

8 - Financial instruments in an ethical perspective: plain vanilla and derivatives

***Economics* can be defined as human activity in the perspective of *price*. A *price* is attached to the permanent transfer of property; an interest rate is also a *price*: the price of temporary transfer, for usage only.**

By a “plain vanilla” financial instrument is usually meant a debt instrument, i.e. a loan.

Derivative financial instruments are financial instruments that derive their price from that of a “plain vanilla” financial instrument called its “underlying”.

A “synthetic” derivative has been built from various elements to mimic the behaviour of another financial instrument, including “plain vanilla” financial instruments.

1. Sales and purchases are transfers of ownership

We live in an economic system where property is private. So if I have too little of something and I can see it lying over there, I can't just grab it, I need to strike a deal with its legitimate owner. Conversely, if I have too much of something, someone may approach me and wish to trade with me to get some. The deal will affect or not the ownership of the thing released. If the deal entails a transfer of ownership, the transaction is called a *sale* from the standpoint of the seller and a *purchase* from the standpoint of the buyer; if there's no transfer of ownership, it's a *loan*. Things can also circulate as gifts, and commerce operate through barter, but in our modern societies, in trade, things are exchanged for money.

The question whether or not a complex derivative instrument called a “capacity swap” is not in truth a *barter* transaction was raised in March 2002 by the Securities and Exchange Commission that oversees all dealings of American corporations. In question was the accounting validity of the “capacity swaps” traded by corporations like Global Crossing and Qwest We'll get back to that.

The amount of money agreed upon between the trading parties for transferring ownership or usage is the *price* and anything that has a price is a *good* or a *commodity*. If the transfer of ownership takes place at the time the price is paid, the transaction is called “spot”. If

the transfer of ownership takes place before the price is paid, the transaction is a *credit* purchase; if it is the reverse, if the price is paid before ownership changes hands, the transaction is a *forward* purchase. The place where a commodity is traded for the amount of money that its price expresses is called a *market* and sometimes an *exchange*. Talking of things as far as their price is concerned is talking about the *economy*, or speaking of things in an *economic* perspective.

2. Loans are *advances* or transfers of usage

The price to be paid when ownership is transferred is higher than when it is only the usage of the good that is: it is cheaper to borrow something as with a *loan* than to acquire it through a *sale*. How much do you pay for borrowing something? There is a relationship between the price you would pay for buying it and the price you pay for borrowing it. This is normal: having borrowed it you can act as if you owned it, apart of course from damaging it or destroying it; it is material to the agreement that you've committed yourself to returning the good in working condition at the end of a set period, called the *maturity* of the loan. There's also a relationship between the price paid for a loan and the length of time you keep it in your possession. Sometimes you borrow for so long and as over the years you're bound to damage the good to some extent that the loan transforms effectively into a sale; that's the case with some *leases*.

Sometimes it is the ownership of a loan that is transferred to a third party. This automatically creates what is called a "secondary market" for the commodity in question. The current circumstances of the loan constrain for how much it can sell: the time remaining to maturity, the attractiveness of competing loans of similar time length, etc. The financial concept of "present value" allows determining the sale price of an outstanding loan, it is also central to "marking-to-market" a commodity, all things we'll need coming back to in more detail.

3. Capital is an advance made by an investor

Let's call *capital* whatever is lent. There's a price attached to it, called "face value," the expense that would incur for fully transferring its ownership. The *face value* of a 1 million loan is 1 million.

Any type of productive activity requires a putting together of resources – what French

eighteenth century economist François Quesnay characterized as the *advances* – constituting an investment in the activity that the sale of the crop or of the manufactured good should allow to refund. The early French economists called the Physiocrats assigned to the benevolent action of the sun that such investment of forces and tools is most often rewarded, i.e. that the value of the outcome can reasonably be expected to be higher than the capital invested. That view was revived in the mid-twentieth century by the eccentric thinker, Georges Bataille.

Individual producers may be able to make the sun deliver through their own industry without being able to provide at the same time the advances; they have to turn to a third party that provides the capital needed.

4. Capital that grows makes profit, capital that dwindles makes loss

Any type of productive activity requires a certain time to unfold, during which a variety of incidents may take place that render the outcome of that activity uncertain. The lengthier the process leading to proceeds, the wider the potential variation in those, for worse or for better. The *advances* will most often get refunded but sometimes they won't. In other words, there is a risk attached to advancing capital.

