

CHAPTER 8 — PRODUCTION: ENTREPRENEURSHIP AND CHANGE

CHAPTER SUMMARY

Entrepreneurial *profit* occurs when someone buys factors at a certain price and sells the resulting product for a certain price, such that he reaps a higher rate of return than the prevailing rate of interest. Such an entrepreneur has taken advantage of a general *undervaluation* of the particular factors; had others generally been aware of the future sale price of the product, they too would have entered into this market (to earn the higher rate of return). Entrepreneurial *loss* entails the opposite, in which a capitalist invests in relatively overvalued resources only to find that he can sell the product at a price that does *not* correspond to the rate of interest.

In the ERE such over- or undervaluations are impossible, because the future is known with certainty. Every factor will be paid its correct DMVP. In the real world, entrepreneurship establishes a *tendency* for correct factor prices.

Starting from an initial long-run equilibrium, we can imagine a fall in time preferences. Then people will spend less on present consumption and will devote more to investment. Gross investment will be higher this period than last period, meaning there is positive *net* investment. This change will free up factors that were previously employed in lower stages, and allow them to be directed into the higher stages. This “lengthening” of the production structure corresponds to a more “capitalistic” process. The price spreads will fall between stages, corresponding to a lower natural rate of interest; this is consistent with reduced time preferences.

Although net investment requires a temporary curtailment of possible consumption (i.e. saving), once the consumer goods “come out the pipeline” of the lengthened structure, there will be higher total output than previously. Thus, capitalists refrain from current consumption in the hope of achieving a greater amount of future consumption.

Very specific land factors may suffer a reduced income after a reorganization of the structure of production. Labor, the ultimate nonspecific factor, will generally benefit from increased savings. Ironically, the investors themselves will only enjoy a temporary gain, as the enhanced profits are eroded away by readjusted factor prices.

A *progressing* economy is one in which there are net aggregate profits, a *stationary* economy is one in which aggregate profits equal aggregate losses, and a *retrogressing* economy is one in which losses exceed profits. A progressing economy corresponds to one with net investment, while a retrogressing economy suffers from a reduction in gross investment (i.e. net *disinvestment*).

When time preferences drop and foster higher investment, this corresponds to a reduction in the natural rate of interest. The reverse is also true. Thus a progressing economy is

characterized by falling interest rates, while a retrogressing one is characterized by rising interest rates.

The actual market rate of interest is composed not only of the pure interest rate (due to time preference), but also a component due to the likelihood of default on a loan (or poor returns on a production process).

Risk refers to outcomes that have quantifiable probabilities.

CHAPTER OUTLINE

1. *Entrepreneurial Profit and Loss*

In previous chapters, we analyzed the formation of prices in an unhampered, evenly rotating economy. Now we seek to understand the movement of prices in an economy in which the future is *not* certain. The primary difference is that in the real world (unlike the ERE), the marginal value products of productive factors must be *estimated* by the capitalist-entrepreneurs at the time of hire. There is always the possibility of *erroneous* estimates, and hence the possibility of profit and loss.

Entrepreneurial *profit* occurs when someone buys factors at a certain price and sells the resulting product for a certain price, such that he reaps a higher rate of return than the prevailing rate of interest. Such an entrepreneur has taken advantage of a general *undervaluation* of the particular factors; had others generally been aware of the future sale price of the product, they too would have entered into this market (to earn the higher rate of return). Entrepreneurial *loss* entails the opposite, in which a capitalist invests in relatively overvalued resources only to find that he can sell the product at a price that does *not* correspond to the rate of interest. (Even if his future revenues exceed his money expenditures on factors, this is still a loss to the capitalist because he could have earned more money by lending his funds out at interest.)

Entrepreneurs tend to eliminate profit and loss opportunities. By investing in those lines offering higher rates of return, they bid up the factor prices and force down the product prices, thus shrinking the rate of return. On the other hand, by fleeing from unprofitable lines, the supply of the final product is reduced (raising its price) while the demand for the relevant factors is reduced (lowering their prices); the net result is a rise in the rate of return. Were all further change ruled out, entrepreneurial profit-seeking would restore a uniform rate of return to all lines corresponding to the prevailing degree of time preference.

Entrepreneurs thus bid up the prices of undervalued factors and reduce the prices of overvalued factors. From the point of view of allocating resources to best satisfy consumer preferences, the profit and loss mechanism serves a definite social function.

2. *The Effect of Net Investment*

There will be *aggregate* profits in the economy whenever there is net saving and investment, i.e. whenever gross investment exceeds the amount necessary to maintain the previous structure of production. This occurs when investors' time preferences fall, and thus (on the margin) they postpone a greater amount of present consumption in the hope of future consumption. This reduction in present consumption frees up resources (previously used in the lower orders) and allows investment in higher stages of the production structure. The smaller spending on lower stages, coupled with the higher spending on higher stages (and perhaps the introduction of new, higher stages), corresponds to a smaller "markup" between stages. This fall in the natural rate of interest

is consistent with the stipulated lower time preferences of investors. Below we graphically illustrate the effects of such a reduction, using Rothbard's specific numbers (pp. 517-518).

	Income to Land and Labor Factors 83 ounces					
Interest Income 17 ounces	↑ ↑ 19 ounces	↑	↑	↑	↑	↑
1	← 20	8	↑			
2	← 30		13	↑		
2	← 45			12	↑	
3	← 60				16	↑
4	← 80					15
5	← 100 ounces					

ORIGINAL STRUCTURE
(Figure 41 from page 369)

	Income to Land and Labor Factors 69.9 ounces						
Interest Income 10.1 ounces	↑ ↑ 17 ounces	↑	↑	↑	↑	↑	↑
0.5	← 17.5	10	↑				
0.8	← 28.3		10	↑			
1.1	← 39.4			10	↑		
1.5	← 50.9				11.3	↑	
1.9	← 64.1					1.6	↑
2.0	← 67.7						10
2.3	← 80 ounces						

NEW STRUCTURE

In the original structure above, gross income is 418 ounces (=100+80+15+60+16+45+12...), total consumption is 100 ounces, and gross investment is the difference, 318 ounces. Of the 100 ounces of net income, 17 go to capitalists while 83 go to land and labor owners. The natural rate of interest is 5 percent at each stage (except for rounding); e.g. the mid-level capitalist spends 45 ounces on an intermediate good, plus another 12 on labor and land factors, and then sells the resulting intermediate good for 60 ounces one year later, for a rate of return of $3/57 \approx 5$ percent. Finally, there are six stages of production.

In the second chart, we see the hypothetical structure of production after a net saving and investment of 20 gold ounces. That is, of the original 100 ounces available for consumption, the members of the community decide to spend only 80 on present consumption goods. Thus we know that total consumption must drop to 80, and that gross investment must rise to 338 ounces (318+20). These figures are consistent with the diagram: the bottom row has 80 ounces spent by the consumers on the finished good, while total investment (=67.7+10+64.1+1.6+50.9+11.3...) does indeed (approximately) equal 338. The natural rate of interest in the new arrangement has dropped to 3 percent; e.g. the mid-level capitalist spends 39.4 ounces on a higher-order capital good, plus an additional 10 ounces on labor and land factors, and sells the resulting product one year later for 50.9 ounces, for a rate of return of $1.5/49.4 \approx 3$ percent. Of the total net income of 80 ounces, the capitalists earn 10.1 ounces while the land and labor owners earn the remaining 69.9. (The net income of the capitalists can be found by summing the left-hand column, or by multiplying gross investment by the interest rate; i.e. $338 \times .03 \approx 10.1$.) Finally, note that there are now seven stages of production; the accumulated savings and corresponding drop in the interest rate have fostered a more "capitalistic" structure of production.

3. *Capital Values and Aggregate Profits in a Changing Economy*

A *progressing* economy is one in which there are net aggregate profits, a *stationary* economy is one in which aggregate profits equal aggregate losses, and a *retrogressing* economy is one in which losses exceed profits. A progressing economy corresponds to one with net investment, while a retrogressing economy suffers from a reduction in gross investment (i.e. net *disinvestment*).

4. *Capital Accumulation and the Length of the Structure of Production*

Böhm-Bawerk demonstrated that longer, *wisely chosen* processes would always be more *physically* productive than shorter processes. That is, the quantity of physical output from a given input could always be increased by investing the input in a longer process. This of course does *not* mean that *every* longer process will be more physically productive, but merely that there always exist at least one such process (that is both longer and more productive).

5. *The Adoption of a New Technique*

Other things equal, actors prefer to achieve their consumption goals sooner rather than later. Consequently, they will first exploit the shortest processes, i.e. the ones that involve the least amount of waiting time. The only reason an actor would invest his resources in a longer process is that it promises a greater quantity of output. It is time preference that acts as the ultimate "brake" on engaging in indefinitely lengthy processes. Thus, because of a process of selection, at any given time there are always lengthier, more productive processes "on the shelf," that have not been yet exploited because of the waiting involved. For this reason, new savings (and investment) can *always* yield a higher return to the original factors (after the required delay). Thus capital accumulation

alone, even without scientific discoveries or other technological advances, can allow for a continual rise in the standard of living.

6. *The Beneficiaries of Saving-Investment*

When land and labor factors are invested in lengthier processes, their physical output is greater, leading (eventually) to higher per capita consumption. Net investment (and the corresponding aggregate profits) allow for temporary gains to the investors, but ultimately all increases in productivity will be imputed to the land and labor factors (raising rents and wages).

7. *The Progressing Economy and the Pure Rate of Interest*

An increase (decrease) in gross investment can only occur because of an antecedent drop (rise) in time preferences, which will also cause a drop (rise) in the pure rate of interest.

8. *The Entrepreneurial Component in the Market Interest Rate*

In the real world, market rates of interest reflect not merely the underlying “pure” interest rate (due to time preference) as it would exist in the ERE, but also the varying degrees of uncertainty involved in a particular process. For example, a bank might give a loan at 5 percent to a very large firm that has been in business for decades, whereas it might charge 8 percent to a smaller venture that is just opening. This isn’t because the bankers have a higher degree of time preference in the latter case, but rather because there is a greater likelihood that the second borrower will default on the loan.

9. *Risk, Uncertainty, and Insurance*

Following the pioneering treatment by Frank Knight, the distinction between *risk* and *uncertainty* is that risk refers to unknown outcomes with quantifiable probabilities. Risks can be insured against, while uncertainty cannot. All entrepreneurship involves bearing uncertainty; it cannot be transferred away.

NOTABLE CONTRIBUTIONS

- To underscore the fallacy of referring to a general “rate of profit,” Rothbard invents the concept of a general “rate of loss” (p. 513). His point is that it is *not* normal or automatic to earn profits on the market. The standard excess of product prices over money expenditures on factors is due to *interest*, not entrepreneurship.
- The “paradox of saving” is this: In order to accumulate capital goods and produce a greater volume of output goods, it is necessary to curtail present consumption. But if retailers see a drop in the demand for their products, why would they invest in greater production capabilities for the future? Only with a capital theory (such as the Austrian) that incorporates the role of time in production can one resolve this apparent paradox. As Böhm-Bawerk pointed out in response to a 19th-century proponent of this Keynesian view, when people save they are *not* “spending less on consumption,” but rather they are spending less on *present* consumption in the hopes of spending *more* on future consumption.
- Rothbard defines the progressing and retrogressing economy in terms of total gross investment, while Mises defined these in terms of *per capita* total investment. (See footnote 16 p. 532.)

TECHNICAL MATTERS

- On page 510 Rothbard refers to the *money profit* as the “difference between the general interest rate” and the actual rate of return on an investment. This should not be confused with *accounting profit*, which is the excess of money revenues over money expenditures. Often mainstream economists will distinguish between accounting profit and *economic profit*; e.g. a firm could earn a 1 percent accounting profit but actually suffer an economic loss if the rate of interest is 5 percent. The mainstream *economic profit* corresponds to Rothbard's *money profit*. (Rothbard himself is distinguishing between the money corresponding to an economic profit, versus the psychic satisfaction associated with it.)
- It was an advance in economics to distinguish between *interest* and *profit*. The classical economists (as well as the layman) used *profit* to refer to (what we would call) accounting profit, and thus could not distinguish returns that exceeded the rate due to ordinary interest.
- It is important to keep in mind that profits and losses are not merely qualitative, but also quantitative measures of the degree to which entrepreneurs correct (or distort) market prices. E.g. someone who perceives a huge discrepancy in the

price structure will reap huge profits, while someone who makes a minor forecasting error in consumer demand will only suffer minor losses.

- On pages 523-524, Rothbard writes that in “any equilibrium situation, net saving is zero by definition (since net saving means a change in the level of gross saving over the previous period of time).” These definitions are not entirely compatible with the mainstream approach. For example, standard growth models can certainly have an economy in long-run equilibrium with net investment every period. In this case, net investment would simply mean investment above the amount necessary to cover depreciation, i.e. net investment refers to a growth in the capital stock. Probably the reason for these differing definitions is that Austrians tend to view capital goods as “working capital” or “goods in process,” whereas neoclassicals view capital goods almost exclusively as fixed capital: To maintain his output of bread, every period the baker needs to buy more flour, but not a new oven.

STUDY QUESTIONS

- (1) Can there be profit in the ERE?
- (2) What might prevent a uniform rate of return in all lines? (p. 514)
- (3) What happens to factor incomes (both specific and nonspecific) in a progressing economy? (pp. 523-527)
- (4) Why does a progressing (retrogressing) economy have aggregate profits (losses)? (pp. 532-533)
- (5) Is the ERE a stationary economy? Is a stationary economy necessarily the ERE? (p. 533)
- (6) Wouldn't a "capital-saving" invention lead to investment that *shortens* the structure of production? (pp. 540-541)
- (7) Does a lengthening of the structure of production necessarily involve the adoption of new techniques? (pp. 543-544)
- (8) Does the rate of interest adjust itself to the supply of capital goods? (pp. 549-550)
- (9) Can someone really buy "unemployment insurance"? (pp. 552-555)
- (10) Isn't insurance a form of gambling? (pp. 552-555)