# Tutorial 1: Simple Reproduction, or how a capitalist economy works

©Alan Freeman 2018

# Where to begin

This tutorial is distributed with the [Capitalism App.](https://github.com/axfreeman/capitalism-9.0) It takes you through an illustration, due to Marx, of the way capitalism works. It assumes you have read the [User Guide](https://github.com/axfreeman/capitalism-9.0/blob/master/User%20Guide.pdf) which explains terms like ‘action button’ that are scattered through this text. The screen is fairly self-explanatory, so you may get by without it. If not, [RTFM](https://en.wikipedia.org/wiki/RTFM).

Here’s where it all begins.

* Find the file ‘capitalism.exe’ and run it.
* Click on the ‘Exchange’ action button

Look at the main tables tab and study the top table, which should look like Figure 1. The columns won’t all be the same width as in the illustration: however, it’s fairly easy to drag them into the shape and size of your choosing.

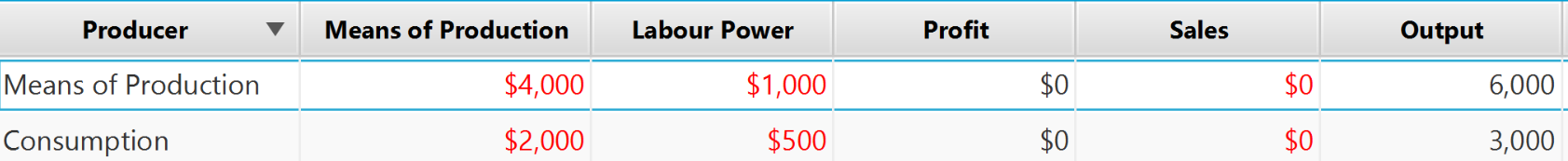


Figure 1 Simple Reproduction, after Exchange and before Production

So why bother? Because ‘Simple Reproduction’ is a mother theory: all explanations of capitalism spring from it.

* It is the foundation of modern Macroeconomics. If you want to understand the ‘circular flow of income’ on which the National Accounts are based, or the ‘Input-output analysis’ developed by the Russian-born economist Wassily Leontieff in the 1930s which underpins most modern National Accounting systems, or (if you are a glutton for punishment) the complicated equation systems known as ‘Linear Production Systems’ associated with the Italian economist Piero Sraffa – start here.
* It makes the fewest special assumptions. All more complicated systems – for example if capital accumulates, if there is technical change, if prices diverge from values – are all special cases of this basic, abstract system. This includes systems with many inputs and many outputs, systems with production functions, with complex financial operations or forms of money, and so on. Any economy which produces commodities must satisfy certain basic laws, just as any system of moving bodies has to satisfy Newton’s three laws of motion. If you want to move from the abstract to the concrete, this is for you.

In a nutshell, it is historically, and logically, the best place to start studying the economies of our time.

If you are familiar with Marx’s notation, you will recognise the rows and columns in the table he provides (see [page 243 of the CyberMarx online edition](https://www.marxists.org/archive/marx/works/download/pdf/Capital-Volume-II.pdf)), shown in Figure 2.

|  |
| --- |
| … |

Figure 2 Marx's table representing Simple Reproduction

Marx’s ‘[Department] I’ is called ‘Means of Production’ in the ‘Producer’ column and Marx’s [II] is called ‘Consumption’

🏱Note the phrase, “exclusive of the fixed capital”.

🏱 Note the phrase ‘The figures may indicate millions of marks, francs, or pounds sterling”.

We will return to these phrases.

# What’s going on?

Capitalism depends, for its existence, on private property. The term can be confusing, because it implies that owners are individual humans. Actually, most owners are corporate entities, known in legal parlance as ‘legal persons’. The App recognises two distinct types of owner: **social classes**, and **industries**. Industries make things; social classes consume them.

The industries are what you see in the columns of both Figure 1 and Figure 2. Social classes are shown just below, and will be discussed ‘momentarily’, as North American discourse would have it.

## Industries

An industry is a collection of legal persons that produces a particular type of commodity. Industry I produces commodities that are only used to make other commodities, such as iron or steel. Industry II produces commodities that are consumed by social classes, such as Kentucky Fried Chicken.

Industries can be subdivided. An important feature of private property is that subdividing an industry doesn’t change the basics. Whether we include chicken-making in I or in II, the arithmetic relations between I and II stay valid, even though I is bigger if we put chicken-making in it and II is smaller. It’s only a question of where we draw the line.

Industries may produce more than one commodity. There is a big literature about this and the App can be extended to cover it. Right now, don’t bother. In the App, one industry produces one commodity – but several industries can produce the same commodity.

In summary, the columns in Figure 1 and Figure 2 describe what the economy consumes, in order to produce.

## Social classes

A social class is a collection of legal persons who are entitled to a particular kind of revenue.