Some capital has only got a capacity for seeing its price come down with time, say due to wear and tear; that's the case with a car for instance, unless it becomes rare and appreciated precisely for being rare; the lowering in price is called *depreciation*. Some other types of capital hold a capacity for growing or *appreciating*. Capital may grow on its own, through the action of the sun as mentioned, like with plants, or indirectly through the growth of plants, as with cattle. More often than not capital will grow because of the industry of men and women. Let's call *entrepreneurs* persons who possess a particular gift for making capital grow or appreciate.

If capital is examined over a period of time and if its initial price is compared with that at the end of the period there are three possible outcomes: i. The price hasn't changed; ii. The price is higher at the end of the period; the difference in price between beginning and end is then called a *profit* or an *income*; iii. The price is lower at the end of the period; the difference in price between beginning and end is then called a *loss*: a would-be entrepreneur who can only generate losses has no particular name but calling him a *loser* would be apt.

5. Profit rate and loss rate: Measuring capital before and after

A profit or a loss, being a difference of two prices, represents an amount of cash. I can say: "There was a profit of \$30,000 over the year." There is a major difference however between a \$30,000 profit made over a year starting with a capital worth \$3 million and a \$30,000 profit made over a month from a \$15,000 investment. There is a conventional way for making profits (and losses) comparable: assessing them over a standard period of time, typically a year while the profit (or loss) is calculated as a proportion or rate of the invested capital. Instead of absolute amounts of cash one comes up with relative *rates* that are strictly comparable. Thus in the first example, the *profit rate* (per year) is of 1% ($= \$30,000 / \$3,000,000$); in our second example, the *profit rate* (per month) is 200% ($= \$30,000 / \$15,000$) and over a year (if gets ignored the fact that a monthly profit can be reinvested the following month), 2,400% ($= 200\% \times 12$).

6. The sharing of surplus between entrepreneur and investor: Profit and rent

When the entrepreneur provides the capital, the whole surplus resulting from capital growth is a profit to him or her. When an investor advances capital to an entrepreneur, the surplus will be shared between them: one part will go to the entrepreneur as *profit*, one part will go to the investor as *rent*. As each gets part of the same surplus, the sum of the profit obtained by the entrepreneur and the rent obtained by the investor can't be bigger than the overall capital growth or appreciation. As a result, if a larger share of capital growth is assigned to the entrepreneur, that of the investor gets smaller (and conversely).

7. Interest as a share of newly created wealth

The historical example of the economic arrangement known as *sharecropping* offers a straightforward illustration of the issues here at hand.

With sharecropping we're dealing with a two stakeholders' set-up: the owner of the land (of the fishing boat, of the plant, and so on) and the sharecropper properly so called: the peasant (the deckhand, the piecework worker, and so on).

Due to advances of different natures having been corralled to allow a productive process, a surplus is being generated. For instance, out of one seed a head of wheat will result. The surplus obtained is then shared between both providers of the advances, the landlord and the sharecropper, according to terms reflecting the power balance defining

their mutual relationship. With such power balance, each party is weakened or strengthened according to there being high or low competition in its own midst: many land owners with fallow land facing few would-be sharecroppers with their labour force on offer or, conversely: few land owners for many would-be sharecroppers.

One seed is being planted. Advances have been made: the landlord has advanced the land, the sharecropper has advanced his own labour (if any day labourers have been hired, they in turn have advanced their own labour while the sharecropper himself provided supervision for this). Nature has contributed what is required for the metamorphosis of a single seed into a head of wheat: nutrients in the soil, sunrays and raindrops. All those who made advances are entitled to a share in the surplus which arose as the outgrowth from the one seed initially planted into the twenty or so kernels which are to be found in the head. The exact terms of the share distribution, let's say "fifty-fifty", are determined by the power balance extant between the parties brought together within the sharecropping contract.

The share rewarding the advance in capital is called, if it is to be paid in money instead of in kind, "interest". In the contemporary variety of sharecropping that constitutes the publicly traded company, the share in earnings rewarding the advance in capital is called "dividends" (Americans say "stock" instead of "share" but the essence of the contract is identical: a share in the returns of a productive venture).

