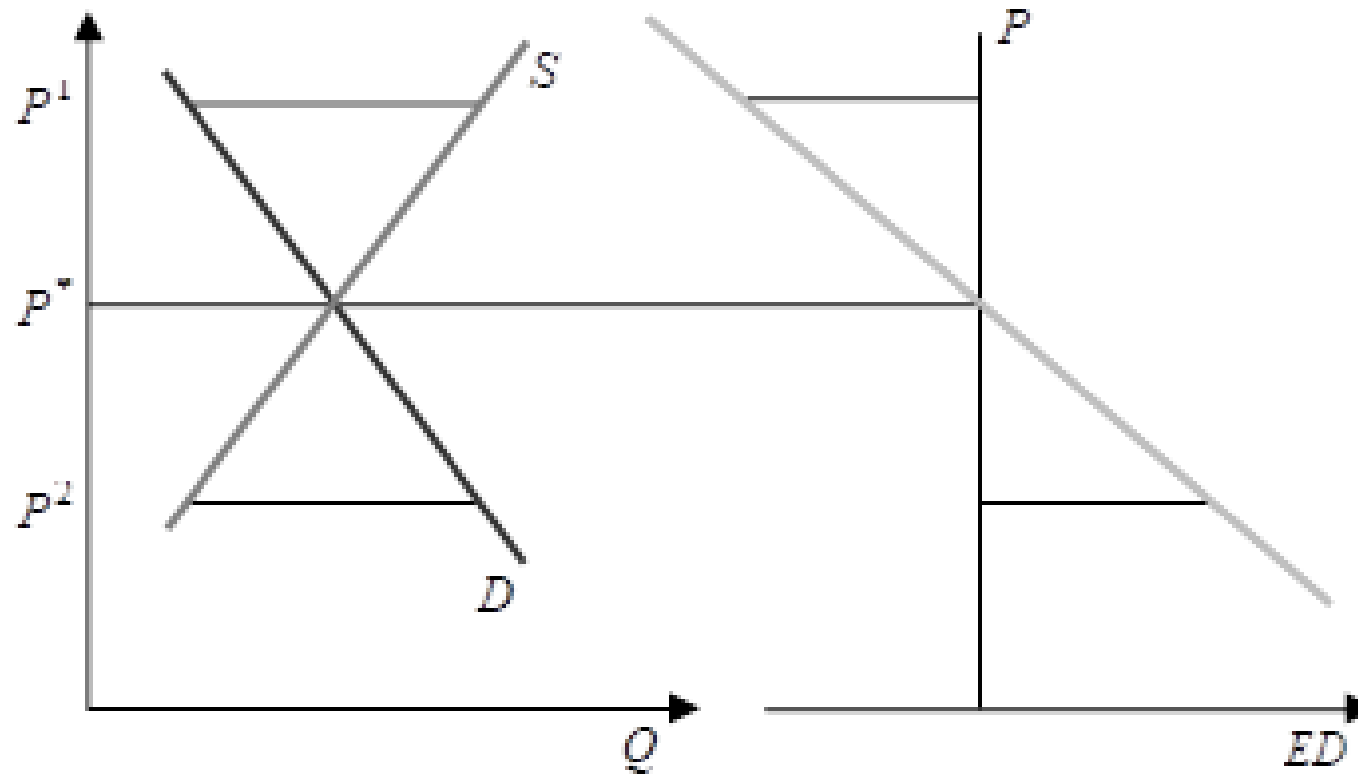
But again....



«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.»



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 as the goods are substitutes.

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:*

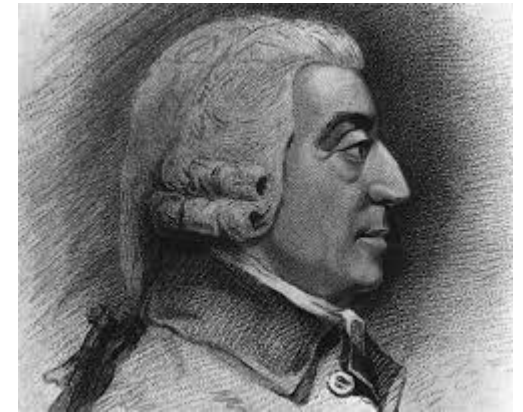
Any competitive equilibrium is Pareto-efficient (*and Marshall-efficient!*). That is, you cannot allocate inputs and outputs in the economy in a different way without damaging at least one individual in society.

