

David Ricardo's Principles of Political Economy

Distribution, Rent, Comparative Advantage, and the Stationary State

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1 Introduction: Distribution as the Principal Problem

If Adam Smith founded political economy, David Ricardo (1772–1823) made it a deductive science. In the four decades between the *Wealth of Nations* and Ricardo’s *Principles of Political Economy and Taxation* (1817), the subject acquired, in Ricardo’s hands, the form it would keep for half a century and the analytical character it has never wholly lost: a system of interlocking abstract relations, reasoned out from a few strong premises to definite and often startling conclusions. Where Smith had ranged discursively over history, institutions, and policy in pursuit of the causes of national wealth, Ricardo narrowed the focus to a single question and pressed it with relentless logic. The produce of the earth, he wrote, is divided among three classes – the landlords who own the soil, the capitalists who own the stock that works it, and the labourers who till it – and to determine the laws which regulate this distribution is, he declared, the principal problem in political economy. The shift of emphasis was decisive. Smith asked what makes a nation rich; Ricardo asked how the riches are divided, and how that division changes as the nation grows. Distribution, not growth, became the centre of the subject.

The man who effected this change was an improbable theorist. Ricardo was the third son of a Sephardic Jewish stockbroker who had emigrated from Holland, and he entered his father’s business at fourteen with no formal higher education. A breach with his family over his marriage, at twenty-one, to a Quaker left him to make his own way, which he did with spectacular success, amassing a great fortune on the London exchange before he was forty, partly on shrewd dealing around the government loans of the Napoleonic wars. He came to economics as a reader, encountering the *Wealth of Nations* by chance around 1799, and to authorship through the monetary controversies of the war years; only the urging of his friend James Mill drove him to set down the general system that had taken shape in his mind. Having written it, he bought a seat in the House of Commons, where in his last years he argued for free trade, sound money, and parliamentary reform with the same severe consistency he brought to his theory, before his sudden death at fifty-one.

The Ricardian system: as population growth pushes cultivation to inferior land, rent rises and profits fall toward a stationary state, except as free trade in corn and technical improvement hold the tendency back

The central drama. Ricardo's system is built to display one master tendency. A growing population needs more food; to feed it, cultivation must extend to land of poorer quality, or apply more capital and labour to land already farmed, and in either case at diminishing returns. Because the price of corn is set by the cost of producing it on the worst land in use, the extension of cultivation raises that cost, and with it the money wage that buys the labourer's subsistence. Higher wages, the produce being given, mean lower profits; and the surplus that diminishing returns confer on the better lands accrues as rising rent to the landlords. So as the economy grows, rent rises, profits fall, and accumulation slows toward a stationary state in which profit is too low to induce further investment. Two forces alone hold this tendency back: improvements that raise the productivity of agriculture, and free trade in corn, which lets a country draw cheap subsistence from abroad instead of forcing its own cultivation onto ever-poorer soil. The whole of Ricardo's policy – above all his war on the Corn Laws – follows from this analysis of distribution.

The sections that follow reconstruct the system in the order its logic requires: first the method that gives it its character, then the theory of value on which it rests, the theory of rent that drives it, the analysis of wages and of the inverse relation between wages and profits, the resulting tendency toward the stationary state, and the theory of comparative advantage that is at once Ricardo's most famous result and the practical fulcrum of his case for free trade. After his monetary economics, his theory of taxation, and his late reversal on machinery, the closing section sets out the modern criticism of the system and the arguments on each side.

2 The Method and Shape of the System

Ricardo's method is the first thing to grasp about him, because it shapes everything else and because it is itself one of the lasting things he gave to economics. Smith had argued by accumulation – of observation, example, and historical illustration – and his conclusions emerge gradually from a vast and sometimes inconsistent body of material. Ricardo argued by abstraction. He isolated a small number of variables, made strong simplifying assumptions to hold the rest constant, and deduced the consequences with the rigour of a geometer, often through carefully constructed numerical “strong cases” designed to exhibit a tendency in its pure form. The result is a tightly articulated model in which value, rent, wages, profits, and accumulation are determined together, each in terms of the others, so that a change in any one ramifies through the whole.

