

Debunking Mankiw, Episode I Adam Smith, Paradoxical or Untrue?

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The Debunking Mankiw Project

N. Gregory Mankiw's *Principles of Economics* is nowadays one of the most spread textbooks on first year Economics. Mankiw advocates for free markets and free trade, and he twists his arguments on economics in order to legitimate his political philosophy.

Yet, his arguments are often tricky or even false. The aim of this project is to debunk Mankiw's textbook from within, using his own words and arguments.

The goal is that the economists of the future become critical, and learn not to take their textbook arguments at "face value".

Please, browse this report and, if you believe this project is worth it, forward it to readers or potential readers of Mankiw's textbook.

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1. Preliminaries

About the Author: The Benevolent Social Planner

*"To evaluate market outcomes, we introduce into our analysis a new, hypothetical character called the Benevolent Social Planner. The benevolent social planner is an all-knowing, all-powerful, well-intentioned dictator. The planner wants to maximize the economic well-being of **everyone in society**. What should this planner do?" [1, pag.145].*

[1]- All citations in this text are from: N. Gregory Mankiw. *Principles of Economics*. 6th Edition.

South-Western. Second indian reprint 2013.

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In the following, only page numbers will be cited.

Disclaimer

It is said that when someone writes down her or his ideas, those ideas do not belong to her or him anymore. After writing, then, autorship has more to do with the reader's interpretation of the text, than the author's original intentions. This is why this text is written under a pseudonym. So that you, the reader, take the most of your interpretation, regardless of who the authors might be, or what is their background.

All the arguments exposed here are mainly derived from a model. As such, they may correspond, or not, to real life.

Foreword

This work is primarily addressed to students of first year Economics who use Professor N. Gregory Mankiw's *"Principles of Economics"* as a textbook. First year students tend to believe all what their textbooks say *"as is"*, without criticism.

On the other hand, this work is also intended to encourage other criticisms to Mankiw's arguments (or similar first-year textbooks), and to make those criticisms available to students of *"economics"*, so that they are not misled by *"main stream"* economists' preconceptions.

This text, however, is not intended as an alternative guide on economics. It is rather a dialog between Gregory Mankiw and ourselves. Our goal is to debunk Mankiw's arguments from within. When writing this text, the only source of information that has been used is Prof. Mankiw's book. The rest, are the authors' own reflections.

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2. Abstract

On page 12 of his Principles of Economics Greg Mankiw cites Adam Smith: *"Every individual...neither intends to promote the public interest, nor knows how much he is promoting it... He intends only his own gain, and he is in this...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"* [Pag.12, Mankiw cites Adam Smith].

Let's see this assertion in Mankiw's own words. In his conclusions to chapter 7, *"We showed that the forces of supply and demand allocate resources efficiently. That is, even though each buyer and seller in a market is concerned only about his or her own welfare, they are together led by an invisible hand to an equilibrium that maximizes the total benefits to buyers and sellers"* [pag.150].

"Smith's great insight was that prices adjust to guide these individual buyers and sellers to reach outcomes that, in many cases, maximize the well-being of society as a whole" [pag.11].

"The planner wants to maximize the economic well-being of everyone in society" [pag.145].

Isn't this a paradox? If each one is concerned only about their own welfare, how can it be that the well-being of society as a whole is maximized?

The answer is easy: it is not a paradox, it is *false*. The main goal of this work is to show that Mankiw's measure of economic well-being (that is, Mankiw's *efficiency* measure) does not reflect the well-being of *everyone in society*, but only the well-being of those with greater purchasing and selling power.

We show that market equilibrium is reached *because* buyers and sellers are concerned only about their own benefit. Equilibrium is a dead-lock situation that divides the market participants into winners and losers, and it generates market *scarcity* because it allocates resources to winners only. Equilibrium maximizes the surplus of the winners *and* the shortage of the losers. Therefore, *equilibrium maximizes inequality*.

As an alternative to markets and equilibrium, we propose a new target allocation of resources where the surplus of the winners makes up for the shortage of the losers. This proposal, we expect, should be more to the taste of the Benevolent Social Planner.

3. Introduction

This work is about what Mankiw calls the trade-off between Efficiency and Equality. According to him, the economy is like a pie. Efficiency is about making the pie as big as possible, and equality is whether this pie is uniformly distributed among everyone in society.

Mankiw's bottomline is that the equilibrium of free markets maximizes [Mankiw's measure of] efficiency. Therefore, any effort to improve equality leads to a decrease in efficiency. That is, to Mankiw, a better distribution of the pie is likely to make the pie smaller.

In Mankiw's textbook, the question of efficiency is formulated in terms of what we call Adam Smith's Paradox. Rephrasing Mankiw's words:

Adam Smith's Paradox

In a free, competitive market, even though buyers and sellers are concerned only about their own welfare, they all proceed, like driven by an invisible hand, to a market equilibrium that optimizes the well-being of every one in society.

Isn't this a paradox?

