

Study Guide to *Human Action* by Robert P. Murphy

Chapter XVIII. Action in the Passing of Time

Chapter Summary

1. Perspective in the Valuation of Time Periods

All action is directed toward an imagined improvement in future conditions, although some actions are intended to improve the very near future. People do not value fractions of time in the same way. Other things equal, people attach more importance to intervals of time that are nearer in the future compared to those more distant.

There are several concepts related to time that are categories of human action. The *maturing time* is the interval between an action and the fruition of its desired effects; the most obvious example is agriculture. The *working time* is an important feature of action requiring labor. The working time plus maturing time is the *period of production*. The *duration of serviceableness* measures the length of time for which a given action yields an increment in want-satisfaction. The *period of provision* is the portion of the future that an actor seeks to influence.

Action is always oriented to the future. The historical origins of particular capital goods are irrelevant. What matters for action is how to use currently available resources—natural, capital, and labor—to best satisfy future desires.

It is an empirical fact that if one lengthens the period of production, the physical yield per unit of input can be increased. This means that if one is willing to wait longer, the productivity of labor and other natural resources can be multiplied. This enhanced yield is counterbalanced by the disutility of waiting.

2. Time Preference as an Essential Requisite of Action

Acting man does not value satisfactions and their distribution over time merely in terms of *more* or *less*. Other things equal, a given satisfaction will be preferred sooner rather than later. This rule of *time preference* implies that present goods are more valuable than future goods, if the only difference is their date of availability.

There are obvious psychological and physiological explanations for time preference, but these do not suffice for a praxeological law. The very notion of action implies time preference. If an actor did *not* prefer a given satisfaction sooner rather than later, he would never have a reason to consume in the present moment. He would be willing to postpone consumption until tomorrow, but the next day he would be willing to postpone yet again. Thus to say that an actor wants to consume implies that he has time preference.

In a modern economy a person can refrain from present consumption and earn interest. Even so, people still consume a portion of their income in the present; this is evidence of time preference. The income that is saved for the future is also consistent with the law of time preference, because

the positive interest rate (as well as other factors such as relative wealth in the present versus future) render "other things" unequal. The law of time preference doesn't say that everyone must consume as much as possible in the present, only that *the same* good or satisfaction is preferred sooner rather than later.

Observations on the Evolution of the Time-Preference Theory

The classical economists missed the crucial role of time in the explanation of interest, because of their faulty theory of value. The time-preference theory of interest was developed by William Stanley Jevons and especially Eugen von Böhm-Bawerk, and then was refined by Knut Wicksell, Frank Albert Fetter, and Irving Fisher.

Some economists puzzle over apparent counterexamples to the law of time preference. To a person in the dead of winter, wouldn't "future ice" be preferable to "present ice"? However, other things are obviously not equal in these two situations.

3. Capital Goods

Capital goods are factors of production that have been produced. The first capital goods were necessarily created with the mixture of nature-given factors and labor. Thus capital goods do not represent an independent factor of production. However, it is incorrect to say that capital goods are labor and nature "stored up," for this formulation leaves out the role of time. The owner of a capital good is that much closer to the ultimate goal; if he didn't have the capital good, he would need to first take time to construct it.

Capital goods are the medium through which longer processes are more productive. Human labor and natural resources yield larger output when they are first directed into the construction of capital goods. Capital goods are not only fixed equipment, such as tools, buildings, and machinery, but also "goods in process," such as flour (destined to become bread) and crude oil (destined to become gasoline).

Before lengthening the period of production, a person must first engage in *saving*, i.e., consuming less than what is possible. An obvious example is the stockpiling of consumer goods for the workers who will be devoted to a project (such as construction of a bridge) that will not yield direct benefits for several years.

The structure of production is incredibly complex. At any moment there are countless numbers of overlapping processes using capital goods, handed down from our ancestors, and producing more capital goods in turn. Monetary profit and loss calculation give order to the processes, allowing the owner to determine if his capital (measured by forecasted market prices) is growing or shrinking.

4. Period of Production, Waiting Time, and Period of Provision

Action is always forward looking. If one were to attempt to measure the period of production spent in the construction of today's capital goods, this would involve tracing the history of production activities back until the first capital goods were formed. Fortunately such a

computation is irrelevant. What matters is how much time must elapse *now* between the expenditure of scarce factors and the realization of the end sought.

