Heterodox Economics

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2025-05-07

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Preface

This website is a guide for economics, macroeconomics and especially heterodox macroeconomics. Most of the content and macro models presented here are summaries of Blecker and Setterfield (2019) manual on heterodox macroeconomics. I created this website simply because I need a platform to put all my notes and summaries from my economics classes during my studies, so that I can have a quick access to it and also make it accessible to anyone interested in the topic.

Part I

Introduction

1 Introduction: Market Equilibrium

This website is guide to mainstream and heterodox economics constructed from my personal notes from a variety of bachelor and master level economics courses. goal is to provide summaries of important topics in neoclassical and heterodox economics. Since having some background in mainstream economics is crucial to understand the heterodox and Post-Keynesian economics, mainly because the latter are constructed partly as a response and critic of mainstream-neoclassical economics, the present introduction will summarize the basics of neoclassical production theory, consumer theory and market equilibrium.

Let's first recall what market equilibrium is, because it is one of the most important concept in economics.

1.1 Market equilibrium

1.1.1 What is a market?

Market equilibrium is perhaps the most important element of neoclassical theory. Every introductory mainstream textbook starts with market equilibrium. Acemoglu, Laibson, and List (2017) defines an market as:

"A group of economic agents who are trading a good or service plus the rules and arrangements for trading" (Acemoglu, Laibson, and List 2017, 59).

The definition given by Pindyck and Rubinfeld (2013) is more precise:

"**Market**: Collection of buyers and sellers that, through their actual or potential interactions, determine the price of a product or set of products" (Pindyck and Rubinfeld 2013, 8).

Stated simply, market equilibrium tells what will be the price of any object or service, as long as the latters are commodified. Market equilibrium explains not only the equilirbium level of prices and commodities of any good or service, but also the change in prices resulting from exogenous shocks (change in income, confidence, technology…)

A market is thus a place (material or not) where an object or service is offered by suppliers and demanded by consumers and thus traded when an agreement is reached over the price which will determine the value of the traded commodity.

1.1.2 Markets under perfect competition

But there are many types of markets. Microeconomics generally starts with an ideal-type market: the *perfectly competitive market*. The latter refers to any market in which there are a large number of suppliers and as well as a large number of consumers. An important characteristic of perfectly competitive markets is that *suppliers and consumers think that they cannot manipulate or have an influence over the market price.* Market price is thus considered as *given* and *fixed* by the market when demand equates supply, as we will see below.

1.1.3 Demand, Supply, Equilibrium

Consumers' total demand for a commodity constitute the overall market demand for that commodity. Demand is considered to be negatively related to the price of that commodity: the higher the price, the lower the demand. On the other hand, firms' supply of the commodity is a positive function of price. The higher the price, the higher the profits for any level of production, hence higher incentive to increase production and supply more quantity.

Let's now take an example: suppose that the demand for grain follows a negative linear function.
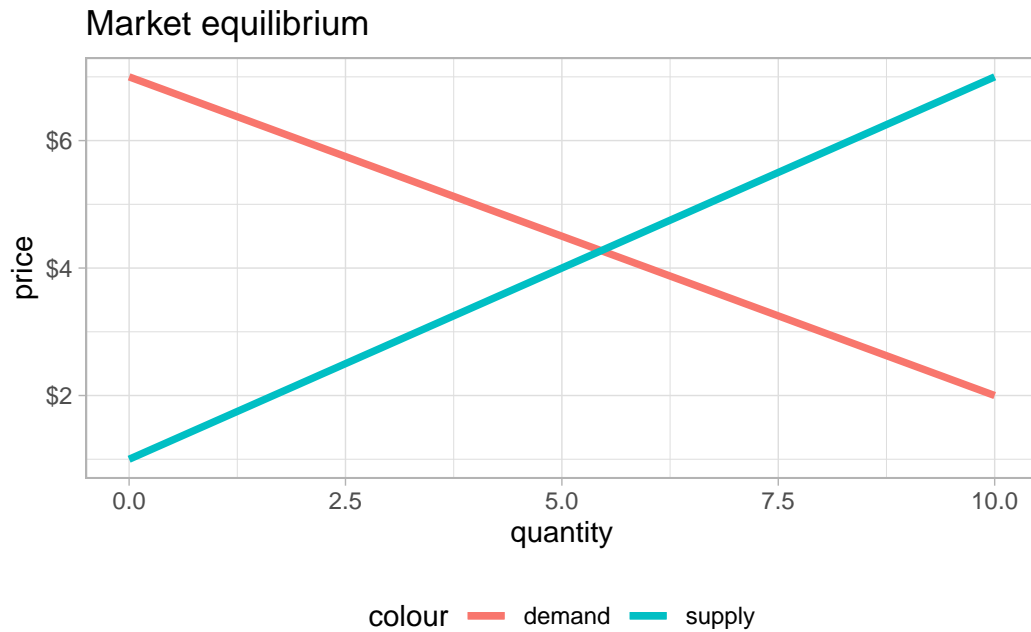
$Q_{demand} = 7 - 0.5p$