Mankiw starts from an assumption (that buyers and sellers behave in self-interest), and builds a model around it (perfect markets). Then he claims that the model behaves in a certain way (market equilibrium), and he asks The Benevolent Social Planner whether this behaviour is good to everyone in society. Mankiw then provides the Planner with a measure of well-being that takes only into account the surplus of successful buyers and successful sellers (winners in the market "*auction*"), leaving aside the shortage of unsuccessful buyers and unsuccessful sellers (those who fail to buy and sell). Then he shows that the model's behaviour (equilibrium) maximizes Mankiw's measure of well-being (the well-being of successful buyers and successful sellers).

Therefore, we conclude that Mankiw's original claim is *false*, because *equilibrium does not maximize the well-being of everyone in society*, but only the well-being of successful traders.

In chapter 4 of his book, Mankiw describes the way that people are assumed to interact in a perfect market, according to the supply and demand model. And in chapter 7 he turns to the question of efficiency. Is the market equilibrium desirable? Or should someone do something to improve it?

In Section 4 of this text, we follow Mankiw's description of the demand and supply model for perfect markets, and we make the following remarks: the market reaches equilibrium *because* buyers and sellers are concerned only about their welfare; the equilibrium point is a dead-lock that divides market participants into successful traders

(the "*winners*", who get to buy and sell) and unsuccessful traders (the "*losers*", who fail to buy and sell); the equilibrium allocation of resources is *scarce* because, after equilibrium, there are still buyers who would buy if the price was lower, and sellers who would sell if the price was higher. Equilibrium allocates *all* resources to the winners.

In Section 5 we follow Mankiw's development of his efficiency measure (his measure of well-being), and we show our objection to the fact that Mankiw's measure takes only into account the *surplus* of successful buyers and successful sellers, but it does not take into account the *shortage* of unsuccessful buyers and unsuccessful sellers. Mankiw's measure of social well-fare is the well-fare of the winners only.

Next, Mankiw shows that the total surplus of successful traders is maximum at equilibrium, and we add that the total shortage of unsuccessful traders *is also maximum* at equilibrium.

In Section 6, we go back to Adam Smith's paradox and we point-out that Mankiw's definition of *efficiency* is **circular** and **tautologic**: markets maximise the benefits of those who happen to get benefits in the market. Therefore, the claim that equilibrium benefits everyone in society is **false**.

In Section 7 we show how the equilibrium allocation of resources is *intrinsically inequalitarian*, because resources are allocated to those with more purchasing and selling power (there is no pie for unsuccessful traders). Since total surplus *and* total shortage are both maximum at equilibrium, *equilibrium maximizes inequality*. Markets lead to the accumulation of wealth, because market forces favour those who are already better off, and they keep getting better and better at each market run.

Finally, in Section 8, we suggest what the Benevolent Social Planner's optimal allocation of resources would be: she would like to use successful buyer surplus to make up for unsuccessful buyer shortage, and she would like to use successful seller surplus to make up for unsuccessful seller shortage. Such allocation would allocate all available resources to *all* (full demand allocation).

Section 9 is devoted to conclusions, and in Section 10, under the light of the arguments developed here, we revisit Mankiw's first Principles of Economics.

In Mankiw's Own Words

*"Another trade-off that society faces is between efficiency and equality. **Efficiency** means that society is getting the maximum benefits from its scarce resources. **Equality** means that those benefits are distributed uniformly among society's members. In other words, efficiency refers to the size of the economic pie, and equality refers to how the pie is divided into individual slices" [pag.5].*

4. Buyers and Sellers are Concerned Only about Their Own Benefits

According to Mankiw, a market is where buyers and sellers meet for the purchase of a single, particular good. Markets are **perfectly competitive** if 1) there are no differences among goods and 2) no single trader is big enough to have a direct influence on the price. That is, buyers and sellers are **price takers**.

Under this model, buyers are assumed to behave according to the **law of demand**: All other things equal, if the price of the good is lower, buyers buy more. Because buyers are assumed to try to pay as little as possible, we say that they are "*concerned only about their own benefit*". They care for their savings.

Next, Mankiw defines the market demand (fig.1), as the sum of individual demands, and he depicts it as a downwards sloping line, with prices (the independent variable) at the vertical axis and the quantity demanded at the horizontal axis.

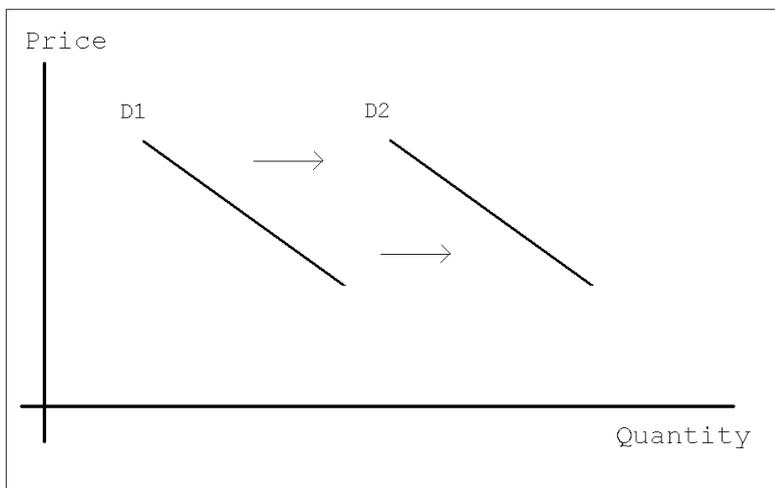


Figure 1. According to Mankiw, the demand curve is the sum of individual demands. When prices decrease, the quantity demanded increases. The more individuals demand the good at sale, the more the demand curve shifts horizontally to the right, as from D1 to D2 in the figure.

