

Marxist Economics: Introduction by Roger McCain of Drexel University Department of Economics¹

Marxist, neoclassical, and Keynesian economics all have their roots in the "Classical Political Economy" of the early 19th century, but since the later nineteenth century they have developed in different ways. Neoclassical and Keynesian economics, whatever their differences, have remained closer together than either is to Marxist economics. As a result, Marxist economics has not been a part of what the American tradition regards as the "Principles of Economics" and thus is outside the scheme of a book entitled "Essential Principles of Economics." On the other hand, Marxist criticisms of the other traditions in economics (and their criticisms of Marxism) have been important parts of the Reasonable Dialog of Economics in the last two centuries. We resolve this contradiction by exploring Marxist economics in this appendix to the book.

One key point to understand is that Marxist economics is an economic theory of capitalism. Since governments based on Marxist ideology have mostly either collapsed or moved away from the distinctive "Soviet-type" economics system toward more capitalist economic systems, it may seem that Marxist ideas are discredited. What has been discredited is the Soviet-type economic system, which has little to do with the Marxist economic analysis of capitalism. Thus, Marxist economics has as strong (or weak) a case as ever where its analysis of capitalism is concerned. Since the labor theory of value plays a key part in Marxism, we begin with a discussion of the Reasonable Dialog about the Labor Theory of Value.

Adam Smith and the Labor Theory of Value

Adam Smith (recall) had considered and rejected the idea that the exchange value of a good or service depended on its utility. Smith distinguished between value in use and value in exchange, and argued that the value in exchange could not depend on the value in use. He cited the Paradox of Diamonds and Water to show that (as he understood it) there was little predictable relationship between value in use and value in exchange. Accordingly, Smith argued that value in exchange must depend on something else.

In most cases, Smith argued, that something else would be the labor used up in the production of the commodities. He was certain that would be the case in an "early and rude state of society," in which, Smith suggested, it might require the same amount of hunting time to capture two deer or one beaver. Then, Smith suggested, two deer would exchange for one beaver. Therefore, the relative price of a deer would be half a beaver, the same proportion as the labor required to produce (catch) them.

We should not take Smith too literally in this talk about "an early and rude state of society." Smith was well aware that machinery was increasingly being used to produce goods and services, and this would complicate matters a bit. If woolen clothing were produced by means of machines (looms), then the production of cloth would use up labor in two ways. First, the work of the weaver sitting at the loom would enter into the value of the cloth. Second, the work of the machine-maker who had made the loom would enter into the value of the cloth, as the loom was worn out making cloth. The value of the

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woolen cloth would depend on the total labor embodied in the cloth—both directly (the weavers' labor) and indirectly (the machine-maker's labor). Smith's references to an "early and rude state of society" are no more (I think) than a way of avoiding that complication to make the exposition easier. But the labor embodied indirectly would be very important in the discussions on the labor theory of value that were to follow.

As a general matter, Smith thought, the amount of labor required to produce the goods would determine the rate at which they could be exchanged for one another, though he mentioned some exceptions. If the supply of goods could not be increased by labor, then their value would be determined by their scarcity, and not by the labor embodied in them. Old master paintings would be a case in point—no more could be produced, since all the old masters were dead, so the price of these paintings could rise to any height without calling forth a competing supply of new production. Monopoly would be another exception. The monopoly would be able to keep the good scarce, preventing any competing new production. The general idea seems to have been the people can always choose to produce for themselves rather than obtaining goods and services in exchange for others. If they must give up more labor to get the good by exchange, then they would produce for themselves instead. Even if an individual cannot "produce for himself," a group can, and this potential competition from new production would keep the relative prices at the labor value. There is also a certain kind of justice in exchange at labor values. Labor is a cost of production because it is laborious—it requires of us an unpleasant effort and concentration of attention and energy that we might prefer to devote to some other, more entertaining activity. Conversely, the labor embodied in a good or service is at least a rough measure of the subjective sacrifice involved in its production—the "pain cost" of production—so exchange at labor values is something like the exchange of equal sacrifices.

Thus we arrive at a central proposition of most nineteenth century economics, including Marxism:

1. Proposition: Exchange Value must depend on something common to all goods. Embodied labor is the one common factor on which exchange value depends.

A counterproposition that would eventually undercut the labor theory pretty seriously has already been suggested:

2. Counterproposition: There are too many exceptions, and the exceptions are too important, for the labor value rule to be considered a correct general theory of exchange value.

One very important exception seemed to be land. After all, land was one of those goods that could not be increased in supply by more labor. And, in a world in which most people were still farmers, this seemed a quite important exception.

Rent, Land and Labor

David Ricardo followed Smith in the development of the labor theory of value. Ricardo's ideas, tightly reasoned and complex, were much more than a reconsideration of the labor theory. They gave directions to economic theory that, in many ways, it is still following even today. But we will be concerned here with Ricardo's contributions to the discussion on the Labor theory of Value. Ricardo disposed of one important objection to the labor theory and, without quite realizing it, raised two more.

The objection had to do with land and rent. On the one hand, land rent seems to be a cost of production—shouldn't the "natural price" of an agricultural product depend on the rent of land? On the other hand, labor will be more productive on land that is more fertile. Crops grown on fertile land will cost less labor. Does that mean it has less value?

What Ricardo discovered is that the rent of land would be just enough to offset the differences in labor cost, so that the value of agricultural products would be the same regardless of the fertility of the land where they were produced. That is because rent is based on differential productivity.

Suppose you were a farmer, and you could rent either of two pieces of land, the north field and the south field. With the same labor and other inputs, the north field will produce more output than the south field. Let's say the output of the north field is worth 1100 labor-days and the output of the south field is worth 1000 labor-days, for a difference of 100 labor-days. Then you would be willing to pay up to 100 labor-days' more rent for the north field than for the south field, right? And the landowner, knowing that, wouldn't take less than 100 labor-days of additional rent for the north field, so the rent on the north field will be 100 more than the rent on the south field. That is, the difference in rent is the same as the difference in productivity.