That means that the quantity demanded for grains decreases if the price for grain increases and vice and versa. The slope of the demand curve, -0.5, means that when the price increases by one, the quantity demanded decreases by 0.5.

Moreover, let's say that the quantity supplied for grains is a positive linear function of prices for grain: the higher the price, the more are firms willing to supply grains.

$Q_{supply} = 1 + 0.6p$

```
demand <- function(p) 7 - (0.5*p)
supply <- function(p) 1 + 0.6*p
```

Market equilibrium

To find the equilibrium price and quantity, we equate the demand and supply functions and solve for q:

$$q_{demand} = 7 - 0.5 * p$$
$$q_{supply} = 1 + 0.6 * p$$
$$q_{demand} = q_{supply}$$
$$7 - 0.5 * p = 1 + 0.6 * p$$
$$6 - 0.11p = 0$$
$$p^* = 6/1.1 = 5.45$$

The equilibrium price level is thus $p^* = 5.45$. To find the equilibrium quantity, we simple put the value of the equilibrium price (5.45) into either the supply or demand function: $7 - 0.5 * 5.45 = 4.275 = p^*$

It is easy to check directly if the computation is correct in r:

```
equilibrium <- curve_intersect(demand, supply, empirical = FALSE, domain = c(1,10))
equilibrium
```

```
$x
[1] 5.454545
```

```
$y
[1] 4.272727
```

Market equilibrium
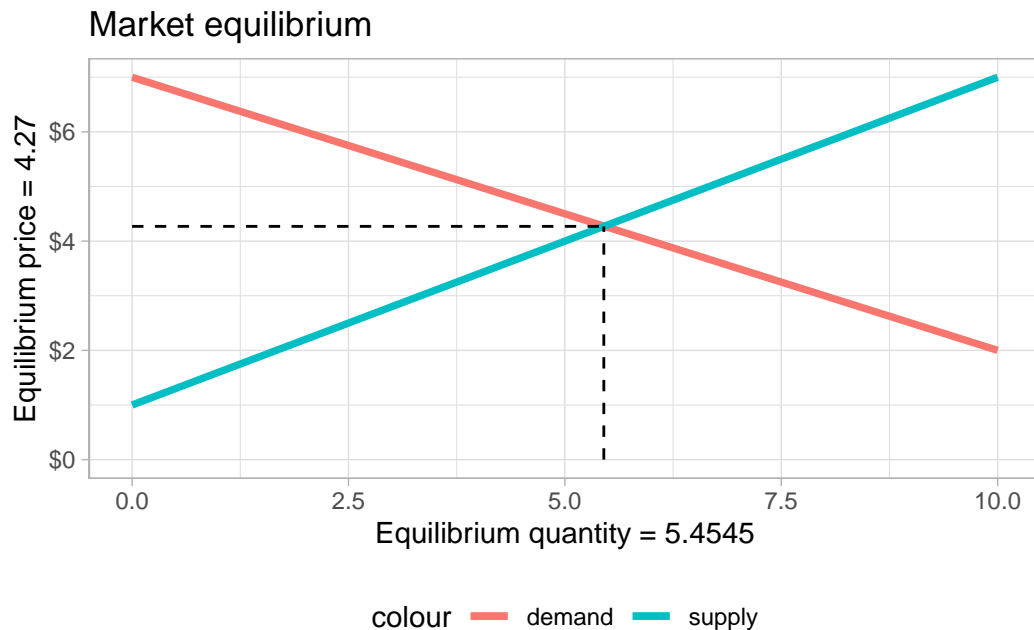
At equilibrium, economists say that "the market clears". In other words, when equilibrium is reached all commodities are sold, every suppliers have sold their commodities and every consumers have purchased one.