✓ *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.

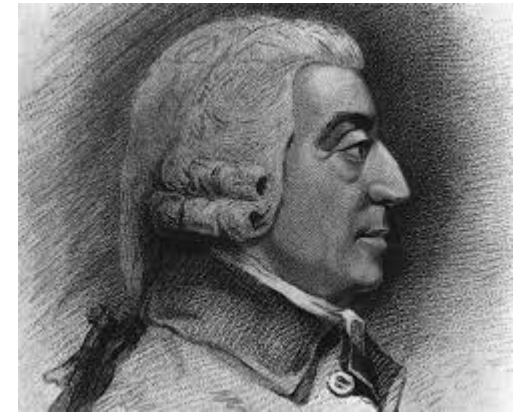
Which contract curve point?

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.



Adam Smith 2 – Game Theory

“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.

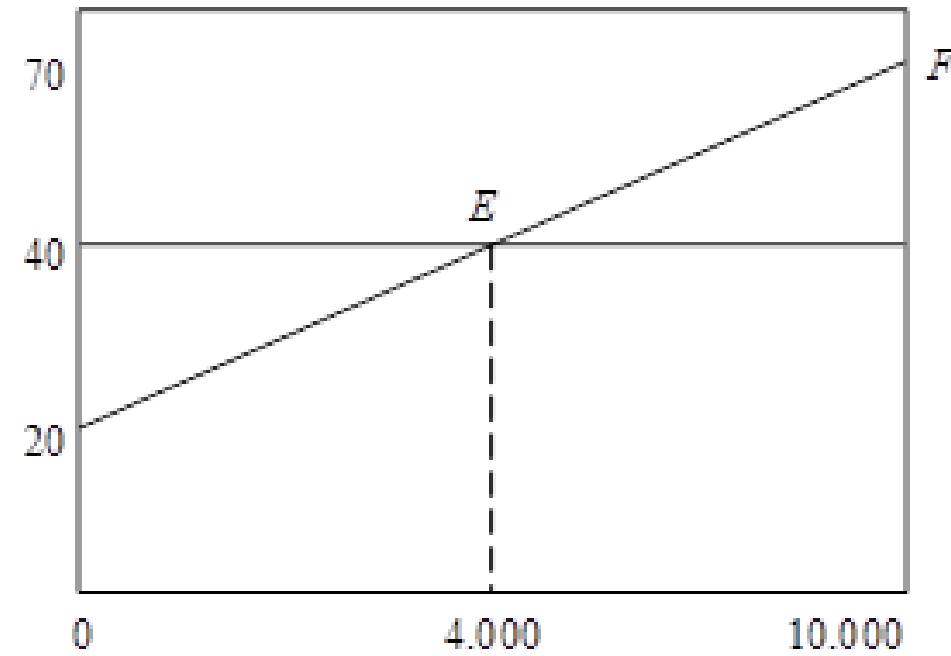


Individuals left alone to pursue their personal goals do they always succeed in enabling the community to maximise its well-being?

Look at the choice of the best means of transport to reach the University of Tor Vergata. There are two ways to do this: by car via the Raccordo Anulare or by a brand new metro. Without traffic on the ring road, it takes 20 minutes, but there is often traffic due to the excess of cars and, for every 2,000 extra cars, there is an additional delay of 10 minutes (4,000 cars on the ring road therefore take 40 minutes). The metro on the other hand takes 40 minutes because there are stops to make and you have to walk to the stop. But there is no traffic and, if by chance there are too many passengers, cars are easily added, so that the journey time is always 40 minutes.