This was a momentous methodological innovation, and it is the reason Ricardo, more than Smith, is the ancestor of modern economic theory, with its explicit models and its comparative-statics reasoning. It was also, from the beginning, the source of the chief complaint against him. Because his conclusions follow so cleanly from his premises, they are only as sound as the premises, and Ricardo had a tendency to carry results obtained under highly restrictive assumptions straight into the arena of practical policy, as though the abstractions were the world. Schumpeter later named this habit the “Ricardian vice” – the application of heavily simplified models directly to complex policy questions, treating a tendency as a prediction. The vice and the virtue are two sides of one coin: the very abstraction that lets Ricardo see a causal mechanism clearly also tempts him to forget how much his clarity owes to what he has assumed away. The system that follows should be read in this light, as a machine for isolating tendencies, powerful precisely because it is austere.

3 The Theory of Value

Ricardo builds his system on a theory of value, and he takes it, in refined and hardened form, from Smith: the exchangeable value of a commodity is governed by the quantity of labour required to produce it. But he begins by correcting Smith. Smith had wavered, sometimes measuring value by the labour a good will command in exchange, sometimes resolving value into the sum of wages, profit, and rent. Ricardo rejects both. Labour commanded is no good measure, he argues, because the value of labour itself varies; and the adding-up theory is circular, since it explains prices by wages, profits, and rents that are themselves prices. The sound principle is labour embodied: commodities exchange in proportion to the relative quantities of labour necessary to produce them, counting not only the direct labour of the final producer but the labour previously bestowed on the tools, machines, and materials he uses – the indirect or, as it is sometimes called, dead labour stored up in capital. Value is regulated by labour required, and it is emphatically not raised by a rise in wages: a rise in wages, Ricardo insists against Smith, lowers profits and does not raise prices in general.

Here, however, Ricardo runs into a difficulty that he was honest enough to confront and never able fully to master, and that became one of the deep problems of classical economics. The labour-embodied rule holds exactly only if all commodities are produced with the same proportion of labour to capital and the same time-structure of production. They are not. Where industries differ in the ratio of fixed to circulating capital, or in how long capital is locked up before the product is sold, a change in the division of the product between wages and profits alters relative values, because the profit component bears differently on capital-intensive and labour-intensive goods. A rise in wages, which lowers the rate of profit, therefore lowers the relative value of goods made with much fixed capital and raises that of goods made chiefly by direct labour – so that relative prices shift with distribution even when no quantity of labour has changed. This is a genuine breach in the labour theory, and

Ricardo knew it.

The labour theory and its qualification

Ricardo's principle is that relative values are regulated by relative quantities of labour embodied, direct and indirect. His own qualification is that this holds strictly only when industries share the same capital-to-labour proportions and time-structures of production; where they differ, a change in the wage-profit division shifts relative values independently of labour quantities. Ricardo judged this effect to be quantitatively small – a modern commentator (George Stigler) labelled the result a "93 percent labour theory of value," meaning Ricardo treated embodied labour as accounting for the great bulk of relative value and the capital-time effect as a modest residual. The qualification opened two long problems. It set Ricardo on a search, never completed, for an *invariable measure of value* – a standard commodity whose own value would not change when distribution changed, so that movements in other values could be unambiguously attributed to changes in their conditions of production. He was still working on this in the unfinished paper "Absolute Value and Exchangeable Value" at his death. And it bequeathed to Marx the problem of transforming labour values into the prices that actually rule when profit rates are equalised – the so-called transformation problem – which became one of the most disputed questions in the history of the subject.

4 The Theory of Rent

The engine of the Ricardian system is its theory of rent, and it is Ricardo's most rigorous and most durable construction. The theory was in the air in 1815, stated almost simultaneously by Malthus, by Edward West, and by Robert Torrens, but it is Ricardo who gave it its systematic place. Rent, he writes, is that portion of the produce paid to the landlord for the use of "the original and indestructible powers of the soil." The question is why such a payment exists at all, and Ricardo's answer is differential.