1.1.4 Deviations from market price

If the price was lower than the market price, for instance after a price control policy (think for example of all the debates about energy price since covid and the war), there would be excess demand. Every commodity would be sold, but there would still be consumers who want to consume the good, but cannot because suppliers do not want to increase production because the price is too low.

Conversely, if the price was above the market price, there would be a situation of excess supply. Firms supply a large quantity of commodities since the price is relatively very high, but not all commodities would be sold because some consumers would think that the price is too high for them.

1.1.5 Change in equilibrium prices

Finally, change in market price happens each time either the supply curve or the demand curve shift to the right (positive shock) or to the left (negative shock).

Regarding demand curve shifts, (Acemoglu, Laibson, and List 2017, 67) give five factors:

1. Tastes and preferences
2. Income and wealth
3. Availability and prices of related goods
4. Number and scale of buyers
5. Buyers' beliefs about the future

And four factors for shifts in supply curve (Acemoglu, Laibson, and List 2017, 73):

1. Prices of inputs used to produce the good
2. Technology used to produce the good
3. Number and scale of sellers
4. Sellers' beliefs about the future

But how did neoclassical theory arrive to this kind of model of equilibrium price and quantity determination? To understand better this model, we need to know why we have this positive supply curve and this negative demand curve. We will first investigate consumer choice theory, which is behind the negative demand curve, and then production theory, which is behind the positive supply curve.

2 Neoclassical-mainstream consumer choice theory

Mainstream consumer choice theory has for ambition to explain consumers' decision, that is to say, the choices consumers make between consuming one good or another.

2.1 The three assumptions

Consumer theory makes important assumptions, which are the foundation of the theory:

1. **Completeness**:

   consumers have complete knowledge about the goods and services they can potentially consume, they have clear preferences about these goods and services and can rank all of them (like a descending list where we would have the most preferred goods and services at the top and utility associated with goods and services would decrease as we go down in the list)

2. **Transitivity**:

   Preferences regarding goods and services are transitive. That means that if a consumer prefers A to B and B to C, A is better than C.

3. **More is better than less**

   (non satiety assumption): Goods and services are always desirable. For example, if someone gives you one apple, then two, then three, then twenty, and then one thousands, you would always accept those apples, because you are still better off even if one gives you too many apples.

2.2 Utility function, marginal utility

Consumer theory then illustrates any choice between two goods with the help of the famous indifference curves , which show the relation between the demand for one good against the demand for another good (for example food and clothes, cars and bikes...). Indifference curves are based on **utility functions** whose really important property and assumption is the decreasing

marginal utility principle. Decreasing marginal utility means that for every one additional unit of a given good a consumer get, the utility for this consumer increases less than the previous additional unit. Let's say, for instance, that you don't have food at the moment and you are hungry: if i give you one apple, you will be a lot better off and your utility will increase a lot when I give you this one apple. Then, if I give you another apple, your utility will still increase, but by less than when I gave you the first apple. Finally, after I give you an additional apple for the fifteenth time, your additional utility will still be positive, but by far more less than when I gave you the first apple.

Decreasing marginal utility principle
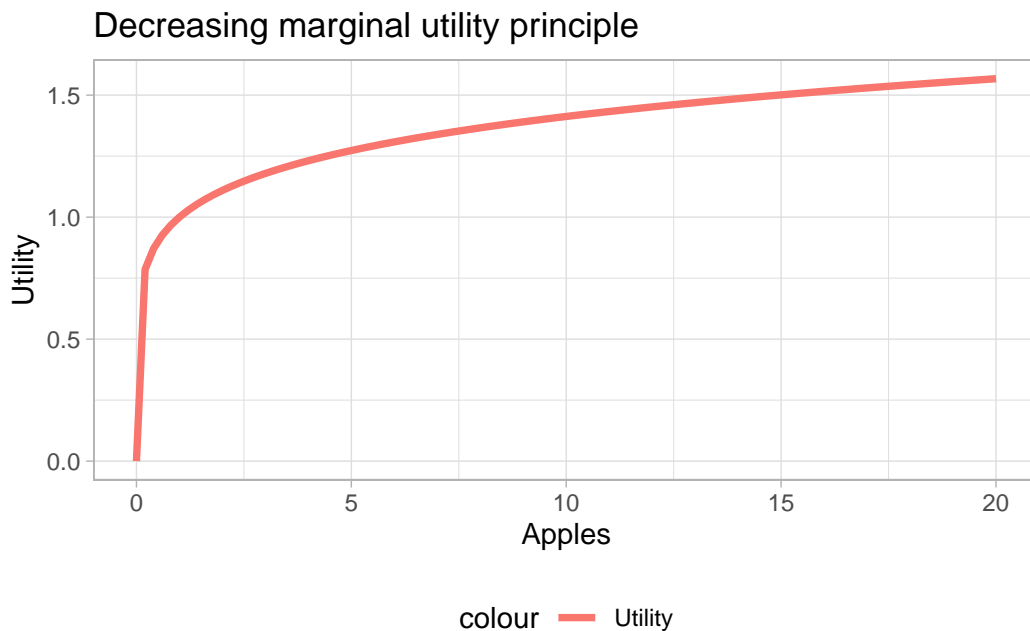
Decreasing marginal utility is an important assumption which explains the shape of the indifference curves. The latter, if the two goods are substitutes (but not perfect substitute) and not perfect complements, are convex-shaped. If, for instance, we consider an indifference curve for the choice between units of apples and bikes, the line of the indifference curve represents all the possible combination of the two goods which give the same utility for the consumer.