On the other hand, sellers are described to behave according to the **law of supply**: all other things equal, if the price of the good is higher, sellers try to sell more of it. Because sellers are assumed to try and make as much profit as possible, we say that they are "*concerned with their own benefit*".

Then Mankiw defines the market supply (fig.2), as the sum of individual supplies, and he depicts it as an upwards sloping line, with prices (the independent variable) at the vertical axis and quantity supplied at the horizontal axis.

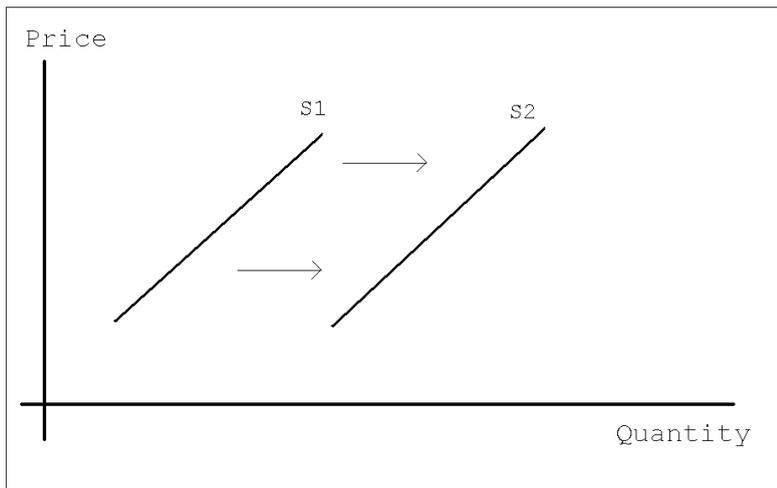


Figure 2. According to Mankiw, the supply curve is the sum of individual supplies. When prices decrease, the quantity supplied decreases. The more individuals supply the good, the more the supply curve shifts horizontally to the right, as in S1 to S2.

At the marketplace, sellers sell and buyers buy, but at some point the sales get *stuck*, because buyers and sellers enter in conflict: buyers do not want to pay what sellers ask for anymore (it is above their demand), and sellers do not want to sell at a lower price than their supply. Mankiw calls this point the **market equilibrium**.

Notice that, rather than equilibrium, this situation is a **dead-lock**, and it is a direct *consequence* of buyers and sellers proceeding in self-interest.

According to us, market equilibrium is an extremely ineffective allocation of resources, because there are still many buyers who would buy if the price was lower, and many sellers who would sell at a higher price (assuming there are no intrinsic restrictions in the supply of the good).

Going back to Mankiw, the **law of supply and demand** is the claim that the price of the good adjusts itself to the point where the quantity demanded equals the quantity provided (fig.3).

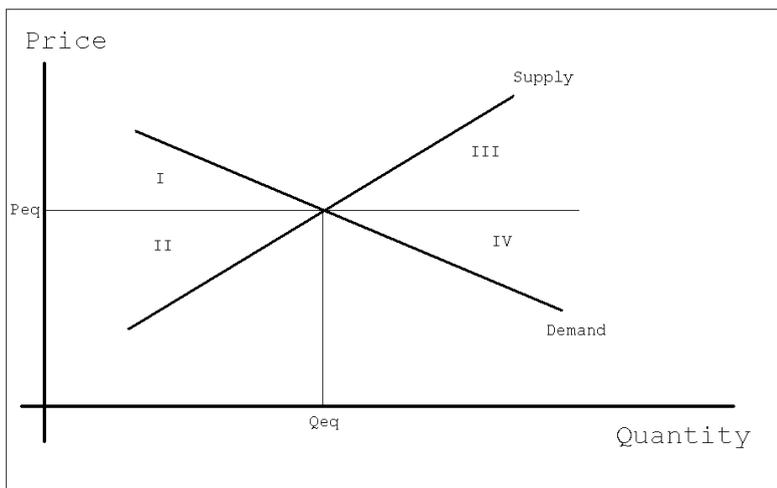


Figure 3. Demand and supply curves meet at the equilibrium point, with equilibrium price P_{eq} and equilibrium quantity Q_{eq} . Area I, successful buyer surplus. Area II, successful seller surplus. Area III, unsuccessful seller shortage. And area IV, unsuccessful buyer shortage (see text).

In equilibrium, then, resources are allocated as follows: all the goods go to the buyers on the left hand side of the equilibrium quantity (**successful buyers**), and all the sales go to the sellers on the same side of the equilibrium quantity (**successful sellers**).