Suppose land of several qualities. While the best land is abundant relative to the demand for food, no one pays rent, for one can always cultivate good land that is free. But as population grows and more food is needed, cultivation must extend to land of the second quality, and then the third. Now the produce of the best land exceeds, for the same outlay of labour and capital, the produce of the worst land in cultivation; and competition among farmers for the superior land transfers that excess to its owner as rent. Rent is therefore a differential surplus – the difference between the yield of a given grade of land and the yield of the marginal land, the poorest in use, which just covers its costs and pays no rent. The same logic operates at the intensive margin: successive doses of capital and labour applied to the same land yield diminishing increments, and rent measures the excess of the earlier, more productive doses over the last dose that it is just worth applying.

From this follows the proposition that overturns Smith and the physiocrats and that is the keystone of Ricardo's distribution theory: rent does not enter into the cost that determines price. The price of corn is governed by the cost of production on the marginal, no-rent land, for that is the land whose produce is needed and which would not be cultivated unless its full costs were covered. Rent on the better lands is the consequence of that price, not a cause of it. Corn is not dear because rent is paid; rent is paid because corn is dear – because the growth of population has driven cultivation to poorer soil and raised the cost of production at the margin. Rent is price-determined, not price-determining. The landlord is, in this sense, a passive beneficiary of scarcity and diminishing returns, collecting a surplus that the progress of society pours into his lap.

The distributional and political consequences are immediate and were, for Ricardo, the whole point. As growth proceeds and the margin of cultivation is forced outward, rent rises both absolutely and as a share of the national produce, and it rises at the expense of profits. The interest of the landlord is therefore, Ricardo argues with a bluntness that scandalised the landed Parliament he addressed, opposed to the interest of every other class: the landlord gains from the dearness of corn and from the very diminishing returns that impoverish the rest. This is the analytical foundation of his campaign against the Corn Laws, the tariffs that kept foreign grain out and British corn dear, and it gives his free-trade advocacy a structural depth that Smith's did not have.

The Ricardian system: as population growth pushes cultivation to inferior land, rent rises and profits fall toward a stationary state, except as free trade in corn and technical improvement hold the tendency back

Domain: rent and the land. The mechanism: population growth forces cultivation onto inferior land and to diminishing doses on existing land, so the cost of corn at the margin rises. *The distributional result:* the surplus of the better lands over the marginal land accrues as rising rent, while the higher cost of subsistence raises money wages and squeezes profits. *The key proposition:* price is set at the no-rent margin, so rent is the effect of dear corn and not its cause – and the landlord's interest stands opposed to that of capitalists and labourers alike.

5 Wages

Ricardo's theory of wages applies to labour the same distinction between a natural and a market price that Smith had applied to commodities. The natural price of labour is the price necessary to enable the labourers, one with another, to subsist and to perpetuate their number without increase or diminution. The market price is what is actually paid, and it fluctuates around the natural price according to the supply of and demand for labour. The mechanism that ties market to natural price is Malthusian: when the market price of labour

rises above the natural price, the condition of the labourer improves, population grows, the supply of labour increases, and the market price is driven back down; when wages fall below subsistence, population is checked and wages recover. Over time, then, wages tend toward the subsistence level set by the natural price.

This is the doctrine that later writers hardened into the “iron law of wages,” and Ricardo is often read as holding that wages are fixed at a biological minimum. The reading is too crude. Ricardo is explicit that the natural price of labour is not fixed and constant even when measured in food and necessities, but depends essentially on the habits and customs of the people – it is a conventional and historical subsistence, which can and does rise as a society’s standard of comfort rises, so that what counts as the natural wage in an advanced country may include goods once thought luxuries. The subsistence floor is socially, not merely physiologically, determined. What Ricardo does insist on is the long-run tie between wages and the cost of the labourer’s necessities, and here the rent theory closes the circuit: as cultivation extends to poorer land and corn grows dearer, the money cost of subsistence rises, so the natural money wage rises – and this rise, the produce being given, must come out of profits.

