David Ricardo (1772-1823)

Ricardo, in his contributions to political economy, established himself as a master in the use of deductive reasoning. His first introduction to Political Economy was Smith's *The Wealth of Nations (TWN)* in 1799. It would take Ricardo another 10 years before he put anything in print; however, when he did, it clearly reflected the transformation that had happened in England over the roughly 40 years since *TWN*.

England had been experiencing diminishing returns on land and the price of bread was becoming a major issue. Landowners were struggling for increased protection against imports at a time when many were calling for free trade. Ricardo participated in the debate, arguing that food prices would remain high without free imports of corn (which should be understood more generally to mean grains). Rising food prices would drive wages up, reducing profit and accumulation.

Unlike Smith, Ricardo considered economic progress or growth as being closely associated with distribution. From here, Ricardo entered the policy debate on corn imports. While England was industrializing at this time, it was not sufficient to offset the diminishing return on land; moreover, industrialization and the increasing capital intensity of production raised the question of technological unemployment.

Ricardo began his career on the stock exchange at an early age and amassed a fortune rather quickly. This fortune allowed Ricardo to devote time to such studies as took his fancy. In 1817, Ricardo published his *Principles of Political Economy and Taxation.* The *Principles* continues to draw attention from many great thinkers today.

The methodology of Ricardo is squarely in the classical tradition: distributive shares are determined separately from exchange values.

Theory of exchange value

Smith considered labor as the only unvarying measure of value. To determine value Smith relied on labor commanded. Ricardo found Smith's measure inadequate for examining changes over time in the relation between rent, wages, and profit. The value of labor, according to Ricardo, was just as variable as gold or corn; there is no commodity that is truly an invariable measure of value.

If a measure of value could be found that was invariable to fluctuations in wage and profit rates it would represent a major advancement in the theory of prices. Ricardo settled on gold, justified by his belief that the quantities of labor and capital necessary to extract the shiny metal has remained relatively constant over time. The invariable standard allows observed changes in prices to be traced to changes in the quantity of labor embodied in the commodity, distinct from the quantity of labor contained in the measure of value which is assumed constant.

Smith distinguished between value in use and value in exchange. Ricardo follows Smith with the distinction, asserting that for a commodity to have exchange value it must have utility; however, utility is a necessary, not sufficient condition for exchange value. Some commodities derive value from scarcity alone, rare works of art are an example; these commodities are not reproducible. However, most commodities are reproducible and thus derive value from labor embodied, not scarcity.

Smith accepted that in the early and rude state, labor embodied determined value. However, Ricardo treats labor embodied in commodities slightly different, containing both present and past labor. He continues, questioning Smith on whether such a stage in economic development ever existed.

Capital for Smith and Ricardo includes fixed capital which includes instruments of production like buildings and tools and circulating capital which consists of primarily the wage fund out of which productive workers are supported. Capital employs labor as its primary role through advances from the wage fund. The exchange value of goods produced is proportional to direct labor involved in production in addition to the indirect labor embodied in the capital used in production.

While Ricardo is often labeled as a proponent of the labor theory of value, he as concerned with alterations in exchange values because these variations affect the distributional shares going to labor, capitalists, and landowners. Changes in the exchange rate of two commodities reflect changes in their relative content of labor embodied, not changes in wages and profits or rent and wage rate differentials.

Influence of rent wages, and profits on exchange value

Ricardo argued it was changes in quantities of labor embodied that drove changes in relative values of commodities. To make this point required Ricardo to demonstrate that rent is an effect, not a cause of value. Equivalently, rent must be eliminated as a determinant of exchange value to establish that fluctuations in relative commodity values are due to changes in labor embodied.

Rent, according to Ricardo, is compensation paid to the landowner for the original and indestructible powers of the soil. Capital improvements to the land generates profit and is regulated by different factors than those that regulate rent. Ricardo draws on Malthus's recognition of the diminishing returns to land and integrates this principle into the theory of value.

As population expands, additional land of inferior quality is brought under cultivation. The inferior land, using equal labor-capital inputs, yields a smaller product than the better land. Competitive markets ensure a uniform exchange rate between given commodities. Competition also ensure a uniform rate of profit and of wages. The differential arising in the cost of production on different qualities of land forms the basis for rent. Rent is a differential surplus, it doesn't create exchange value; rather, rent is the result of value.

Value is regulated by the quantity of labor embodied; however, it is not only necessary to show that rent does not affect value, but also that wages and profits do not affect value.

The task now confronting Ricardo is to establish relative value of commodities remains independent of wage-rate differentials and changes in the price level.

Since labor is heterogenous with respect to quality, if a commodity contains labor of superior quality it is treated as if it contained a greater quantity of labor.

If there is a change in the wage rate, but not in the quantity of labor embodied, then only the ratio of wages to profits will change not the relative value of the commodity. Like Smith, Ricardo viewed the relationship between wages and profits as inverse.

Competition ensures a uniform rate of profit. It follows that prices of commodities include the same percentage of profit on capital employed in production. Variation in profit-rates will not affect exchange values.

Changes in relative values of commodities derives entirely from changes in the quantity of labor required for production.

Ricardo and the labor theory of value

Why does wine have a greater value than grape juice?

In trying to answer this, it is necessary to recognize that different capital structures, including different ratios of fixed to circulating capital and capital of different durability, affects the time lapse of a production process. Time matters. This more sophisticated concept of capital, which was almost arrived at by Ricardo, would have displaced the labor theory of exchange value.

Ricardo was most interested in distribution. Changes to the relative values, not the determination of value at any given point in time, was of interest to Ricardo but only to the extent that these values affected distribution.