Economics is ultimately about subjective preferences and action, not about physical objects. There is no "objective" way to classify things as capital versus consumption goods; what matters is the role assigned to them by actors. Finished goods ready for enjoyment will be classified as capital goods by an entrepreneur who uses them to feed his workers over the course of time.

At any time, people are using precisely those processes of production that maximize output per unit of input, *subject to the preference for earlier rather than later consumption*. Therefore, if people wish to adopt processes of production that yield more output (or better output) for the same input, they will necessarily have to adopt processes that take longer. If this switch is to occur without an interim drop in consumption, there must be a prior act of savings.

The above considerations apply for a given state of technological knowledge. It is true that a new invention or discovery may also allow an increase in output per unit of input, even without incurring additional production time. But even so, once the entire structure of production has adjusted to the discovery of new techniques, it will then still be true that *further* improvements in productivity could be achieved if people were willing to postpone gratification by waiting longer for the finished goods.

The history of civilization is not simply one of ever-greater technical know-how, but also savings and capital accumulation over the generations, which make the labor of present workers far more productive. If a sudden calamity were to eliminate the vast stockpile of tools, machinery, and semifinished goods in process, it would take a very long time for mankind to achieve its former wealth, even though people would know the "state of the art" techniques from the (new) beginning.

Prolongation of the Period of Provision Beyond the Expected Duration of the Actor's Life

All action occurs in the (extended) present, and thus involves present valuations. We can say that *right now* a man values a certain satisfaction that he expects to occur tomorrow more than he values *right now* the same satisfaction not expected to occur for a year.

Of course people can take actions that are intended to benefit other people; the common term for this is altruism. Praxeology can easily handle such actions, for the altruist removes his own uneasiness by helping others. It is also possible for an altruist to wish to help those who will live after he has died, such as his heirs. There is no contradiction here with the law of time preference.

Some Applications of the Time-Preference Theory

The reason the Western nations developed capital-intensive economies is that they adopted the necessary political and legal frameworks of private property under which savings and investment could flourish. Before the First World War, capital was free to move internationally. This allowed the underdeveloped nations a jumpstart in their development, for they in effect borrowed the time embodied in the capital goods being imported from the Western nations. Yet with the rise of Marxist regimes, which "nationalize" foreign investments and corporations, the

international capital market is on the verge of collapse. This not only impoverishes all countries, but also sows the seeds for armed conflict.

5. The Convertibility of Capital Goods

All capital is embodied in physical capital goods; there is not some idealized, abstract "capital" sum that does not refer to actual capital goods. When a businessman speaks of his total "capital," he means the likely sum of money he could fetch were he to sell all of his capital goods and pay off all of his debts, associated with a particular enterprise.

In contrast to the usual dichotomy between fixed versus free (or circulating) capital, it is more accurate to speak of the degree of convertibility of capital goods. All capital goods are appraised for their expected contribution to a future goal. If new information or a change in preferences alters the overall plan, the capital goods may be devoted to different purposes. The degree of convertibility signifies the ease with which this change in intentions can occur. Generally speaking, the more specific the capital good has become, the less convertible it is. For example, if there is a sudden change in the data of the market, a businessperson will be less likely to regret his purchase of iron than his purchase of iron machine parts.

Even cash is not a completely "free" form of capital. The owner of cash is also making a judgment about future market conditions; he is not "out of the market." The purchasing power of money could change violently, for example, making the owner regret his "investment" in this particular vehicle.

6. The Influence of the Past Upon Action

Socialist reformers look at the market economy and see horrible waste. Plants have spare capacity, production and population centers are in unsuitable locations, and factories do not all use the state of the art techniques. Yet what these critics fail to understand is that it is not an arbitrary "bottom line" that prevents the adoption of more productive arrangements, but rather the limited convertibility of capital goods.

It is true, if our ancestors had had our current knowledge, they would have made decisions differently. But we must act now with the capital structure as we have inherited it. It makes perfect economic sense to continue to use "obsolete" factories and equipment if the efficiencies of the newest products do not compensate for their purchase prices. Consumers don't throw out their cars or refrigerators every time a new model becomes available, and the same logic applies to capitalistic production. Even socialist planners would be guided by these considerations, though without market prices they would no way of knowing whether a particular building should be demolished, or whether a particular factory should be abandoned.

7. Accumulation, Maintenance and Consumption of Capital

The concept of capital is a mental tool. The desire to maintain or increase the level of one's capital really is the desire to maintain or increase the productivity of one's future efforts at want satisfaction. At the same time, capital is always embodied in concrete *capital goods*, which necessarily wear out over time. Thus to maintain one's capital in practice means to successfully

anticipate future conditions, in order that the money equivalent of the products of the previous stock of capital goods can be used to purchase anew another stock of capital goods with the same (or higher) total monetary value.

The notion of capital and capital accounting is only meaningful in a market economy, with prices for all of the capital and consumption goods involved. Of course, even in primitive societies, fishermen understood the importance of maintaining their boats and nets in working order. But in a modern economy, with constant changes in technological recipes and consumer demand, reliance on tradition is not enough. Entrepreneurs need market prices in order to determine whether their efforts have increased or decreased their capital.

Additional capital can only be accumulated by saving, which is defined as a surplus of production over consumption. However, this saving need not entail an actual curtailment of consumption, because (for example) natural conditions could have improved, or a technological discovery could have rendered production processes more potent. Even in this case, if some of the additional output is to be devoted to the production of more capital goods, then necessarily consumption must fall short of what it *could* have been. In other words, in order to accumulate more capital goods, it is necessary that scarce resources be diverted away from potential *consumption* goods.

Capital consumption occurs when consumption takes such a large portion of current output that the remainder devoted to new capital goods is insufficient to replace the depreciation of the capital stock. Capital consumption may thus allow for a temporary increase in consumption, but future output is diminished as the stock of capital goods declines.

8. The Mobility of the Investor

Although capital goods have limited convertibility, their owner can avoid impending loss if he foresees disaster and sells them to someone who is less aware of the situation. One must keep in mind, however, that profits and losses emanate from the dedication of scarce factors of production towards ends aimed at satisfying the consumers. The transactions of the stock market do not alter the sum total of these profits or losses, but merely the particular people on whom the profits or losses fall.

These considerations show the futility and pointlessness of foreign-exchange controls. Typically, a government will debase its currency while enacting controls to prevent "capital flight" abroad. Yet this doesn't alter the harm to the domestic economy, it simply prevents the country's citizens from unloading some of the losses onto foreigners.

9. Money and Capital; Saving and Investment

The tremendous advantage of indirect exchange holds in the sphere of capital goods as well as consumption goods; consequently entrepreneurs hold cash balances as well as consumers. Naturally a businessperson will consider his cash holdings (if devoted to his enterprise and not for personal use) as part of his capital, and will add them to the money equivalents of his machinery, equipment, inventory, and so forth. This practice poses a problem for some economists: when calculating the "social capital" of the community, should money be excluded?

After all, there is a sense in which one farmer's tractor makes the entire community richer, but it seems illegitimate to count the farmer's \$20 bill in his wallet as well.

These paradoxes result from the futile attempt to apply a tool—capital accounting—in a sphere where it doesn't belong. The individual's approach to capital is perfectly correct; cash holdings should be counted as part of capital. The problem occurs when trying to reason from the point of view of society as a whole. It makes no sense to calculate the "total capital value" for all of society, since society will never attempt to sell its entire stock of capital goods to some other buyer. Once we leave the context of an actual market economy with real money prices, we lose the ability to amalgamate heterogeneous capital goods. The capital stock can no longer be reduced to a meaningful number, but is only a collection of different tools, equipment, supplies, and so forth.

Why It Matters

In the beginning of the chapter Mises explains the important concept of *time preference*, i.e., the desire to achieve satisfaction sooner rather than later. This lays the groundwork for the next chapter's discussion of interest. The modern Austrians differ from most other schools of thought in that they explain interest by reference to subjective time preference, as opposed to the physical productivity of capitalistic production.

For the rest of the chapter, Mises discusses capital goods. Here too the treatment is very "Austrian," because other schools do not emphasize the complex structure of production. Austrian economists stress the limited convertibility of capital goods; once plans change, it is costly to adapt the production structure to the new situation. It is only with this framework that the reader will understand the Misesian theory of the business cycle, to be presented in chapter XX.

Technical Notes

- (1) A logical purist might quibble with the placement of the italicized clause in the following quote from Mises: "Satisfaction of a want in the nearer future is, *other things equal*, preferred to that in the farther distant future. Present goods are more valuable than future goods" (pp. 480–481). The problem is that the clause is redundant in the first sentence—if other things *weren't* equal, it wouldn't be the same satisfaction—and is necessary for clarity in the second. A present banana, for example, isn't necessarily preferred to a future banana, because other things might not be equal; a person might have just eaten three bananas in the present, and so would obviously prefer to defer a fourth one for tomorrow.
- (2) Mises writes as if the reader is familiar with Böhm-Bawerk's contributions to capital and interest theory (e.g., p. 485). Böhm-Bawerk, the great second-generation Austrian after Carl Menger, wrote an exhaustive taxonomy and critique of interest theories. In particular, he criticized what he called the "naïve productivity theory" of interest, which explained interest as due to the productivity of capital. Böhm-Bawerk showed through argument and clever examples that this was an insufficient explanation, because if the capitalist had to pay upfront prices for machinery and so forth that fully

- reflected their expected contributions to the final output at the time of sale, then there would be no margin left over for an interest return. Thus the mere fact that machinery was productive—i.e., that one could produce more with machines than without—was no explanation for a positive rate of interest. Mises followed Frank Fetter in accusing Böhm-Bawerk of ironically lapsing into the same productivity fallacies in his (Böhm-Bawerk's) own explanation of interest.
- (3) Mises handles the alleged counterexamples to time preference (pp. 486–487) in a curious manner. All other defenders of the time preference theory deal with the ice-in-winter case as one of different goods due to the subjective experience of the consumer, yet Mises argues that they are "different commodities" by focusing on the technical aspects of turning winter ice into summer ice. When it comes to the miser, the obvious retort is that ends are subjective, and the miser apparently chooses death (in the present!) over eating. Yet rather than give this argument, Mises merely says that these extreme cases "represent a pathological withering away of vital energy," which doesn't make clear why time preference is being satisfied.
- (4) Mises discussion of the stock market (pp. 514–517) might cause some readers to think that he dismissed the importance of this institution, and thought that it had little relation to the "real" economy. On the contrary, Mises once told Murray Rothbard that the sharp line between a heavily regulated market economy and outright socialism was that the former had a functioning stock market. The stock market is crucial in determining who ultimately controls what are often the largest enterprises. In the text, Mises is simply making the point that the ultimate source of profit and loss is *not* on Wall Street, but rather an outcome of how well or poorly the entrepreneurs devoted factors of production to satisfying consumers. This insight is entirely consistent with the idea that a sophisticated stock market is necessary to ensure that the best people are in charge of the decisions concerning how factors of production will be devoted.

Study Questions

1. Perspective in the Valuation of Time Periods

- Why are the period of production and the duration of serviceableness categories of human action?
- Why does every choice imply a choice of a period of provision?
- What are the methods for lengthening the period of provision?
- What does the choice of a longer period of production imply?

2. Time Preference as an Essential Requisite of Action

- Which undeniable fact provides the basis for the concept of time preference?
- What is the praxeological distinction between capital and income?

Comment: "We must conceive that a man who does not prefer satisfaction within a nearer period ... would never achieve consumption and enjoyment at all."

3. Capital Goods

- What is the role of saving?
- How does time preference restrict the amount of saving and investment?

Comment: "We are better off than earlier generations because we are equipped with the capital goods they have accumulated for us."

- Why did economists err in classifying capital as an independent factor of production?
- Explain why the difference between the price of a capital good and the sum of the prices of the complementary original factors of production required for its reproduction is entirely due to time preference.

4. Period of Production, Waiting Time, and Period of Provision

- What is the "Austrian" point of view with regard to technological knowledge and its role in the production process?
- How did foreign capital help poorer nations?
- How does the supply of capital determine the standard of living?

5. The Convertibility of Capital Goods

- Why must capital always be in the form of definite capital goods?
- Why can't there be "free" capital?

6. The Influence of the Past Upon Action

- When does it make economic sense to replace an old machine with a new one?
- Why are technological backwardness and economic inferiority two different things?
- What is Mises's critique of the infant-industry argument for tariffs?
- How does the degree of convertibility of the supply of capital goods affect all decisions concerning production and consumption?

7. Accumulation, Maintenance and Consumption of Capital

- Why is capital a praxeological concept? In what way does it differ from the Marxian notion of capital?
- How can capital be accumulated? Why can capital only be accumulated by individuals?
- What is capital consumption?

8. The Mobility of the Investor

- Can capital flight harm the balance of payments?
- Do stock-exchange transactions create profits and losses?

9. Money and Capital; Saving and Investment

- What happens if an individual saver employs a sum of money directly for the purchase of factors of production? What happens if he employs the additional savings in order to increase his personal cash holding?
- How does hoarding influence the accumulation of capital?
- What are the consequences if fiat money produces the additional units of the individual's cash holding?