But what will the total rent be, on each parcel of land? Let's suppose a third field, the east field, is so infertile that it isn't worth any rent at all. The east field, and any land so poor it isn't worth any rent, is called "marginal land." Let's suppose the east field can produce 800 labor days' worth of output, and that just pays the cost of cultivation, so there is nothing left for rent. We have seen that the north field produces 300 more labor-days of output than the east field, so it will get 300 more rent. That's 300 more than zero, so—in other words—the north field gets 300 man-days of rent in all. And the south field gets 200 labor-days' worth of rent in all.

Ricardo drew two conclusions:

1. It is the labor required for production on marginal land that determines the normal price or value of agricultural products.
2. The surplus of production on more fertile land is absorbed by rent. Landowners don't have to do anything to earn this rent—they get it automatically as a result of the competition for fertile land. Thus, Ricardo saved the Labor Theory from what might have been a troubling criticism. In the process he did two other things. First, he discovered a theory of the rent of land. Ricardo's theory of land rent is still regarded by modern economics as the correct theory. Second, Ricardo provided a theory of the distribution of income between landlords and other classes that is also still thought of as correct, but that has some important implications. This theory is not especially favorable to the landlords. According to Ricardo's theory, rents are determined by market processes in which the landlords need not do anything—just let the farmers compete among themselves to rent the best land. This was no great surprise: everyone knew that landlords could be idle beneficiaries of their wealth—but Ricardo's theory of rent made that seem, for the first time, an inevitable result of the market process.

Some of Ricardo's other contributions to economic thought were to raise further questions about the labor theory, though. In his discussion of the theory of international trade, in which he (again) discovered principles still central to modern economic theory in the field—Ricardo stressed that trade would occur only on the basis of differences in the productivity of labor in different countries. That is,

each country would export the product in which it had the comparative advantage of relatively lower labor cost. If there were no differences in labor costs, there would be no trade. But, again, this raises the question: if different producers have different labor costs, which labor costs determine exchange-value? Ricardo gave some examples in which the costs in one country or the other prevail, but that didn't settle the question. Later, John Stuart Mill suggested that in many cases, exchange values in international trade would be determined by "supply and demand." This insight would be extended by later economists to become the more modern theory of "exchange value," or rather, market price.

Ricardo also recognized, and to some extent explored, the role of machinery in production, which was growing rapidly at that time. This discussion was to lead to a very tricky problem in the labor theory of value, but no-one would know that until later.

Ricardo left the labor theory a logically sounder and far better entrenched theory than it had been. Nevertheless, it appeared that there were three major exceptions to the labor theory:

1. absolutely scarce goods
2. international trade
3. monopoly

Marx and The Labor Theory

After Ricardo the Classical Political Economists agreed that the relative value of two commodities in exchange would be equal to the relative quantities of labor-time embodied in the two commodities. Prices might not always correspond to values (old masters, for example) but values always corresponded to labor. Put a little differently (but not everyone would have put it this way) "labor produces all value." But if labor produces all value, how can there be profits or interest?

Karl Marx was many things—democratic and socialist revolutionary agitator and leader, journalist, philosopher—and in his role as an economic theorist, he set out to answer that question. Marx had read Ricardo's ideas, and while Ricardo was no socialist, Marx respected Ricardo's scientific approach. And, as we have seen, Ricardo had found an answer to part of the question. According to Ricardo, landowners would obtain rent without contributing any effort, just because of the workings of the competitive market system and the labor values of products. The landowners were beneficiaries of a surplus-value because they had title to relatively productive land. Marx' idea was that all market payments other than wages—all profits, interest, and rent—could be explained in terms of surplus value.

Marx expressed the labor theory of value a little differently, and more precisely, than Ricardo. In Marx's terms, the value of a commodity is the socially necessary labor time embodied in it. This phrase, "socially necessary," takes care of some minor confusions in the theory: Suppose John is a carpenter, but he is very clumsy, so it takes him twice as long as other carpenters to build a house. Does that mean his houses are worth twice as much? No, since there are other carpenters who can build the house in half the time, half the time is the "socially necessary" labor time. The time that John wastes doesn't go into the value of the house he builds because it is not "socially necessary."

Thanks to technical progress and the extended division of labor, goods today can be produced with much less labor time than would have been required in Adam Smith's time. Does that mean that goods were worth more then? In a sense, yes. But technical progress and extended division of labor have

reduced the labor time socially necessary to produce goods and services, so it is to be expected that their labor-time value would be less. To the point: value depends on the circumstances of time and place, on history and human development. It would be closer to the truth to say that values at other times and places just are not relevant to, or comparable to, values here and now. This concept of value—that the value of a commodity is the socially necessary labor time embodied in it—is basic to Marxist thinking.

Surplus-Value

So Marx addressed the question: if value is socially necessary labor time, so that labor produces all value, why does the market award incomes to people who do not work? His key insight was:

In a competitive capitalist economy, all commodities are priced at their values.

In a competitive capitalist economy, labor is a commodity.

Therefore, in a competitive capitalist economy, labor is priced at its value.

In other words: the wage paid for a labor-day would be the labor time socially necessary to produce the labor day. Suppose that it takes just half of a labor day to produce a labor day. Then workers will always be available for half a labor-day of pay, and employers, knowing this, will pay no more than half a labor-day of wages per labor-day. Half a labor day is left to the employers. It is "surplus-value" and is the source of profits, interest, and rent. Employers (and landowners and financiers) don't have to do anything to get it—it is just "left over" after the competitive wage has been paid.

But what does it mean to talk about "producing" a labor-day? Let's put it this way. To attain a certain "standard of living," workers consume a certain amount of goods and services of various kinds. The "cost of production of labor" is the labor cost of producing those goods and services. Clearly, "subsistence" lets a lower limit to the workers' standard of living. Beyond this, what determines the worker's "standard of living?" We shall pass over the controversy surrounding this point.

Since each day of work produces a labor-day of value (under normal conditions) and costs less than a labor-day of value, there is a fraction of a labor-day left over, the surplus-value. Since labor produces all value, but gets only a part of what it produces, surplus-value is exploitation, in the Marxist conception.

Elements of the Labor Theory

Let's pause and review some basic points. In a capitalist economy, the "natural price" or value of any commodity is its cost of production.