To the right hand side of the equilibrium quantity, **unsuccessful buyers** do not get to buy, and **unsuccessful sellers** do not get to sell. In equilibrium, *the market generates scarcity*. In short, the market is like an auction, with winners and losers. And *winners take all*.

In Mankiw's Own Words

*"the assumption that markets are **perfectly competitive** : ... 1) the goods offered for sale are all exactly the same and 2) the buyers and sellers are so numerous that none of them has any influence over the market price. Because buyers and sellers in perfectly competitive markets must accept the price that the market determines, they are said to be **price takers**. At the **market price**, [successful] buyers can buy all they want, and [successful] sellers can sell all they want."* [pag.66]

"Buyers always want to pay less, and sellers always want to be paid more" [pag.135].

*"The **quantity demanded** of any good is the amount of that good that buyers are willing and able to purchase"* [pag.67].

Mark the word *"able"*.

*The **law of demand**, "is the claim that, other things equal, the quantity demanded of a good falls when the price of the good rises"* [pag.67].

*"The **market demand**, the sum of all the individual demands for a particular good or service" [pag.68]*

*"The **quantity supplied** of a good is the amount that sellers are willing and able to sell" [pag.73].*

Again, mark the word *"able"*.

The **law of supply** is *"the claim that, other things equal, the quantity supplied of a good rises when the price of the good rises" [pag.73].*

*"At the **equilibrium price**, the quantity of the good that buyers are willing and able to buy exactly balances the quantity that sellers are willing and able to sell" [pag.77].*

*"At [a price over the equilibrium price] the quantity of good supplied exceeds the quantity demanded. There is a **surplus** of the good: suppliers are unable to sell all they want at the going price. ...[Sellers] respond to the surplus by cutting their prices. Falling prices in turn, increase the quantity demanded and decrease the quantity supplied. These changes represent movements along the supply and demand curves... Prices continue to fall until the market reaches the equilibrium" [pags. 77-78].*

*"Suppose now that the market price is below the equilibrium price. In this case... the quantity of good demanded exceeds the quantity supplied. There is **shortage** of the good ... Sellers can respond to the shortage by raising their prices without losing sales. These price increases cause the quantity demanded to fall and the quantity supplied to rise. Once again, these changes represent movements along the supply and demand curves, and they move the market toward equilibrium" [pag.78].*

The **"law of supply and demand"**: *the claim that the price of any good adjusts to bring the quantity supplied and the quantity demanded for that good into balance" [pag.79].*

Mankiw says: *"The equilibrium price is sometimes called the **market-clearing price** because, at this price, everyone in the market has been satisfied: [successful] buyers have bought all they want to buy, and [successful] sellers have sold all they want to sell" [pag.77].*

"recall that when a market is in equilibrium, the price determine which buyers and sellers participate in the market" [pag.146].

"Thus in market economies, prices are the mechanism for rationing scarce resources" [pag.84].

"Resources are allocated to those buyers with more purchasing power. And prices adjust to that end" [pag.146].

5. The Surplus of Successful Traders and the Shortage of Unsuccessful Traders

At this point Mankiw turns to the normative side. At least, he wants to make sure that market equilibrium is desirable. So he goes on to define an efficiency measure, and to see whether it reflects this fact.

He first defines **willingness to buy** as the amount that buyers are ready to spend for the good at every given quantity, and he shows that the willingness to buy reflects the demand curve. According to him, the willingness to buy measures how much buyers value the good [or, we recall, how much they are able to pay for it]. Then, **[successful] consumer surplus** is defined as the difference between the willingness to buy and the actual price paid [defined for successful buyers only].

To us, successful consumer surplus is actually a measure of the **extra-savings** a buyer makes: the buyer was ready to spend an amount equal to his willingness to pay, but the market offers him a bargain price. The difference is his extra-savings.

Recall that buyers and sellers were assumed to look for their own benefit (buyers buy as long as the price is below their demand). Now we notice that successful consumer surplus is exactly the measure of such a benefit.

Similarly, Mankiw defines **willingness to sell** as the minimum amount that sellers expect to get for the good at sale, at every given quantity. He then shows that the willingness to sell reflects the supply curve and he says that the willingness to sell measures the sellers (opportunity) cost of the good. Then, **[successful] producer surplus** is defined as the difference between the price, and the willingness to sell [defined for successful sellers only].

To us, successful producer surplus is actually a measure of the **extra-profit** a seller makes because of the fact that the sale is made at a market price that is above his willingness to sell.

As before, we remark that successful producer surplus is exactly the measure of the seller's *"being concerned only about their own benefit"*: sellers sell as long as there is profit (as long as the price is above their supply).

So good for successful traders. We will now add to the picture the *"ill-being"* of the remaining wanted-to-be buyers and sellers (unsuccessful traders), but before, let's see what is Mankiw's argument in favour of [successful] consumer surplus:

"let's consider whether [successful consumer surplus] is a good definition of well-being. ... [successful] consumer surplus ... measures the benefit that [successful] buyers receive from [buying] a good as the [successful] buyers themselves perceive it. Thus, [successful] consumer surplus is a good measure of [the] economic well-being"

[of successful buyers] if policymakers want to respect the preferences of [successful] buyers" [pag. 140].