6 Profits, the Inverse Relation, and the Stationary State

With value, rent, and wages in place, the theory of profits follows as a residual, and it is here that the system delivers its central conclusions. Profit is what remains of the produce after rent and wages have been paid. Since rent at the margin is zero and price is set there, the division at the margin is simply between wages and profits, and Ricardo draws from this the proposition that is the analytical heart of his economics: wages and profits vary inversely. For a given productivity of labour, profits can rise only if wages fall, and must fall if wages rise. There is, he says, no way for the value of labour to rise without a fall of profits. The net product is a fixed magnitude to be divided, and what one party gains the other loses – the first clear statement of the wage-profit frontier that classical and later Sraffian economics would formalise.

From the inverse relation and the rent theory together comes Ricardo’s theory of the falling rate of profit, and it is essential to see that his explanation differs fundamentally from Smith’s. Smith had attributed the historical decline of profits to the competition of accumulating capitals crowding into a limited field. Ricardo rejects this. The cause of the fall in profits is not competition but the diminishing productivity of agriculture. As population grows and the margin of cultivation is pushed onto worse land, the labour cost of producing the corn that feeds the worker rises; the money wage rises with it to maintain subsistence; and since wages and profits move inversely, the rate of profit falls. Profits fall, in short, because food

becomes harder to produce, and the whole burden of diminishing returns in agriculture is transmitted, through the wage, to the rate of profit on capital throughout the economy.

There is a striking simplification implicit in Ricardo's argument, which Piero Sraffa drew out in the twentieth century and which has been much discussed: the idea that the rate of profit can be conceived in purely physical terms in agriculture, where the input (the corn that feeds the labourers) and the output (corn) are the same commodity, so that the agricultural profit rate is a ratio of corn to corn, determinable before and independently of prices, and the general rate of profit must conform to it. Whether or not Ricardo consciously held this "corn model," it captures the logic by which his system makes the conditions of producing food the regulator of profit everywhere, and it points toward the invariable measure he sought.

The terminus of the tendency is the stationary state. If nothing intervened, the rising cost of subsistence would drive profits ever lower, until they reached a level too low to reward the risk and trouble of accumulation; net investment would cease, population and capital would stop growing, and the economy would settle into a stationary condition of high rents, subsistence wages, and minimal profits. But Ricardo identifies two forces that counteract the tendency and postpone, perhaps indefinitely, this gloomy outcome. The first is improvement: advances in agricultural technique, or in the machinery and skill applied to the land, raise productivity at the margin and so lower the cost of subsistence. The second, and for policy the decisive one, is foreign trade: if a country imports its corn freely from places where it can be grown more cheaply, it escapes the necessity of forcing its own cultivation onto ever-poorer soil, keeps the cost of wage-goods low, and thereby sustains the rate of profit and the impulse to accumulate. This is why the repeal of the Corn Laws was, for Ricardo, not merely a question of cheaper bread but a question of the whole future of accumulation and growth.

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Domain: profits and accumulation. The mechanism: profit is the residual after rent and wages, and wages and profits vary inversely about a given net product. *The tendency:* diminishing returns in agriculture raise the cost of subsistence and the money wage, lowering profits toward the level at which accumulation halts – the stationary state. *The remedy:* agricultural improvement and, above all, free trade in corn, which hold down the cost of wage-goods and keep profits and growth alive.

7 Foreign Trade and Comparative Advantage

The seventh chapter of the Principles, “On Foreign Trade,” contains the proposition for which Ricardo is most celebrated and which has the best claim to be the one genuinely non-obvious and enduring theorem in all of economics: the principle of comparative advantage. Smith had made the case for free trade rest on absolute advantage – a country should import what foreigners make more cheaply and export what it makes more cheaply itself. But this leaves a gap. What of a country that makes everything more cheaply than another, or one that makes everything more dearly? Smith’s principle seems to say that the less efficient country has nothing to gain from trade and nothing to offer. Ricardo showed that this is false, and that the gains from trade depend not on absolute but on comparative costs.

Comparative advantage: Ricardo’s example

Ricardo’s illustration takes two countries and two goods, with the figures representing the quantity of labour (the number of men employed for a year) needed to produce a given quantity of each.