Labor, the common element of all production, is the measure of cost. Qualifications: It is socially necessary labor that determines value. Inefficiency does not increase value. Labor embodied in machinery is incorporated in the value of the output proportionately as the machinery is used up. The value of educated labor will be greater than that of uneducated labor proportionately as labor is required for the education. In a capitalist economy, labor is a commodity, and so the value (wage) of labor is the cost of production of labor, measured in labor hours. In a modern economy, thanks to increased productivity, a labor-day can produce more than its cost. This difference is called "surplus-value" and is the basis of capitalist profits and exploitation.

Exploitation and History

So Marx saw capitalism as a society divided between two classes, the working class, producers of all value, and the owning and employing class, exploiters surplus value. For Marx, the fundamental fact about capitalism was the class struggle between the working class and the employing class over surplus-value.

Surplus-value and exploitation took a specific form in a capitalist society, but had existed long before Capitalism. Marx claimed that all history should be thought of as the history of class-struggles over surplus-value. That is, the theory of surplus-value is a theory of history:

No classes or surplus-value existed in prehistoric times, however. Early societies were undeveloped, and as a result their labor-productivity was so low that they could produce only enough to assure the reproduction of the tribe or band. In these circumstances they practiced "primitive communism." This was necessary for survival: if each person did not produce according to her or his ability, and share with others according to their need, the group would not survive as a group, and no individual could survive for long without the group. Thus there could be no exploitation, and these early societies (Marx guessed) would be equalitarian and free, albeit very poor. There is a good deal of anthropological evidence consistent with Marx' guess on this point. It does not mean that these "primitive" people are nice—some could be very violent to outsiders—and when in fact there is not enough for the group to survive (often because the people have been deprived of their land by more developed outsiders), the individuals who are strong enough may turn on the weaker ones in vicious competition for food. But there is no stable exploitation in these primitive societies, and left to themselves they tend to be equalitarian.

The earliest historic stages of society Marx spoke of as "slave" societies. Marx was thinking of classical Greek and Roman society, in which slavery played a relatively large role; but our evidence suggests that the role of simple slavery varied widely among early civilizations. This has probably caused some confusion. What these societies seem to have in common, and is suggested by slavery, is that exploitation took the form of tribute. The basic unit of society was the city, town or village, and stronger communities extracted surplus from weaker ones by threat. Slavery was just one form that tribute might take, and in many cases slaves were the collective property of the city. Tribute is due from a person as a member of a (defeated) group to another person as a member of a (triumphant) group. Tribute is legitimated theft—the payer renders tribute in order to avoid violent attack, as the slave works to avoid violent attack by her or his master. This sort of society is hierarchical, in that smaller and weaker towns pay tribute to middling cities that pay, in turn, the larger and stronger cities their tribute. The hierarchy may be reproduced within the city communities, especially the bigger and stronger ones. Emperors and Tyrants rule over mere citizens as great towns rule over villages. But not always—our classical examples of democracies are cities in which the citizen-fighters are (in principle) equals among themselves, benefiting from the tribute and labor of noncitizen slaves and villagers.

Because agricultural societies can produce a significant surplus over what the farmer must eat to work and survive, tribute and slavery become the basis of life for the non-working class, which includes not only soldiers and rulers but also poets, scholars, scientists, craftsmen, artists, physicians, priests, and philosophers. In brief, the Extortion System was the basis of civilization. But that civilization collapsed and was replaced, in many parts of the world, by a new system called "Feudalism."

For Marx, the next and intermediate stage was Feudalism, well-known from European history. In theory, exploitation in Feudal society is based on ownership of land. Of course, the landowners have the means of violence, and violence is used to enforce their ownership of land, but it is no longer simply violence to obtain tribute—rather violence to enforce property in a certain kind of resource. The stage is then set for an exchange: resource for resource, land for labor. But this exchange can never be equal: the serfs have no means of life, in an agrarian society and must offer their labor in exchange for access to land on what terms they can get. Those terms are so poor that landowners become the beneficiaries of "privilege," that is, private law. Landowners are the state; it makes no sense for the state to pay taxes to itself; therefore landowners pay no taxes. And workers may be deprived of the freedom to move, "bound to the land," and even bought and sold little differently than slaves. At the same time, Feudalism is more individualistic than the tribute ("slave") society. Tribute may still be paid by a village community, but it is paid to an individual landlord; and increasingly it is a matter of the exchange of labor service for access to land on an individual basis. This individualism in the ruling landowner class correlates with the highly fragmented nature of Feudal society; but it also leads to the first real conception of freedom. The landlord is (ideally) free, a sovereign individual whose relation to others in his class is essentially reciprocal. And this is the concept of freedom that moves modern society. Rightly, it is the Magna Carta—the charter of liberties of the great landlords of feudal England—that people in the English tradition see as the foundation of their freedom.

Feudalism is a class system. There is a class of land-lords, and a class of landless farmers. The land-lords do not work at farming. They are fighters, and in theory, it is their job to protect the farmers from any attempt at extortion or enslavement by other fighters. But the result of this class division is that a class with land, but no supply of labor to work it, faces a class with labor-power but no land. The compromise between the two classes is that the farmers spend part of their time working on the land-lord's land, and in return the village gets access to a supply of land they may work for their own food. In addition to this exchange of land for labor, the land-lord "protects" the village and the village supports the land-lord's fighting with loyal service, which may include some fighting. (In other words, the local land-lord is the ruler of the village). Thus, land is not simply the land-lord's property. The village has rights in it, and individual villagers have rights in it as members of the village community. Conversely, the land-lord has rights in the labor of the village, and the villager may not be allowed to leave the village community without the land-lord's permission. He is then a "serf," and in extreme cases such as that of Russia, the serf's status may be only slightly better than that of a slave. The non-working class of land-lords were known as the nobility, or, in a term from Greek societies, aristocracy.

These complex, reciprocal rights are hereditary and are guarded by custom and tradition. This is a "traditional" economic system in that sense. As a result, it is not very flexible. This powerful role of tradition, together with the difficulty of concentrating local resources to support "civilization" as the older societies did, lead us to think of the feudal society as a "dark age" of ignorance and backwardness. Yet, when they were not under the stress of invasion or epidemic, feudal societies could be very progressive. In Europe, the introduction of wind and water power, and a resulting "industrial revolution," coexisted with feudalism.