John Hicks, Nobel prize in economics for 1972, wrote: "... the rate of interest is the price of time" but this is a misleading definition of what the rate of interest is in truth: what time is the gauge of is the generosity of nature, the sun, the rain, the nutrients in the soil, or the riches buried in the ground which gets extracted through man's industry but only as long as it lay there beforehand combined with hard work. The rate of interest is what share of the windfall offered by the planet through its constant ebullition combined with labour gets allocated to the one source which provided advances in cash. The size of that share is determined by the power balance between all parties involved in the productive process.

In other terms, interest is the part of the surplus which the capitalist, the provider of capital, manages to obtain for himself or herself as a reward for the advances he or she has made. The share obtained by capital is the price to be paid for cash resources which were missing where they were needed and this definition not only applies to

productive processes, as with the illustration I gave of agricultural sharecropping, but also as the occasion arises, to the distributive processes of a market economy or even to consumptive processes.

The share of the capitalist is conventionally called “marginal yield of capital”, “marginal” as the most unfavourable circumstances for benefiting from such a share set a floor to expectations. The “marginal yield of capital” is a type of profit: it is the capitalist’s (literally understood as the provider of capital) form of profit.

Starting from circumstances where two parties are facing each other where one needs resources which it has no direct access to while the other has at its disposal resources which it can do without for a time, derives a new situation where the party which could spare monies to begin with is rewarded with interest cash flows, meaning that the resources at his disposal have grown by the time the loan reaches maturity, i.e. gets refunded. These additional interest cash flows feed thus as an intrinsic part of the capitalist system an engine for concentrating wealth into an ever reduced number of hands, even if the borrower manages also to get for himself or herself in the process a share in the wealth newly created. As it was Keynes’ merit to underline, for the borrower to manage getting for himself a share in the surplus created through the loan amount having been used as advances, depends at how high a level the interest rate gets set; the lower this rate, the more likely that the borrower manages to secure for himself too a share in the newly created wealth.

8. Options

“Forward Rate Agreements,” “Options,” “Swaps,” are based on a very simple insurance principle where one party accepts the risk associated with a change in price in the underlying, in exchange for a fee called a *premium*.

Options, like insurance, decompose the variability of price into a chance of gain and a risk of loss. As for insurance, the option premium has two parts: the objective gain expectation for the buyer and the profit of the seller.

Cheating on options

Derivatives allow decomposing financial operations into elements that fall under different debt and tax categories

“On March 8, 2000, as the negotiations were underway, Enron gave Swap Sub a put on 3.1 million shares (post-split) of Enron stock at \$71.31 per share. [...] On March 8, the closing price of Enron stock was \$67.19 per share; the put was therefore “in the money” to Swap Sub by \$4.12 per share (or approximately \$12.8 million intrinsic value) on the day it was executed.”ⁱ. The return of the put option is 6.1%. Six percent is not a bad return however if one remembers that the option was exercised on the same day it was granted (you hadn’t noticed?)” (Paul Jorion, *Investing in a Post-Enron World*)

Enron sometimes quoted as earnings the *notional amount* of a derivative, a sum essentially used for calculation purposes only.

9. Credit-default Swaps (CDS)

A Credit-Default Swap allows its purchaser to be compensated for a loss on a debt instrument, either by the interest payments not being paid or the principal (the loan amount) not being refunded. The debt instrument is the underlying of the CDS.

If the purchaser owns the debt instrument he or she is insuring through a CDS, the position is called “hedging”.

If the purchaser doesn’t own the underlying debt instrument, the position is purely speculative, it is called a “naked” position on a CDS.

10. Synthetic financial instruments

The notion of a synthetic financial instrument derives from the observation that all complex financial instruments can be reproduced, often very easily, as a combination of elementary building blocks. Most complex derivatives can be built using either a “long” or a “short” position on an underlying product and either a “call” or a “put” option on the same.

Synthetic leases

A synthetic lease has two parts: the first removes debt from the corporation's balance sheet, that is, hides it, the second part creates fictional interest cash flows to benefit from tax deductibility.

i. the real estate assets and liabilities are absent from the balance sheet (the debt to equity ratio of your company remains unaffected),

ii. Rent payments are fully tax-deductible (the financing is treated as an "operating lease"),

iii. the interest rate paid is defined by the company's credit rating,

iv. the lease is treated for tax purposes as a "conditional sale" and the corporation can retain depreciation tax shelter.

¹ Report Of Investigation By The Special Investigation Committee Of The Board Of Directors Of Enron Corp, 2/1/02, William C. Powers, Jr., Chair: 88.