Different capital-labor ratios implies that a change in nominal wage rate will affect prices. If wages rise, then value of commodities with greater labor intensity will rise relative to both the invariable measure of value, gold, and the more capital-intensive commodities.

Distribution

Explaining wages, rent, and profit and the laws which regulate this distribution was the primary focus of Ricardo.

Rent occupies the primary focus of the Ricardian framework. High rents, according to Ricardo, do not cause, but rather accompany low profit. While wages reflect the cost of producing food at the margin of cultivation. During the normal course of economic development, there is a tendency for rent to increase. This tendency contains important implications for the future of wages and profits and for the emergence of class conflict. Specifically, in the Ricardian framework, interests of landlords are antagonistic to those of capitalists. The interests of the landlords are best served by a growing population and a continuation of the corn laws that restricted imports of grain, thus keeping farm prices high. High food prices drives the nomial wage share up, but the real wage tends to subsistence.

Wage share and wage rate

The wage fund is the total available to be paid out to labor and is part of the stock of real capital consisting of consumer goods customarily bought with wages. Average wage is determined by the ratio between workers and the wage fund. To increase the wage fund requires increasing the savings of capitalists and thus can be considered fixed in the short run. In the long run, the wage fund is likely to expand, but so too is the population. Thus, in the long run, the wage will tend to subsistence.

Profits

Profits, for Ricardo, Malthus, and Smith consists of net income received by business owners. Part of the profits in this classical tradition, is what today is considered interest: the return on capital. Competition ensures a uniform rate of profit which varies inversely to wages.

Ricardo hypothesized a falling rate of profit in the long run as did Smith. Smith argued that accumulation expanded faster than opportunities for new investment, driving the rate of profit down via competition. Ricardo, however, relied upon rising production costs of food on the margin of cultivation. Profits are inversely related to wages which tend to subsistence and subsistence is linked directly food prices.

As the population expands, additional land of inferior quality is brought under cultivation. Production costs on the margin rise which pushes wages up and profits down. Falling rates of profit reduces accumulation. Ultimately a stationary state is reached where neither population nor capital can expand.

Technological progress and free trade can delay the long run stationary state. But the question remains, how would the introduction of machinery affect members of society and particularly those of different classes.

On machinery

Ricardo traced out a sequential situation in which labor is diverted to the production of machines which in a later period is used to produce output that was previously the product of direct labor alone. While Ricardo considered 4 periods, we will only consier 2.

t

The initial situation is self-replacing equilibrium state without machinery. Capitalists employs $20,000 in mixed business of agriculture and manufacturing: 13,000 in wages and 7,000 in fixed capital which, for simplicity, does not depreciate. Assume the uniform rate of profit is 10% so the capitalist receives 2,000 in profit from revenue of 15,000 on sale of the output.

T+1

The product from the previous period has been reallocated so that production can continue. However, Ricardo now assumes that half of the labor employed is diverted to the production of machines. Fixed capital remains at 7,000 and wages at 13,000; however, the product is different. At the end of production, the capitalist now owns a machine worth 7,500 and commodities that will generate a stream of revenue of 7,500. Upon selling the commodities, 2,000 is deducted for profit leaving circulating capital of 5,500. Constant capital is 14,500: 7,000 in the original fixed capital and 7,500 in new machines. Total capital remains at 20,000 and is equal to constant capital plus circulating capital.

Circulating capital is lower at the end of this period: 5,500 compared to the previous 13,000 that was in the wage fund. As a result of reduced circulating capital, some labor is displaced. Assume a constant real wage and it is inevitable that machines have been substituted for labor.

Even given the results arrived at by Ricardo, he offered several reasons in support of introducing machinery.

Wage fund and Corn laws

Ricardo used the concept of the wage fund as a theory of capital and wages. As capital, the wage fund is a portion of the accumulated stock that has been dedicated to supporting labor during the course of production. The sale of labors output replenishes the stock and generates capitalist profit. As a theory of wages, the average real wage is determined by the ratio of workers to the wage fund.

There are a few problems with Ricardo's application of the wage fund doctrine which are listed on the slide.

Even with its shortcomings, the wage-fund doctrine did allow the classical economists to correctly conclude that raising wages requires an expanding capital stock. Moreover, this doctrine provided a foundation for the conception of capital as bridge in the time gap between production and consumption.

Corn laws

Recall the inverse relationship between profits and wages. Profits can only be increased if wages are reduced. Any measure which reduces wages, Ricardo asserted, served to increase profits and contain rents. This recognition forms the basis for Ricardo's support for repealing the corn laws and the central point of his debate with Malthus.

Ricardo's key assumption on trade

In the theory of comparative advantage, Ricardo and his contemporaries assumed the gains from trade are equal. Every country should specialize in whatever commodity it enjoys a relative advantage in the cost of production. For example, consider Portugal and England who both produce cloth and wine.

Assume that in Portugal producing one measure of cloth requires ten hours of labor and one liter of wine one hour labor. In England the same cloth and wine require twenty and five hours of labor respectively. England should specialize in cloth and Portugal wine.

Concluding thoughts.

Ricardo thought that distribution, the division of the nations product between the three classes, was the primary concern of political economy. He posited that the long run trend of the shares is governed by labor costs of producing labor's subsistence. Holding agricultural technology constant and assuming a growing population, pushed agricultural production onto inferior lands, diminishing returns drove up food prices. Importing food from countries with a comparative advantage in labor costs would alleviate the upward pressure on food costs and alter the long run distribution.

Ricardo's concern with distribution focused his attention on fluctuations in relative values. The value theory he developed is governed by embodied labor and the proportions between fixed and circulating capital and on the durability of capital; it is not exclusively labor, but also time between production and consumption that affects relative values.