All the same, some kinds of production could be better carried on in cities. As feudal societies evolved, cities became important as centers of trade. But these cities could also be productive in craft manufacture, and the combination of trade and craft manufacture made them powerful. A village might become a city, organize a city defensive force and throw off the land-lord who had formerly been its

"protector," buy its food for money in the countryside, build a wall, and become a sovereign city. (In some cases the wealthy city simply bought its freedom from the land-lord).

This meant that the two old classes, land-lords and farmers, now faced a new "middle" class that relied much more on money and markets. The city, with a wall, became a "burg," or bourg, and so the new class were called (in Marxist thinking) bourgeoisie, burgers.

The cities were the beginning of capitalism, but at the beginning they were more feudal, in their way, than capitalist. To be a citizen was to own a kind of right, like but not quite like a property right. The citizen's right included freedom from the traditional obligations of the serf. Thus, to be granted "the freedom of the city" was to be given a right that may have cost a great deal in real resources to secure, by purchase or war. While food had to be gotten from the countryside, by trade, the apprentice and the servant probably were not paid in wages, but given food from the master's kitchen, clothing and a place to sleep. The market hardly touched them, directly. The city's defense force was not paid, but was a body of citizen part-timers, responding to the city's call to war much as the village serfs might be required to respond to the land-lord's call to support him in war.

But these things gradually changed. With the growing importance of the cities, the money economy grew in importance, and land-lords increasingly released the villagers from the obligation to work on the land-lord's plots, accepting a money rent for the land used by the individual villager instead. Money could be used to hire mercenary soldiers. In some districts, such as the forest cantons of Switzerland, villagers imitated the cities' methods of organization, forming their own defense forces and throwing off their land-lords. Some town and district defense forces were so successful that they hired themselves out as mercenaries—even today, the Swiss Guard in the Vatican remains as a relic of that transition. Mercenary armies, paid by rich cities, might defeat the assembly of feudal land-lords and part time village fighters and the city thus replace the feudal land-lords as the rulers of the villages. This seemed a re-birth of the ancient societies that had been built on tribute; but it was quite different. Most importantly, taxes paid by individuals replaced tribute paid by village communities, and the cohesive and effectively sovereign village was less and less a factor.

Capitalism was emerging, but it required two things. One was the emergence of national states. The national state is, essentially, a feudal city extended to the territory of the nation, with its own paid army of mercenaries or (professional) national forces, and taxation on individuals to pay for this army. In England, in the English revolution, a paid national army of the English Republic met the aristocratic army of English feudalism and beat it. When the English monarchy was restored, it simply adopted the army of the republic, red coats and all. In France, the national army was created by the king. Either way, the existence of a national army meant the divorce of the land-lord class from its special function as fighters. The second step was to eliminate the special rights of the land-lords and the village community in land. In France, that took place in the revolution of 1789, when the villagers simply took the land as individual property. In England, the land-lord class were transformed into a class of capitalist landowners who rented their land for money. We can now call them landlords, rather than land-lords, because now they are no longer rulers—lords—by virtue of owning land.

Thus Feudalism gave way to capitalism. Still, the hand of violence is concealed behind (and restrained by) a system of property. But property is abstracted. It is property in general—not in a specific resource, such as land—that is enforced by governmental violence, and forms the basis for exploitation. Conversely, the connection between the exploiter and the worker is no longer an exchange of resource

for resource, but an exchange of resource (labor) for money. The worker's access to productive resources has been entirely alienated. The worker has no access to resources she or he may use for production for her or his own use, but must submit to the regimented direction of the employer. But, at the same time, the working class is stripped of all the special identities that had formerly marked the worker for exploitation. She or he is exploited not as a resident of a particular village or town, or as a slave of a particular master, or follower of a particular lord, but simply as a worker. Thus the working class as such emerges, and this new class has the potential to create a new, post-historical society without exploitation. The exploiting class requires the working class, but the working class does not require exploiters, and eventually will dispense with them, organizing production for its own benefit as a class. This new society is "socialism." Capitalism replaced feudalism through a series of revolutions, in which the class of "capitalists" or "merchants" fought and defeated the class of landlords. The emergence of the new socialist society will be no less revolutionary, in all probability. But these new revolutions will mark the end of the historic tale of classes, exploitation and surplus-value, and a return to the equality of prehistoric societies—but without the poverty they had to endure.

That's a summary of the Marxist theory of history. It is hard to evaluate such a theory as simply "true" or "false." Unavoidably, there is much in a theory of history that rests on interpretation and even conjecture. But what are the alternatives? Most theories of history are based on some belief in the supernatural. Marxism is not: it has attempted to account for the great trends of history on the basis of human mind and material nature. Perhaps the reader will be able to name a theory of history that has done this more successfully. I cannot.

Capitalist Dynamics

Drawing on his theory of history, Marx saw Capitalism as a specific form of society, in history, with a beginning and an end. As with the Feudal form of society that had preceded it, Capitalism could be expected to end in revolution. Marx said that all class societies must contain the seeds of their own destruction. The revolution to end Capitalism would come, not when the socialist revolutionaries chose to attack, but when Capitalism collapses under its own strains, according to its own laws. And Marx set out to discover those laws.

Marx acknowledged that Capitalism in its time had been a very dynamic system, that had increased the productivity of labor and broken down outmoded and irrational customs. However, the experience of his time (the middle of the nineteenth century) suggested to Marx that it was getting less stable. It was generally believed by the Classical Political Economists that the rate of profit would tend to decline toward zero, over time; and Marx accepted this. At the same time, it seemed to Marx and many others that the working class were getting poorer. These three tendencies—increasing instability, a falling profit margin and the "immiserization" of the working class—could not go on forever. Eventually they would lead to a crisis, the collapse of the Capitalist system. The working class, already highly regimented by the employers, would be ready to take over.

It is hard to understand how profit margins could fall and the working class be immiserized at the same time, though. (Some modern neoclassical economists would say very confidently that it is hard to understand because it cannot happen). Marx tried to explain the point by analyzing what he called the "organic composition of capital."