This is fine. But, Prof. Mankiw, how do you think that unsuccessful buyers *feel* when they cannot buy? And how do unsuccessful sellers *feel* when they cannot sell? Shouldn't we respect their preferences, too? Or, at least, shouldn't we acknowledge their *"ill-being"*?

Our main objection against Mankiw is that he ignores the *"ill-being"* of the unsuccessful.

We call **unsuccessful consumer shortage** the difference between the market price (the market value of the good that the consumer failed to buy) and the demand curve (the amount that she was willing to spend). This measures the extra amount that the unsuccessful consumer would need to add if she still wanted to buy the good at the market price. Notice that consumers who cannot buy the good, become **starved** in relation to that good.

Similarly, we call **unsuccessful producer shortage** the difference between the supply curve (the cost of the good) and the market price. This measures the amount that unsuccessful sellers would lose if they were to sell at the market price. Sellers who cannot sell their services, are in **unemployment** in relation to that good.

Adding up for the total successful consumer surplus, the total successful producer surplus, the total unsuccessful producer shortage, and the total unsuccessful consumer shortage, we get the areas depicted in figure 3, in the previous section.

Area I. Successful consumer, extra-savings.

Area II. Successful producer, extra-profit.

Area III. Unsuccessful producer, unemployment.

Area IV. Unsuccessful consumer, starvation.

Going back to Mankiw, **total surplus** is then defined as the sum of total successful consumer surplus and total successful producer surplus.

He shows, then, that *in equilibrium, the total surplus is maximum*. For a quantity Q_1 to the left of the market quantity, there is room to improve total surplus by moving to the right, and for a quantity Q_2 to the right of the market quantity, since total surplus is negative, total surplus increases by moving to the left. At the equilibrium quantity, the maximum is reached.

Reciprocally, we define **total shortage** as the sum of total unsuccessful consumer shortage and total unsuccessful producer shortage, and, with a similar argument, it becomes clear that *total shortage is also maximum at the market equilibrium*.

Canceling the price from both sides, Mankiw shows that

Total surplus = Value to [successful] buyers - Cost to [successful] sellers.

Similarly,

Total shortage = Cost to unsuccessful sellers - Value to unsuccessful buyers.

The former is defined only to the left of the equilibrium quantity, and the latter is defined only to the right of the equilibrium quantity.

In Mankiw's Own Words

"willingness to pay the maximum amount that a buyer will pay for a good" [pag.136]

"At any quantity, the price given by the demand curve shows the willingness to pay of the marginal buyer, the buyer that would leave the market if the price were any higher" [pag. 137].

"[successful] consumer surplus is the amount a [successful] buyer is willing to pay for a good, minus the amount the [successful] buyer actually pays for it." [pag. 137].

"the area below the demand curve and above the price measures the [total successful] consumer surplus in a market. This is true because the height of the demand curve measures the value buyers place on the good, as measured by their willingness to pay for it. The difference between the willingness to pay and the market price is each [successful] buyer's consumer surplus. " [pag. 138] (fig3, Area I).

"We now turn to the other side of the market and consider the benefits [successful] sellers receive from participating in the market" [pag 141].

"At any quantity, the price given by the supply curve shows the cost of the marginal seller, the seller who would leave the market first if the price were any lower" [pag.143].

"cost is the value of everything a seller must give up to produce a good. ... It includes out-of-pocket expenses ... as well as the value that the [sellers] place on their own time" [pag 141].

"Because a [seller] cost is the lowest price she would accept for her work, cost is a measure of her willingness to sell her services" [pg 141].

"[successful] producer surplus is the amount a [successful] seller is paid minus the [opportunity] cost of production. [total successful] producer surplus measures the benefit [successful] sellers receive from [successfully] participating in a market" [pg.141].

"[successful] consumer surplus and [successful] producer surplus are the basic tools that economists use to study the welfare of [successful] buyers and [successful] sellers in a market. These tools can help us address a fundamental economic question: Is the allocation of resources determined by free markets desirable?" [pag. 145].

*"One possible measure is the sum of consumer and producer surplus, which we call **total surplus**". [pg.145]*

*"**Total surplus** = Value to buyers - Cost to sellers". [pg.145]*

"At any quantity below the equilibrium level, the value of the marginal buyer exceeds the cost to the marginal seller. As a result, increasing the quantity Q produced and consumed raises total surplus. This continues to be true until the quantity reaches the equilibrium level. Similarly, at any quantity beyond the equilibrium level, the value of the marginal buyer is less than the cost to the marginal seller. In this case, reducing the quantity raises total surplus, and this continues to be true until quantity falls into equilibrium level" [pags.147-148].

6. Adam Smith, Paradoxical or Untrue?

We are now ready to go back to Adam Smith's Paradox:

Adam Smith's Paradox

In a free, competitive market, even though buyers and sellers are concerned only about their own welfare, they all proceed, like driven by an invisible hand, to a market equilibrium that optimizes the well-being of everyone in society.

This statement is, apparently, paradoxical: how can it be that a "*selfish*" individual behaviour leads to the well-being of all?