	Cloth	Wine
England	100	120
Portugal	90	80

Portugal is more efficient at both goods – it has an absolute advantage in cloth and in wine. By Smith’s reasoning England has nothing to offer. But consider relative costs. In Portugal, a unit of wine costs $80/90 \approx 0.89$ units of cloth; in England it costs $120/100 = 1.2$ units of cloth. Wine is comparatively cheaper in Portugal and cloth comparatively cheaper in England. If Portugal moves labour out of cloth into wine and England out of wine into cloth, and the two trade, both end with more of both goods than they could produce in isolation. Each country gains by specialising where its *comparative* cost is lowest – that is, where its disadvantage is least or its advantage greatest – regardless of absolute efficiency. The source of the gain is the difference between the two countries’ internal opportunity-cost ratios; trade is mutually beneficial whenever those ratios differ.

The result is profound because it is counter-intuitive. It shows that even a country inferior at producing everything benefits from trade, and that even a country superior at everything benefits from concentrating where its superiority is greatest. The mercantilist anxiety that a more efficient rival will undersell a nation in everything and leave it nothing to export is dissolved at a stroke. The economist Paul Samuelson, asked to name one proposition in the social sciences that is both true and not obvious, is said to have answered: comparative advantage.

Ricardo adds a qualification that is easy to overlook and that has become central to modern debate. The principle works as he states it because capital and labour are mobile within a

country but not, or only with great difficulty, between countries. Within England, capital flows to wherever profits are highest, equalising the rate of profit across industries; but capital does not flow freely from England to Portugal even though profits are higher there, because of the natural reluctance of owners to quit their own country and entrust their wealth to a foreign government and foreign laws. It is this relative international immobility of capital that makes comparative advantage, rather than absolute advantage, govern the pattern of trade: if capital flowed as freely between nations as within them, it would migrate to wherever costs were absolutely lowest, and the logic would change. Ricardo's theorem is thus built on an assumption about the mobility of factors that later conditions would call into question.

The chapter also closes the loop with the rest of the system. Free trade is not, for Ricardo, merely a matter of the static gains from specialisation that comparative advantage describes. Its deeper importance, in his framework, is dynamic and distributional: by allowing cheap corn to be imported, free trade lowers the cost of the labourer's subsistence, raises the rate of profit, and postpones the stationary state. The case for comparative advantage and the case against the Corn Laws are, in Ricardo, one argument.

8 Money and the Bullion Controversy

Ricardo came to economics through money, and his monetary writings, though earlier than the *Principles*, are of a piece with its method. During the long suspension of the convertibility of Bank of England notes into gold – the Bank Restriction that ran from 1797 through the Napoleonic wars – the market price of gold bullion rose above its official mint price and the foreign exchanges turned against Britain. The question was why. In *The High Price of Bullion, a Proof of the Depreciation of Bank Notes* (1810), Ricardo gave an uncompromising answer grounded in the quantity theory of money: the high price of bullion and the unfavourable exchanges were the symptoms of a depreciation of the paper currency, caused by the Bank's over-issue of notes once the discipline of convertibility had been removed. An inconvertible paper money, freed from the obligation to redeem in gold, will be issued in excess, and its value will fall in proportion; the remedy is to limit the issue and restore convertibility.

This made Ricardo the leading theorist of the “bullionist” position, and his analysis, taken up by the Bullion Committee of 1810, shaped the eventual return to the gold standard in the resumption of cash payments of 1819. Underlying his international monetary reasoning was the price-specie-flow mechanism inherited from Hume: an excess issue of money raises domestic prices, worsens the trade balance, and drains gold abroad until equilibrium is restored, so that under convertibility the quantity of money is self-regulating and the mischief arises only when convertibility is suspended. Ricardo also proposed a means of securing a stable currency while economising on the costly metal – an “ingot plan” under which notes

would be convertible not into coin but into bars of bullion, anchoring the currency's value to gold without circulating gold itself. The thread running through all of this is the same austere conviction that informs his value theory: that beneath monetary appearances lie definite quantitative laws, and that good policy consists in respecting them.