Let's see how he approached the problem:

Profit and Exploitation

Following the ideas of the Classical Political Economists, Marx thought of the capital of a business as the sum of two components: a sum of "circulating capital," proportionate to the wages paid by the business, and a sum of "fixed capital," which is the value of the machinery and equipment used by the business. Modern economics tends to think of only the latter part as "capital." This Classical approach is easiest to understand if there is a definite "period of production," such as a year for agricultural production, during which all the equipment is used up (as seed corn and fertilizer would be used up during the agricultural year) and if the employer has to have a fund from which to pay wages, so that workers can eat during the period of production and before any crop is harvested or output is produced. In that case, the circulating capital, v , is the wages paid, and the fixed capital, c , is the cost for all inputs other than labor. Marx was well aware that this "period of production" is a simplifying assumption, and spent part of the third volume of *Capital* (chapters 4 and 5, book 1) exploring a less simple, more realistic view. But we will follow the simpler example here, since it captures the key ideas.

Recall, the labor day produces one labor day of value, but costs less than one labor day to produce. The wage paid will be the cost of production of a labor, and is less than the labor day of value produced, so each labor day is the sum of two components, wages and surplus value. For the entire work force of the business, v denotes the wage bill and s the aggregate surplus value.

The labor-time value of output is

$$c+v+s.$$

The fixed capital c is the (labor) value of the machinery and equipment used up in production, and so incorporated in the value of the output—this is the labor value created in production of the machinery and thus indirectly embodied in the output. The rest, $v+s$, is the labor value directly embodied in the output. The capitalist begins with a capital of

$$C=c+v,$$

and, by appropriating the surplus-value produced by the worker, is able to expand that to a bigger capital

$$C'=c+v+s.$$

Marx expresses the rate of exploitation as

$$s/v,$$

the proportion of the labor day for which the employees are not paid. However, the rate of profit is

$$s/(c+v).$$

The rate of profit may be expressed as the product

(s/v) times $v/(c+v)$.

In modern terms, a high ratio $v/(c+v)$, that is, a high ratio of wage costs to total costs, would be described as "labor intensive, and it would correspond to a high ratio

v/c .

This last ratio Marx called the "organic composition of capital."

Now we arrive at the point. Classical Political Economists generally agreed that the rate of profit tends to fall as capital is accumulated. Marx explained this by the fact that capital accumulation raises the proportion of fixed to circulating capital, causing the organic composition of capital,

v/c ,

to drop. As a result

$v/(c+v)$

drops, and with a constant rate of exploitation

s/v ,

the rate of profit,

(s/v) times $v/(c+v)$,

would drop.

Of course, that's not the whole story. Capitalists would naturally resist this decrease in profits by increasing the rate of exploitation, s/v . But Marx thought that would only slow, not stop, the decline of the profit rate. (The increase in s/v would only partly offset the drop of $v/(c+v)$). Relative to the value they produce, workers are worse off, immiserized. So we have a declining rate of profit at the same time as workers are immiserized.

Marx saw this as an unstable situation, arguing that falling profit rates and ever-increasing exploitation would lead to the collapse of the capitalist system followed by a workers' revolution in which the workers' government would take back the surplus-value that the employers had appropriated over the years, that is, the machinery and equipment of society.

The Rate of Profit

But in developing this argument, Marx discovered an unsuspected flaw in the labor theory of value—not a discovery he could be very happy about!

Classical Political Economists all agreed that there could be only one rate of profit in the economy. If there were a higher rate of profit in one industry than another, investors would shift their capital into

the high-profit industry, depressing its price and its profit rate, and out of the low-profit industry, raising its price and profit rate, until the rates of profit were equal. This is the law of the equalization of the rate of profit.

Now suppose we have two industries. In both industries, the rate of exploitation is 100%, that is, $s=v$ —half of the value created by the labor day is appropriated by the employer, so $s/v=1$. One industry, baking, has an organic composition of capital of $1/2$; that is, its wage bill is half as large as its non-labor costs. Therefore, for baking, the rate of profit is

$$(1)(1/3)=33.3\%$$

For the other industry, brewing, the organic composition of capital is $1/10$, that is, the wage bill is only one-tenth of the nonwage costs. The rate of profit in the brewing industry is

$$(1)(1/11)=9\%.$$

The law of the equal rate of profit is violated! Notice what this means: capital will flow out of brewing and into baking. The price of beer will rise and that of bread will fall. As a result, the price of beer will be above its labor value, and the price of bread will be below its labor value.

Marx had discovered that, in general, the law of an equal rate of profit logically contradicts the labor theory of value! If organic compositions of capital can vary from one industry to another—and it is clear that they did and do—and if profits are equalized—no-one doubted or doubts that profits are equalized in a competitive system—the value in exchange has to deviate systematically from the labor embodied in the commodity.

Certainly, that is a major reason why modern economics has moved away from the labor theory of value. As a theory of "value in exchange" or relative prices, it can only be approximately correct. Chicago economist George Stigler—no fan of Karl Marx but something of a fan of the Classical Political Economists—calculated that the labor theory could account for 93% of the differences of relative prices in the U. S. in the 1940's. And the remaining 7% could reflect many different causes, no one of which amounts for more than a percent or two. (Some of the differences would presumably be random). So the labor theory is not entirely wrong. But, in a modern economy with a wide range of organic compositions of capital, the labor theory cannot be the whole story.

Exploitation and The Rate of Profit

Marx had not been mainly concerned about value in exchange. He was concerned with a theory of exploitation, which he regarded as a tool for the dynamic theory of capitalism. But the story did not stop with the relative prices. The drop in the price of bread, and the rise in the price of beer, would also change the rates of exploitation in the two industries. Since bread is being sold for less than its value, the rate of exploitation in the baking industry would drop below 100%, while the rise in the price of beer would mean that beer is sold for more than its value and the rate of exploitation in the beer industry would rise above 100% (as employers appropriate more of the sales revenue than they pay in wages). Profits would be equalized when the difference in the rate of exploitation is just enough to offset the difference in the organic composition of capital. Suppose, for example, that the rate of exploitation in

the baking industry drops to 0.4, while the rate of exploitation in the brewing industry rises to 1,467. Then the rate of profit would be equal at 13%. (Check me on that!)

This was a problem for Marx, because he thought of the rate of exploitation as primary—his idea was to reason from the rate of exploitation to the rate of profit to the values in exchange. But, if the rate of exploitation has to differ from industry to industry, what is the rate of exploitation we should start with?

Marx left that as an unsolved problem for some brilliant young Marxist economist, but the first (partial) answer came from a self-described "vulgar" (common-sense) economist, Professor Wilhelm Lexis. Lexis' idea is that the concepts of surplus-value and rate of exploitation be applied to the working class as a whole. There is then no difference in the organic composition of capital to worry about—the organic composition of capital to use in the computation is the composition for the entire capitalist economic system. That determines the rate of profit, which then determines the "values in exchange."

That isn't quite the whole story. Remember, the wage is the labor cost of the goods and services workers consume. In our example, that beer gets more expensive and bread gets cheaper. That may increase or decrease the cost of goods and services workers consume. So the rate of exploitation for the economy as a whole is not independent of the relative prices. We still can't do what Lexis suggested: take the rate of exploitation for the economy as a whole and use that to compute the relative prices, because the price of beer and bread that we come up with may not be consistent with the cost of labor that we started with. There has to be a rate of exploitation and profits and relative prices that all work together. Figuring out what they could be is called the "transformation problem," i.e. the problem of transformation from labor values to market prices.

Where does that leave Marxism? Most likely, where you stand depends on where you sit. For a committed Neoclassical economist, it leaves Marxism without any foundation, a system of logical contradiction. (It leaves the Classical Political Economy in the same situation, with the distinction of being less complete). For a committed Marxist, it leaves a complex problem to be solved by ongoing research and a more complicated set of tools than Marx might have expected. You pick.

Twentieth Century Developments on the Transformation Problem

This could be a very long discussion, but we will mention only two very important elaborations of this model in the twentieth century.

A group of economists led by the "Anglo-Italians," Piero Sraffa and Luigi Passinetti, directed effort to the solution of the "transformation problem." In their later work, they drew on matrix algebra and the input-output analysis developed by Wassily Leontieff. (Leontieff, who had studied economics at the University of Leningrad before moving to the United States, was partly inspired in his work by Marx' chapters on machinery and the labor theory. However, Input-Output analysis was mainly aimed at practical applications, and continues to be widely used in applied economics). The question was: given the labor input requirements per unit of output, both direct and indirect, can we find a rate of exploitation, rate of profit, and system of relative prices that all work together? As it turns out, there is not just one solution to that problem—there are infinitely many, each with a different wage and corresponding rate of exploitation and profits.

And that's a problem. One wants just one solution, not a whole universe of them! Marx' idea was to reason from the given rate of exploitation to the rate of profit and so to the relative prices and labor values—but we are still trying to figure out: which rate of exploitation to begin with?

Here is my distillation of a good deal of Marxist thinking on this subject: the average worker's "standard of living," that is, the "cost of production of labor," is whatever history has made it at a specific time. It is the product of many influences: scarcity of resources, struggles over political power and regulation, bargaining power, unions and cartels. Once we know this cost of production of labor, we know the competitive wage for an average worker (in terms of the goods and services it will buy) and from that we can derive both the rate of exploitation and (subsequently) the rate of profits.

The purpose of Marxist theory, after all, is to understand capitalist dynamics. For that purpose, we need to understand where the economy will go from the state it is now in, not from some hypothetical state. And the state it is now in is well defined. The objective of a capitalist is to increase his profits, and to do that, he must increase the rate of exploitation, s/v . Roughly speaking, there are four ways to do that.

Increase labor productivity

In other words, introduce technological innovations. This increases s/v by increasing the output from a given input of labor. However, it usually requires an increase c relative to v , which cuts $v/(v+c)$ and thus limits its short-run impact. In the long run, innovations can be imitated and the competition for labor is increased, so that either (1) the standard of living of the average worker, and so the wage cost, increases, or (2) the socially necessary labor time and the price of output declines. Thus, in the long run, innovation is self-denying. But the fact that innovation raises profits in the short run is the great reason why capitalism (at its best) has been a very dynamic system.

Push workers' standards of living down

That is, cut the purchasing power of wages, either directly or with raises that lag behind inflation.

Lengthen the working day

This forces the working people to supply more input for the same pay. It was a major capitalist strategy in Marx' time, and the source of a great deal of agitation, strikes, violence, and political reform. This is limited, of course, in that there is an upper limit of about 16 hours per day.

Make working conditions worse

Although we have not mentioned working conditions before—and they don't come up separately when we think in terms of v , c , and s —requiring workers to make more effort, risk their lives and limbs more often, take fewer breaks and go home more tired and weakened can cut some nonlabor cost, lowering c , and so increasing profits. This works very much like lengthening the working day, and Marx discussed this a good deal in some of the informal sections of *Capital*.

Of course, the working class will resist some of these attempts, more or less effectively. Workers have sometimes resisted technological innovations by "Luddite" riots and destruction of machinery. Strikes, with or without labor unions, and sometimes riots and violence, have pushed wages up and forced

improvement of working conditions and limitation of the working day. Political movements and laws and regulations have sometimes had similar effects.

From a particular time, the direction of the economy will be the overall result of these forces. This direction determines the standard of living of the working class, and thus the starting point for the next round of change. In this way, the path of the capitalist system over decades is determined. This path isn't unique or perfectly predictable, and that should not be a surprise. The search for a unique solution to "the transformation problem" is a search for a "unilinear path of development," and as critics of Marxism have often pointed out, there is no unilinear path of development. But perhaps we can understand the actual path, where it will lead and how political and economic events influence it, by thinking in terms of surplus-value.

Monopoly Capital

The other major twentieth century development in Marxism we will mention is the growth of the "Monopoly Capital" school of thought. The leaders of this school were Americans, Paul Sweezy and Paul Baran. This idea stems partly from the recognition that real capitalist markets are often not very competitive, but can be dominated by big businesses that can, to some extent, control supply, prices and profit margins. This adds a fifth way to increase s/v: obtain a monopoly position in your industry, and push up prices.

Other points made by the Monopoly Capital school include the following:

While class struggle over surplus-value is the driving force of any class system, classes are not monoliths, and struggle between factions within a class can be important too. In American capitalism, for example, the division between "Monopoly Capital," that is national and international corporate "big business" and smaller-scale business, often equally monopolistic but only on a local basis, has been quite important in the twentieth century.