Mankiw defines **market efficiency** as the property of a resource allocation of maximizing the total-surplus received by *all members of society*, and we have seen that total-surplus is maximum at the equilibrium point.

The definition is tricky, because we have seen that, to Mankiw, total surplus refers to successful traders only. Since only successful traders receive any surplus at all, then the total surplus received by "*all members of society*" is maximum at the equilibrium point, and the argument is strictly true.

Yet, if we *do* consider all members of society, we have seen that unsuccessful traders incur a *shortage*, and that total shortage is also maximum at the equilibrium point. Therefore, the "*well-being of everyone in society*" is not maximum at the equilibrium point, and the paradox is false.

In fact, the choice of total surplus as a measure of efficiency is "*biased*" towards successful traders.

Mankiw's argument is *circular* and *tautologic*. Since buyers and sellers behave in self-interest, the market reaches an equilibrium where there are winners and losers. Efficiency is the allocation of resources that maximizes total surplus of the winners, which in turn is the measure of how much [successful] buyers and [successful] sellers behave in self-interest.

In Mankiw's argument, perfect markets maximise the sum of the individual benefits of those who, proceeding in their own benefit, get benefits from the market.

All things considered, the right statement should be:

Adam Smith's Paradox Unraveled

In a perfectly competitive market, since each buyer and seller is concerned only about their own welfare, the market gets stuck in an equilibrium that maximizes the total surplus of successful buyers and sellers, as well as maximizing the total shortage of unsuccessful buyers and sellers.

In Mankiw's Own Words

"Buyers always want to pay less, and sellers always want to be paid more. But is there a "right price" for turkey from the standpoint of society as a whole?" [pag.135].

"The price that balances the supply and demand for turkey is, in a particular sense, the best one because it maximizes the total welfare of [successful] turkey consumers and [successful] turkey producers" [pag.136].

"To evaluate market outcomes, we introduce into our analysis a new, hypothetical character called the benevolent social planner. The benevolent social planner is an all-knowing, all-powerful, well-intentioned dictator. The planner wants to maximize the economic well-being of everyone in society. What should this planner do? ... Can he increase economic well-being by altering the market outcome in some way?" [pg.145]

*"The planner must first decide how to measure the economic well-being of a society. One possible measure is the sum of [successful] consumer and [successful] producer surplus, which we [the economists] call **total [successful] surplus** ... [successful] consumer surplus is the benefit that [successful] buyers receive from participating [and winning] in a market, and [successful] producer surplus is the benefit that [successful] sellers receive. ... It is therefore natural to use total [successful] surplus as a measure of society's economic well-being" [pg.145].*

Is it *"natural"*? Does it really measure the *"society's"* economic well-being?

Then Mankiw defines **efficiency** as *"the property of a resource allocation of maximizing the total surplus received by all members of society" [pg. 145].*

"Is this equilibrium allocation of resources efficient? That is, does it maximize total [successful] surplus?" [pag. 146].

"Adam Smith's invisible hand of the marketplace. The invisible hand takes all the information about buyers and sellers into account and guides everyone in the market to the best outcome as judged by the standard of [successful] economic efficiency. It is truly a remarkable feat" [pag.149].

"We showed that the forces of supply and demand allocate resources efficiently [to successful traders]. That is, even though each buyer and seller in a market is concerned only about his or her own welfare, they are together led by an invisible hand to an equilibrium that maximizes the total benefits to [successful] buyers and [successful] sellers" [pag.150]

7. Free Markets and the Accumulation of Wealth

This section shows how market economies cause the accumulation of wealth into the hands of those who were already better-off at the start.

As we have seen, markets allocate resources to those buyers with more purchasing power, and they allocate sales to sellers with more selling power. Such allocation of resources is, therefore, inequalitarian. Furthermore, at market equilibrium both the surplus of successful traders and the shortage of unsuccessful traders are maximum. Therefore, the market equilibrium is *maximally* inequalitarian.

After the purchase, successful consumers are still better-off by their extra-savings, and successful sellers are better off by their extra-profit. On the other side, unsuccessful consumers are worse-off by their starvation and unsuccessful sellers are worse-off by their unemployment.

Since they won in the market, and since they now have extra-savings, the successful buyers have a larger budget than expected for the next market run. Thus, at the next market run, they can start from a still better position, or they can move to *"higher-standing"* markets, if they wish.

Yet, unsuccessful buyers, who were worse-off at the start, are now equally disadvantaged and starved. If they still intend to participate in this market, they must reallocate the money they had assigned to some other good. Or they must look for substitute markets with a lower price.

Similarly, for sellers, those with a better selling-power won the first market run, and they can allocate the extra profit they got (the successful seller surplus) to further decrease their costs for the next run, or they can move to a higher revenue market.

Unsuccessful sellers, though, must find a way to reduce costs if they still want to participate in this market. Or move to alternative markets where their ability to sell is below the price.

In short, those who were better-off, get better and better. And those who were worse-off get worse and worse. *The market*, thus, *is intrinsically inequalitarian*, and it leads society towards the *accumulation of wealth* in the hands of the winners.

With the above situation, it is likely that some new well-standing buyers, seeing the opportunity for extra-profit, enter the market. And some unsuccessful buyers, realizing that they cannot buy in it, exit the market altogether. This would rotate the demand curve clockwise and make it steeper (fig.4).

Similarly, some well-standing sellers, seeing the opportunity for extra profit, would add to the supply. And some unsuccessful sellers, realizing that they cannot sell, are likely to

exit the market. This would rotate the supply curve counterclock-wise, and make it steeper (figure 4).

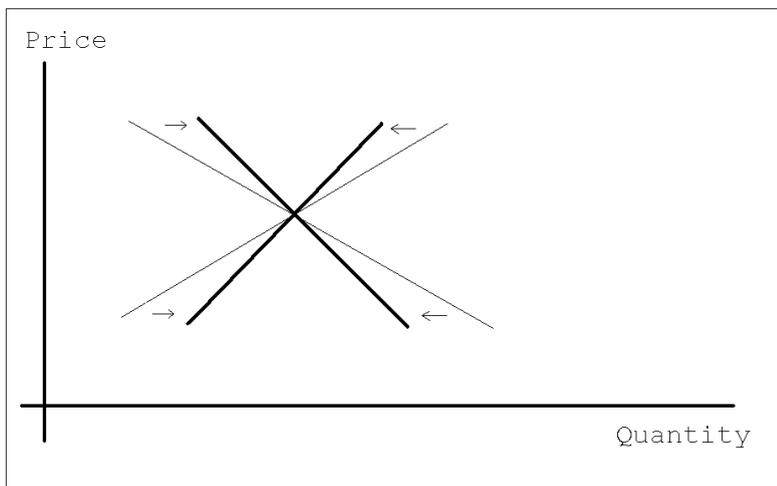


Figure 4. New potentially successful traders enter the market, and some unsuccessful traders exit it.

The outcome is that, in the new market situation, extra-savings, extra-profit, unemployment and starvation, they all increase, making things better for successful traders, and making the shortage larger for unsuccessful traders.

In Mankiw's Own Words

"Now consider the goal of equality. Even when the invisible hand is yielding efficient outcomes, it can nonetheless leave sizable disparities in economic well-being. A market economy rewards people according to their ability to produce things that other people are willing to pay for" [pag.13].

"Who gets this resource?... The answer is whoever is willing and able to pay the price" [pag.84].

"Resources are allocated to those buyers with more purchasing power. And prices adjust to that end" [pag.146].

"Those buyers who value the good more than the price ... choose to buy the good; buyers who value it less than the price [or cannot afford it...] do not" [pgs. 146-147].

"Similarly, those sellers whose costs are less than the price... choose to produce and sell the good; sellers whose costs are greater than the price ... do not" [pag.147].

"Free markets allocate the supply of goods to the buyers who value them most highly, as measured by their willingness [or ability] to pay" [pag.147].

"Free markets allocate the demand for goods to the sellers who can produce them at a lower cost" [pag.147]

8. The Benevolent Social Planner's Preferred Allocation of Resources

This section shows what ought to be an effective allocation of resources, according to *our* Benevolent Social Planner.

In our context, **effectiveness** is the property of a resource allocation of allocating *all* the demanded good to *all* potential consumers. We call this **full-demand allocation**, and it is possible to reach it unless there is some **intrinsic scarcity** in the production or supply of the good. To reach full-demand allocation, producers would need to produce as much as necessary to satisfy the needs of *all* consumers.

Efficiency involves the optimization of some measure that reflects the well-being of *all members of society*.

Mankiw's efficiency is not a good efficiency measure because it does not take into account the shortage of unsuccessful traders, and it is not effective because equilibrium is a scarce allocation of resources.

So, what would our Benevolent Social Planner's choice be? Going back to the areas in figure 3, the questions that the Benevolent Social Planner would ask herself are the following:

Area I. Why should we encourage successful buyers to get extra-savings? Should they not be happy enough by buying at their willingness to pay? Why should their individual extra-savings be a measure of the well-fare of society as a whole?

Area IV. Why should we accept that unsuccessful buyers go without the good they were looking for? Why should they starve? Why should there be a shortage?

Area II. Why should we encourage successful sellers to get extra-profit? Should they not be happy enough by selling at their willingness to sell? Why should their individual extra-profit be a measure of the well-fare of society as a whole?

Area III. Why should we accept that unsuccessful sellers cannot sell their product? Why should they become unemployed? Why should there be a shortage?

The priority of our Benevolent Social Planner would be a resource allocation that was effective.

Then, a good allocation criterion for her would be to use extra-savings to *make up* for starvation, and to use extra-profit to make up for unemployment. That is, she would like to minimize extra-savings, and extra-profit, and unemployment and starvation, all at the same time.

In such a way, everyone would get what they needed (full-demand), and they all would be happy because, after all, successful buyers would spend what they were willing to spend, and sellers would receive their expected opportunity cost.

Furthermore, the outcome would be effective. No more extra-savings, no more extra-profit, no more unemployment, and no more starvation. Perfect effectiveness, no scarcity, and no more increasing inequality.