2.2.1 Indifference curve

Indifference curves are based on utility functions. An utility function can be for example:
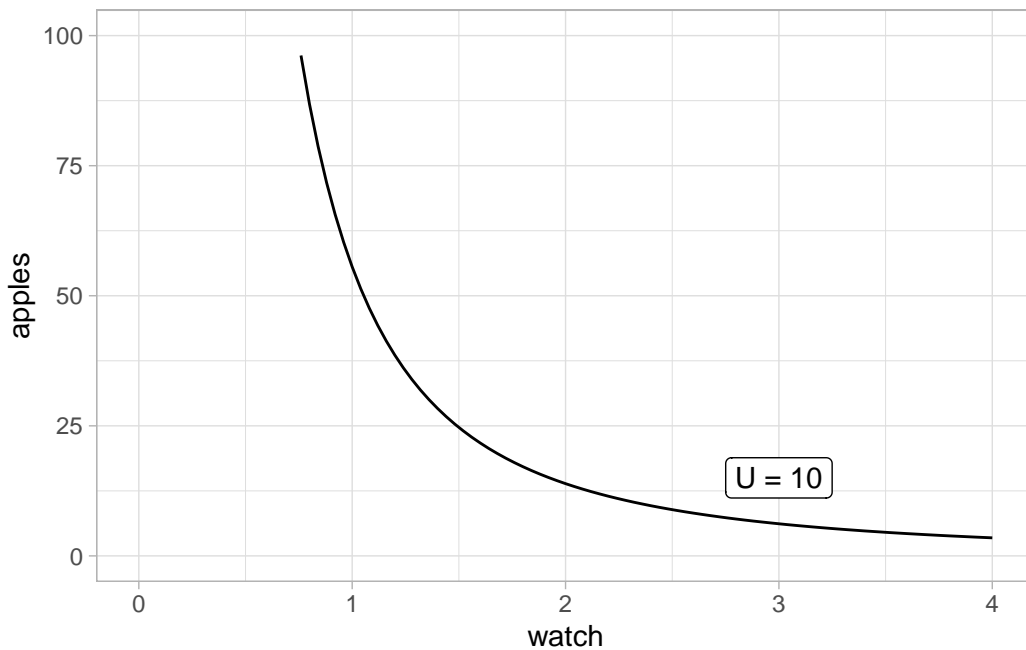
$$U(x, y) = x^2 0.18y$$

With x and y two different goods, apples and watches for example. To get the indifference curve function, we fix utility U at any positive value, and rearrange the function above to get y as a function of x and U:

$$U = x^2 0.18y$$
$$y = \frac{U}{0.18 * x^2}$$

```
Yacas vector:
[1] y == U/(0.18 * x^2)
```


2.3 Budget constraint

In the indifference curve graph above, the consumer can choose any combination of apples and watches on the line, and those combinations would bring the same utility $U = 10$. However, one important element was not taken into account yet. This element is the fact that consumers are limited in their consumption decisions by their income. Neoclassical theory calls this **budget constraint**. For instance, let's say that our consumer has an income of 600 francs. The price of one apple is 4 francs (one bag of apples to be more realistic) whereas the price of a watch is 200 francs. The budget constraint can be written as: