

## 7. Natural Real Interest Rate

In *Must Read Man, Economy and State*, Rothbard explains that the production structure is an essential part of the time market. The interest rate is determined in the time market and gets reflected in 'the slope of the production structure'. The actual slope and actual investment return is the ratio of the future selling price (future revenue) compared to the current buying price (current costs).

### Natural real interest rate

An important investment model is the Capital Asset Pricing Model (CAPM). CAPM describes how investors expect to be compensated for the time value of money and risk. The more risk you take, the more you want to be compensated. In formula:

$$(A) \quad R_e = R_f + \text{Beta} * (R_m - R_f)$$

$R_f$  = risk free return

$R_m$  = the market return

Beta = an element of riskiness

A pure risk free rate of return does not exist. Any government can print money and 'safely' return money. However, in that case you probably get money with less purchasing power back. For that purchasing loss, a lender wants to be compensated. In a way, one could say the risk free rate of return  $R_f$  is about zero.

In *Human Action* (chapter 19), Mises explains that the required return ( $R_r$ ) of an investor consists of the Ordinary interest rate which I call the Natural interest rate ( $R_n$ ), a compensation for risk (Risk) and a compensation for an expected increase in the price level ( $P_e$ ). In simple formula<sup>1</sup> this would look as follows:

$$(B) \quad R_r = R_n + R_{\text{Risk}} + P_e$$

This required return applies to equities as well as bonds. Because equities are more risky than bonds, equities will have a higher risk premium and a higher required return. In the CAPM model is included an Expected return for equities, that is higher the more risky a stock and the higher the Beta is.

$P_e$  is what is the price development as expected by the investor ( $P_e(\text{Investor})$ ), based on the investor's basket of consumption goods and services. The  $P_e$  is hence different for each investor.

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<sup>1</sup> A proper way of relating the real and nominal interest rates and the expected inflation rate is given by the [Fisher equation](#)

$$1 + i = (1 + r)(1 + P_e)$$

where

$i$  = nominal interest rate;

$r$  = real interest rate;

$P_e$  = Expected Inflation rate

The natural interest rate  $R_n$  is a real return. A real interest rate is approximately the nominal interest rate minus the price inflation rate. People are saving and investing money with a view to really consuming more in the future, instead of having just more money available in the future. The interest rate return an investor requires ( $R_r$ ) is a nominal type return. This required return is always positive. A person always prefers a good (or money) now, rather than in the future.

Is there a way to link the CAPM formula A with the Mises formula B? If  $R_n$  is a real interest rate, reflecting the real time preference of society at large or in other words of the entire market, one could say that  $R_n = R_m - P_e(\text{market})$ .

The  $P_e$  here is the price development as expected by the market, hence  $P_e(\text{market})$ . The market as a whole could expect a different price development than an individual investor, or the market as a whole could have a different basket of consumption goods and services. If we assume they are the same, we would get from B:

$$(C) \quad R_r = (R_m - P_e) + P_e + R_{\text{risk}} = R_m + R_{\text{risk}}$$

Intuitively, rather than mathematically, this is pretty much the same as  $R_r = \text{Beta} * R_m$ . The more risky an investment is compared to other market alternatives, the higher the required return.

The most important conclusion in my view is that Mises' Ordinary interest rate is a real rate of return. Another conclusion is that if investors expect for themselves higher prices compared to the price expectation of the market ( $P_e(\text{Investor}) > P_e(\text{market})$ ), they will require a somewhat higher nominal return, the difference being the difference in price expectations.

### Nominal versus Real and Impact Investing

In CAPM only the nominal return an investor generates matters and not the price impact. Investors in Europe are debating a lot about Impact Investing these days<sup>2</sup>, with the idea that an investment should generate a financial return and also a non-financial return such as an increased quality of life or a lower CO<sub>2</sub>-footprint. Impact Investing does make a lot of sense, as it emphasises the non-financial return. It makes investors realise that in addition to the nominal return, there is an impact that investors and in fact the entire society can benefit from.

However, every investment made is meant to improve the situation of people. If there is no positive impact of an investment, consumers will not buy the fruits of the investments and the investment will not be profitable. A sustainable financial return goes hand in hand with a sustainable non-financial return. The signalling function of prices will guide investors and entrepreneurs to offering those products and services which are most preferred and for which consumers are willing to pay the price. Meeting those demands will improve the situation of people, by making those products and services available at an affordable price.

Generally speaking, the more money is invested in the production structure, the more downward pressure there will be on prices. By investing properly, producers are able to produce more efficiently. They can produce more goods and services in the same amount of time and they will be able to offer lower prices.. This is a reflection of a stronger production structure that allows a society

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<sup>2</sup> This article is written in 2024, Impact investing has been a popular topic in Europe for several years already.

to keep on consuming at an appropriate level and to sustain or even improve the well-being of people living in this society.

For each investor individually, the impact of their investing on prices may be negligible. When investing abroad, money is invested in the foreign production structure. This will have a downward pressure on foreign product prices. If these products are meant for the foreign market only, the investor will not benefit from the price impact. If the products and services are meant for the export market, including that of the investor's market, there is a small benefit to be realised by investing abroad, in addition to generating a nominal return. More generally speaking there is something to say for investing in one's home market instead of investing far away. Illustrated by  $R_n = R_m - P_e$ , the lower the  $P_e$ , the higher the  $R_n$ , the higher the real improvement of people's situation.

Obviously, the formulas are only meant to illustrate the point. In the end, our preferences are subjective and cannot be measured. For instance, another impact of investing in the productions structure can be to produce goods and services with a higher quality. Or, with far less pollution than before. So, even if prices do not go down, the impact of investments can still be positive. Prices will guide investors and entrepreneurs to offering those products and services which are most preferred. If consumers are willing to pay a somewhat higher price for more environmentally friendly products and services, there will be less price impact but still the situation of people will still have improved.

Prices develop in the marketplace based on the subjective preferences of people in society. What matters to people is a real improvement in their situation. This improvement is reflected in the real natural rate of return, that is generated by the fruits of the production structure. Lower prices are beneficial to all people in society as are improvements in the quality of products and services. These are examples of what I call Society's Profit, where all people in society benefit from working and living together.

In the next articles I will further describe Society's Profit and how current economic policies, based on the conviction that consumer goods prices must keep on rising, are reducing or potentially destroying society's profit.