As an example of such behaviour, imagine a dinner where everybody brings what they wish or can, and everybody eats what they want.

More about this kind of economies in the next Episodes of the Debunking Mankiw series.

9. Conclusions

This work is Episode I in the Debunking Mankiw Series, whose authorship is attributed to the Benevolent Social Planner (actually, our planner is neither all-knowing nor all-powerful, but she is well-intentioned).

We took Professor N. Gregory Mankiw's textbook "*Principles of Economics*", and we discussed some of his arguments.

Mankiw advocates for free markets. His main argument is probably that, since free markets maximize the well-being of society as a whole, any interference with the market outcomes may result in an undesirable decrease in efficiency. So markets should preferably be left free.

We have shown that the previous claim is false. That is, market equilibrium does not improve the well-being of every one in society (efficiency). In fact, market equilibrium is reached because buyers and sellers maximize their profit. The equilibrium point is a scarce allocation of resources that divides the marketplace into winners (those who manage to buy and sell), and losers (those who fail to buy and sell). We found out that Mankiw's measure of welfare is *biased* towards the winners, and that the market outcome is unfair (there is no pie for unsuccessful traders, who get into starvation and unemployment). Actually, we showed that free markets are intrinsically inequalitarian and that they lead to the accumulation of wealth.

In terms of what we call Adam Smith's paradox, Mankiw's arguments are circular and tautological. According to him, perfect markets maximize the sum of the benefits of those who, concerned only about their own benefits, do get benefits in the market (the winners).

Contrarily, our claim has been the following:

Adam Smith's Paradox Unraveled

In a perfectly competitive market, since each buyer and seller is concerned only about their own welfare, the market gets stuck in an equilibrium that maximizes the total surplus of successful buyers and sellers, as well as maximizing the total shortage of unsuccessful buyers and sellers.

Finally, we suggested that our Benevolent Social Planner would like an allocation of resources that would use the consumer surplus of successful buyers (extra-savings) to make up for the consumer shortage of unsuccessful buyers (starvation), and that would use the producer surplus of successful sellers (extra-profit) to make up for the producer shortage of unsuccessful sellers (unemployment). In that setting, successful buyers and sellers would none the less get their expected willingness to buy or sell, and there would no longer be unsuccessful traders.

The resulting resource allocation would be effective, in the sense of providing, if available, as much of the good as necessary for everyone (full-demand allocation).

And it would be equalitarian!

Do not miss the forthcoming episodes of the Debunking Mankiw series!

In Mankiw's Own Words

"That is why economists so often advocate free markets as the best way to organize economic activity" [pag.149].

10. The Principles of Economics Revisited

This section reviews the first Mankiw's Principles of Economics, at the sight of our previous analysis.

Principles are statements that are assumed to be true at the beginning of an argument, in order to support the argument's conclusions. This is what Mankiw's Principles of Economics [chapter 1] are intended for.

Since now we know that some of Mankiw conclusions are biased, we now review Mankiw's principles, with respect to the subject of well-being and equality.

Principle 1.- People Face Trade-offs [pag.4]

The main trade-off that Mankiw deals with in relation to this work is the trade-off between efficiency vs equality. In this regard, we have seen that market equilibrium maximizes inequality.

Principle 2.- The Cost of Something is What You Give Up to Get It [pag.5]

Opportunity cost, like willingness to buy, are not real economic variables. They are *subjective* measures that describe, hypothetically, the behaviour of sellers and buyers in the market "*auction*".

Principle 3.- Rational People Think at the Margin [pag.6]

Thinking at the margin is the way Mankiw uses to refer to the fact that people seek to maximize (or minimize) whatever quantity they want to optimize. In mathematical terms, the margin is closely related to the derivative of a given quantity. Following the sign of the derivative amounts to maximization, and moving in the opposite direction of the derivative amounts to minimization.

In the context of this text, sellers and buyers are assumed to optimize their benefit. Optimization, then, is the magic of the invisible hand.

Principle 4.- People Respond to Incentives [pag.7]

This principle is intended to support the idea that people are mainly concerned in their own welfare. But, in their everyday life, people respond to other kinds of incentives, other than their economic benefit.

Firms do not.

Principle 5.- Trade can Make Everyone Better Off [pag.10]

This is the main subject of this work. Free markets, Mankiw argues, make everyone

better off. We have seen that "*everyone*" means successful buyers and successful sellers, only. The claim is, therefore, false.

Principle 6.- Markets are Usually a Good Way to Organize Economic Activity
[pag. 10]

This principle refers to the invisible hand of the market that organizes everything in such a way that what is to be sold is sold, and that markets reach equilibrium by themselves.

We have seen that this is true in the marketplace model, *because* buyers and sellers are assumed to be concerned with their benefit only. And that the resulting allocation of resources is scarce and inequalitarian.

11. Epilog: What Would the Benevolent Social Planner Say to Adam Smith?

If she met Adam Smith, the Benevolent Social Planner would tell him: *"Dear Adam, you have been fooling us!!! It is true that when people behave in their own interest, winners are better-off. But please, don't miss prices and derivatives with invisible hands, and don't tell us that market profit is to the benefit of society as a whole!"*.