The world working class is equally divided, and at some periods highly unionized workers in some "more developed" countries have in effect been among the beneficiaries of the exploitation of very poor workers in less developed countries.

Government can be an active agent of exploitation. Marx had said that in a capitalist society, the government is the executive committee of the employing class; but government and bureaucracy play very little role in Capital. By the 1960's, the Monopoly Capital school—never uncritical supporters of the Soviet Union—had come to the conclusion that the Soviet bureaucracy was an exploiting class that would eventually evolve into a capitalist class.

Some of the Monopoly Capital scholars had some striking success at long-term forecasting. In an essay entitled "The Peaceful Transition from Socialism to Capitalism," Sweezy predicted the collapse of Communism in the Soviet Union, twenty years in advance of the event, and that the Soviet managerial class would become a capitalist class. Twenty-five years ago, James O'Connor (in *The Fiscal Crisis of the State* New York: St. Martin's Press, 1973) predicted the chronic government deficits that have plagued the more developed countries for the last twenty years. It seems clear that "Monopoly Capital" Marxism can be a powerful tool of diagnosis of Capitalist dynamics, at least in some hands.

Interpreting the Twentieth Century

To illustrate these approaches, here is an interpretation of the evolution of American capitalism in the twentieth century. Of course, it will have to be very brief and simplified.

At the turn of the century, as throughout the nineteenth century, mechanization of manufacturing industry was a great trend in technological change. What was new is that mechanization had invaded agriculture. The result was ironic from both Marxist and Neoclassical viewpoints, but for opposite reasons. Mechanization destroyed American capitalist agriculture, but not in the way that Marx anticipated. Instead of the huge consolidated factory farms that Marx anticipated, mechanization of agriculture pushed the landless agricultural laborer and the small owner-operator out of agriculture entirely, while reducing the status of the former employers and landlords to that of owner-operators—a high-technology neopeasant class. But the numbers of this neopeasant class continued to dwindle as the smaller operators continued to be forced into the industrial working class. (I grew up in one of those neopeasant families at midcentury. Our family bought one of the first cotton-picking machines in our area, but hadn't quite enough land to use it economically. My dad rented himself and the machine out to pick cotton for still smaller operators, for a few years, supplementing the farming income of the family partnership with service fees. But he was an industrial worker before 1960, and the family farm is now a mobile-home court.)

But the continuing technological revolution in manufacturing industry was able to absorb those forced out of agriculture. Mechanization simplified manufacturing tasks, so that the new proletarians, who might be skilled farmers but had no craft manufacturing skills, could still be highly productive in mechanized industry. A continuing high rate of labor productivity increase (and cheaper food) kept s/v , v/c and the profit rate stable despite continuing rapid capital accumulation.

But the boom-and-bust cycle kept getting more and more unstable. Marx expected Capitalism to collapse, and he expected that the collapse would be followed by a working-class revolution. In a real sense, capitalism did collapse in 1929. The economic systems we have had since then have not been "capitalism" as Marx knew it. What Marx seemingly did not anticipate was the emergence of a government-managed and profit-oriented class society. But that generally is what did emerge from the collapse of capitalism in the Great Depression. Where it was combined with one-party dictatorship, the government-managed profit-oriented system was called Fascism. Where it was combined with electoral government and universal suffrage (as in the United States) it was called mixed or "liberal" capitalism.

The Marxist diagnosis of the Great Depression did not differ greatly from the Keynesian one: at the last, the rate of exploitation rose so that the working class was not able to purchase what it produced, and there was no-one else to buy it, and so the capitalist market collapsed. To save capitalism, it would be necessary for government to manage "aggregate demand" through taxation, manipulation of the monetary system and deficit spending. This meant limitation of the power of "big business," monopoly capital, who largely opposed government management of the economy. The smaller-scale Local Capitalist classes could not govern alone, against the opposition of Monopoly Capital, so unionized labor had to be brought into a "New Deal" coalition with Local Capital to establish a mixed capitalist system. The price of this coalition was widespread unionization. Since Local Capital included some of the most racist elements in society, racism within the New Deal should not be surprising and was another price of the New Deal coalition. All the same, the New Deal wasn't successful in bringing the country out of the depression, and it took a war to do what dictatorship had done in NAZI Germany: to induce the government to spend enough to bring the country out of the depression.

After the war, Monopoly Capital remained (mostly) officially committed to eliminating the mixed capitalist economic system—"liberalism"—and with the ideology of anti-Communism they could appeal to nationalist feeling, which the 'liberal' view had held before the war. But they needed to bring local capital back into a capitalist class coalition. Senator Warren Knowles found the answer—promise Local Capitalists tax cuts—but the traditional capitalist opposition to government deficits was too strong to put this into effect in the 1950's.

But the coalition of labor and Local Capital was growing weaker. Labor in America had always been divided by race—one of the most powerful tools of capital, and especially local capital—but the war (and agricultural mechanization) had destroyed much of the economic basis of the racist system and Black People would no longer be subservient. The coalition of labor and local capital had great difficulty in incorporating the Civil Rights movement. Perhaps it would have succeeded—at least outside the south—had not the Anti-Communist ideology forced a reluctant (but cowardly) Lyndon Johnson to commit the country to the Viet Nam war. With Civil Rights, this left the New Deal coalition fatally divided, and the class coalition of Monopoly and Local Capital took control and began to feel out its power.

The technological trends also began to change. Mechanization of manufacturing industry was succeeded by automation, and, if anything, labor productivity growth was faster, but—after the sixties—markets could not grow at a similar rate, and industrial employment began to dwindle as farm employment already had. Thus, service sectors with low productivity growth began to dominate the trends for the capitalist system as a whole, and—with slower productivity growth—the tendency to a falling rate of profit began to assert itself as v/c declined. The capitalist class resisted by raising s/v , for the first time in America in the twentieth century. The most direct expression of this was "downsizing," which can best be understood as a direct reduction of v , raising s/v , gambling that a combination of productivity improvements and lengthening of the working day would validate the reduction in labor costs before the company loses all its business and goes bankrupt. Sometimes it worked. At the same time, automation and robotization (unlike mechanization) substituted complex jobs for simple ones, forcing a large segment of relatively uneducated male workers out of the labor market entirely, and (in the U. S.) into homelessness, illegal activity and prison in many cases.

Meanwhile, the class-coalition of Local and Monopoly Capital extended its power. What they had discovered is that government management of the economic system can itself be a means of extracting surplus-value. Deficit spending can be profitable. Consider: when the government runs a deficit, it issues bonds. The bonds are bought by capitalists, and the interest is paid out of taxes. Perhaps we should rewrite Marx' formulae like this:

The labor day is divided into $v+s+t$, where s is the market surplus and t the surplus extracted through taxes.

$$C=c+v+b$$

$$C'=c+v+s+b+t$$

So, despite all ideological cant to the contrary, deficit spending is a consequence of modern, government-managed capitalism, and is in the interest of the capitalist class as a whole. It is also the

glue that holds the coalition together—tax cuts for Local Capital, internationalism (and a decaying tax base that results) for Monopoly Capital, which now sees the world as its field of activity.

Regulation, too, can increase the profits. The danger here is that changes in regulation will increase the profits of one sector of the Capitalist class at the expense of another sector, creating conflict within the Class Coalition. What is called "deregulation," but would be more accurately called "reregulation," is a recasting of regulation in the interest of the capitalist class as a whole.

Were you wondering why a whole series of "conservative" governments, evidently sincerely committed to "balancing the budget" and "getting rid of regulation" have been unable to do it? There are no conspiracies, and the "conservatives" are genuinely sentimentally attached to the "conservative" program. But it is objectively against the class interests of the capitalist class, and a capitalist government will not do what is against the interests of the capitalist class, at least not for long.

But can this sort of government go on forever? There is a real possibility that the deficit spending is unsustainable, and will eventually collapse. This means not primarily an economic depression, but more than that, a collapse in the government itself. That has already happened in the former Soviet Union, and we had better be prepared in case it happens here.

That's how I think a Marxist might summarize the twentieth century. It probably is not the only way. But it may serve to illustrate how Marxist thinking can be a tool of historical dynamics.

After the Revolution

Supposing capitalism does collapse and a real socialist system is established. What would it be like? Marx' reasoned position on this is that one could not know in advance. It would be something for the new workers' government to decide, and anyway Political Economy—the economics of capitalism—could not tell us anything about it. But Marx probably did have some ideas about it, and Marxists certainly have some ideas about it. We cannot quite dodge the question here!

Marx and Engels were very impressed by the factory system, but Marx was also impressed by the potentiality of cooperatives. He wrote, (*Capital*, v. III, ch. XXVII) "The co-operative factories of the laborers themselves represent within the old form the first sprouts of the new ... The capitalist stock companies, as much as the co-operative factories, should be considered as transitional forms from the capitalist mode of production to the associated one ... "

The founders of the Soviet Union took that as the basis to create a very centralized, and, in practice, bureaucratic system. The Communist state was to become "one great producers' and consumers' cooperative." (One could equally have said that it would become one great capitalist stock company!) We can now assess this view on its results. Didn't work.

However, some Marxist scholars read Marx closely and drew a quite different conclusion. Shirley Telford's ideas, from the 1950's and 1960's, may serve as an example. From *Economic and Political Peace*, (Portland, Oregon: William and Richards, 1969, pp. 2, 10, 16) "According to Marx' theory, there should be an associated control over production. ... As long as the individual works in a particular cooperative enterprise, he owns the means of production and profit of enterprise in common with the other members of the enterprise. ... Associated production is established by the conscious action of

society, as a system of production that is understood by those who establish it. Its establishment is made possible by the dissolution of the capitalistic property relations." Telford's point is not so much to establish that this is a good idea (though she clearly feels that it is) as to establish that it is a Marxist idea, and here she succeeds. It seems clear that a system of federated cooperative enterprises has at least equal claim to the label "Marxist economic system" as the failed system of government central planning had, and probably a better claim.

To borrow the title of one of G. D. H. Cole's books, "what Marx really meant" will not be of interest to everybody. But this kind of Marxist thinking may be important to everybody, because it describes a system in which working people establish their own government from the bottom up. If government continues to collapse, we may have no choice but to do just that. When government is the problem and is collapsing, then it doesn't make sense to turn to government and say "Do something! Solve the problem." We have to do it ourselves. And, ironic as it may seem, it could be Marxism—one kind of Marxism—that can teach us how to do it.

What, then, is the future of Marxism? Certainly not in the failed Soviet system. But it will depend on the future of capitalism. If Marxism is right on the facts, capitalism will continue to be plagued with crises, dynamic but unstable, until the system of exploitation by employment for wages collapses. Some more highly evolved system will replace it, but perhaps not right away. We could be in for a long "Dark Age." That may depend on choices we make and actions and direction that we take. It's hard to be optimistic, though. On the other hand, if Neoclassical or Keynesian economics is right on the facts, then we needn't worry about all that. Business as usual can go on as usual—perhaps with a little government tinkering.

Judge as best you can. Time will tell.

Summary on Marxism

In Marxist economics, the objective is to explain the existence of profits despite the fact that "labor produces all value," and to use the explanation as a tool to understand, and anticipate, the dynamics of capitalist society. The Marxist labor theory of value holds: In a capitalist economy, the "natural price" or value of any commodity is its cost of production. Labor, the common element of all production, is the measure of cost. In a capitalist economy, labor is a commodity, and so the value (wage) of labor is the cost of production of labor, measured in labor hours.

In a modern economy, thanks to increased productivity, a labor-day can produce more than its cost. This difference is called "surplus-value" and is the basis of capitalist profits and exploitation. The aim of capitalists then is to increase the rate of surplus-value, and so increase profits. This creates a tension, as it leads at once to the relative immiserization of labor (wages are a smaller and smaller proportion of total value) and a falling rate of profit. This leads (in the capitalism that Marx knew) to increasing instability of boom and bust and a collapse of the free-market capitalist system. In a modern mixed capitalist system it leads—perhaps—also to an unsustainable rise in government deficits and debts and the danger of a collapse of government. While Marxism does not provide a blueprint for an alternative system, it indicates that a successful alternative will have to be free of the exploitation of labor through wages and surplus-value.