Adam Smith 2 – Externalities

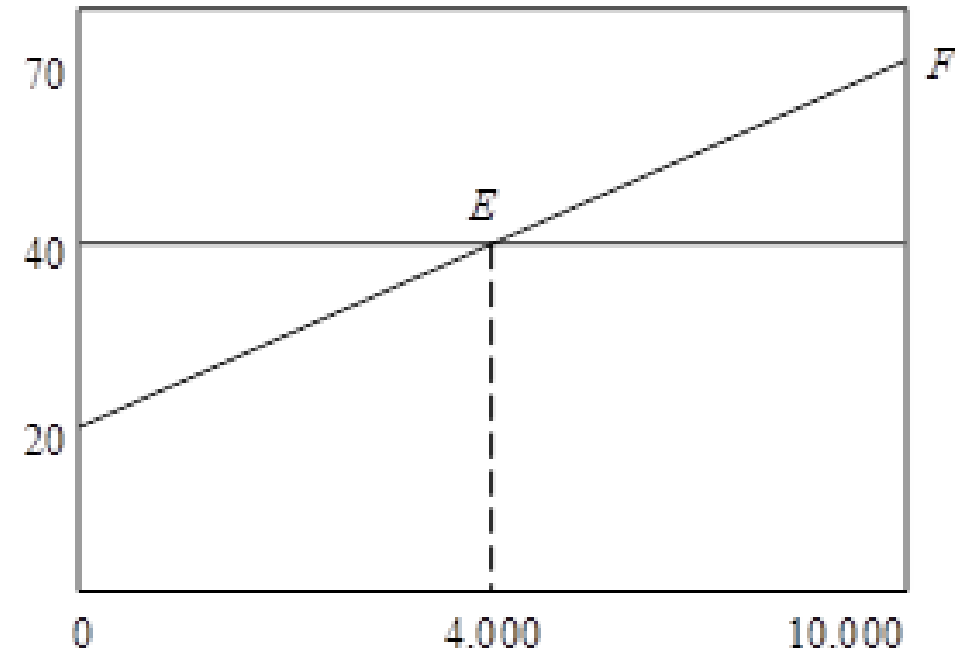




Adam Smith 2 – Externalities

There are 10,000 students who want to get to Tor Vergata. How will they distribute their way when 'guided by an invisible hand'? On the abscissa of the figure we read the number of cars using the junction. On the y-axis are the minutes required to make the crossing by car (increasing as the number of cars increases).

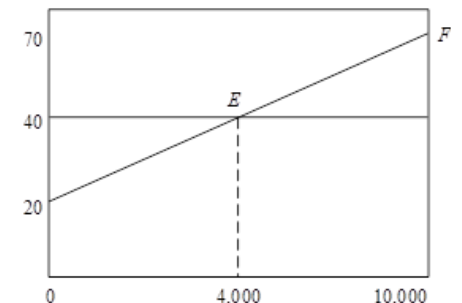
What is the equilibrium to which this system tends? Suppose there is only one driver on the junction: many users of the metro will transfer to the four-wheeled vehicle as they would save about 20 minutes. Suppose instead that everyone decides to take the car: many will take the metro, saving 30 minutes. Where, then, will the balance spontaneously be left to individual decisions? Verify that at point E alone, where 4,000 cars will drive along the junction, there will be an incentive not to change one's decisions. In equilibrium, it will therefore take 40 minutes with both means of transport.





Adam Smith 2 – Externalities

The question now arises as to whether this balance is **optimal for the community**. Since the gain is identical (we arrive at Tor Vergata), and assuming that the cost of the ticket and petrol coincide (imagine going car-sharing when in a car!), benefits for the community arise only from *time savings*. Are there therefore allocations that save more time? Let us assume that only 2,000 cars travel on the junction: compared to E, this means that 8,000 instead of 6,000 individuals will take the underground but without any loss of time (still 40 minutes), while those 2,000 individuals who continue to take the car will save 10 minutes compared to E (in total a saving of 20,000 minutes). It can be shown that no other situation results in greater time savings....



Adam Smith 2 – Externalities

Why is it that individuals left alone to pursue their own individual interests do not achieve the social optimum in this case, instead ending up using the machine more than necessary?

The answer is that every time one more individual takes the car, the cost (in terms of minutes) to others of taking the car increases, even if only slightly. But, and herein lies the key point, this individual does not pay a cost, a price, for his choice: he only considers the time he needs. He is therefore not sufficiently discouraged and commits an act that is disadvantageous to the community.

There are several ways to solve this **failure of the ‘invisible hand’**: provide 2,000 permits to drive through the junction (a solution that requires a central body to coordinate this decision, perhaps by rotating the possession of such permits). Or charge a fee to those who cross the junction. And how much should be charged?

Adam Smith 2 – Externalities

Let's assume that an hour of time saved is worth 12 euro per motorist (10 minutes are worth 2 euro): a toll of 2 euro means that, in the optimal solution for the community of 2,000 motorists, the 2,000th motorist will be indifferent between taking the car or the metro. In effect, he will spend 30 minutes and two euro in the first case and 40 minutes in the other. Note that this solution leverages resources from some citizens (the drivers) and provides the body collecting the fees with a surplus of 4,000 euros to spend, perhaps on reducing other taxes for individuals or on useful social projects. The latter solution seems to indicate the **necessary condition for the success of an invisible hand**, i.e. the *presence of a price, call it a 'fine' if you like*, for limiting the over- or under-use of useful community resources (in the example above, the over-use of the resource 'car time'). **In many cases, people are not 'fined', or at least not sufficiently, for the costs they impose on society, nor are they sometimes 'rewarded' for the good they do to society.**

Adam Smith 2 – Externalities

This happens when there is a lack of a price that drives the individuals to behave in the direction that maximises collective happiness. **The hand in this case literally becomes invisible**, in the sense that it can no longer guide individuals in their actions.

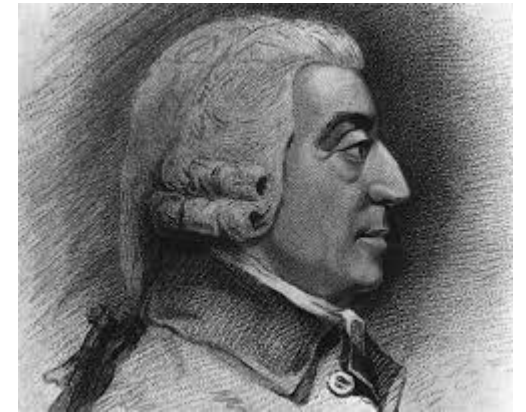
Imagine a company that **pollutes the air** in the act of producing: the reduction in pollution is a good, but it does not have a price on the market. Hence, a self-interested company would have no incentive to reduce pollution as much as society desires. Or imagine a company that trains young people on the job: it is an added value for society (another entrepreneur is willing to pay for a better trained worker once he or she leaves the original company), yet a self-interested company may not have an incentive to train sufficiently due to the absence of any 'reward' from those who would be interested. In short, a successful invisible hand needs a market **and not everything that counts for the well-being of the community takes place within a market**, i.e. not everything is capable of being exchanged between individuals.



Adam Smith 3 – Global Justice

“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.”

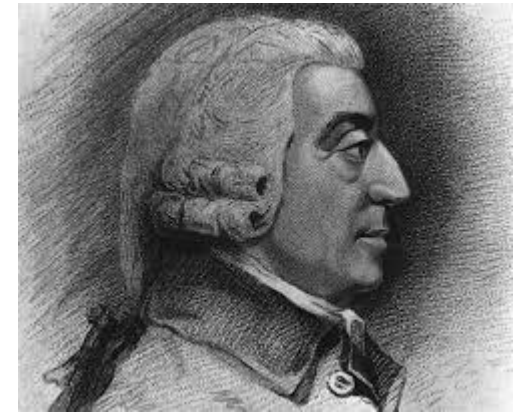
The Theory Of Moral Sentiments,
Part I, Section I, Chapter I.



Philosophy and Economics or

Physics and Economics?

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



Theory Talks

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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.