9 Taxation, Public Debt, and Equivalence

The full title of Ricardo's book is *Principles of Political Economy and Taxation*, and a large part of it analyses the incidence of taxes – the question of who really bears a tax, as distinct from who formally pays it – through the lens of the distribution theory. The method is characteristic: each tax is traced through its effects on the division of the produce among rent, profits, and wages. A tax on rent, Ricardo argues, falls wholly on the landlord and does not affect prices, because it does not touch the marginal, no-rent land that governs the price of produce; it simply takes part of the landlord's differential surplus. A tax on wages, by contrast, does not ultimately fall on the labourer, who is already at subsistence and whose money wage must rise to restore it; it falls instead on profits, by the inverse relation. A tax on profits falls on profits. Taxes on necessities raise wages and so reduce profits, while taxes on luxuries fall on those who consume them. The general lesson is that the real burden of taxation is determined by the structure of distribution, not by the legal point of collection – an insight that founded the modern theory of tax incidence.

In treating the public debt and the “funding system” by which governments borrow rather than tax, Ricardo articulated, almost in passing, a proposition that would carry his name into twentieth-century macroeconomics. He observed that, in principle, financing a given government expenditure by taxes and financing it by borrowing might come to the same thing, since a rational citizen, knowing that a loan must be serviced by future taxes, would set aside the present value of those future taxes and so would regard the two methods as equivalent in their effect on his wealth. This is the seed of what Robert Barro, reviving it in 1974, called Ricardian equivalence – the thesis that the choice between debt and tax finance does not affect aggregate demand because households offset government borrowing with private saving. It is worth recording, in fairness to Ricardo, that he stated the equivalence in order to doubt it. He did not believe that people in fact behave with such foresight; he thought the funding system fostered an illusion that disguised the true cost of public spending, made nations careless of expenditure, and led to a ruinous accumulation of debt. The proposition that bears his name is one he regarded as a theoretical possibility contradicted by the facts of human behaviour.

10 The Machinery Question

The most remarkable single act of intellectual honesty in the *Principles* came in its third edition, of 1821, when Ricardo added a chapter “On Machinery” reversing a view he had previously held and defended. He had earlier shared the common optimism that the introduction of machinery, though it might displace particular workers, was beneficial to all classes, including the labourers, because it cheapened goods and expanded production. On further reflection he concluded that he had been wrong, and he said so. The substitution of machinery for human labour, he now argued, may be very injurious to the class of labourers, because it can convert circulating capital – the part of capital that is laid out in wages and so sets labour to work – into fixed capital, the machines themselves, thereby reducing the gross produce on which the demand for labour depends and leaving a portion of the working population redundant.

This was a startling admission for a classical economist to make, cutting against the grain of the school’s reassuring view that the interests of the classes, properly understood, harmonise. Ricardo did not abandon his support for free markets or for machinery – he held that to discourage its use would only drive capital abroad – but he refused to pretend that its effects on labour were always benign. The chapter became a point of departure for Marx, who built upon it his account of the reserve army of the unemployed and the displacement of living labour by machinery, and it reads today as an early and clear-eyed statement of the problem of technological unemployment, the very problem that automation has returned to the centre of economic debate. That Ricardo, having built a system, was willing to introduce into it a result so uncongenial to its spirit, is a measure of the seriousness with which he held his own method to account.

11 Ricardo Among His Contemporaries and Heirs

Ricardo’s influence in the half-century after his death was so complete that the economics of the English-speaking world became, for a time, simply Ricardian economics. His closest intellectual companion was also his most persistent critic, Thomas Robert Malthus, with whom he conducted a long, searching, and famously cordial debate by correspondence and in print. They differed on rent, on value, and most deeply on the possibility of general gluts: Malthus held that aggregate demand could fall short, that a general overproduction and a deficiency of effective demand were possible, and that the economy might suffer prolonged depression; Ricardo, accepting the proposition associated with Say that supply creates its own demand, denied that any general glut could occur, since the act of producing generates the means and the will to purchase. Ricardo had much the better of the argument in the eyes of his contemporaries, and it was his view that prevailed and became orthodoxy – a victory that John Maynard Keynes, a century later, would bitterly regret, holding that economics

had been led down a false path and that Malthus had seen the deeper truth.

Through James Mill and J. R. McCulloch his doctrine was propagated and, some would say, ossified; through John Stuart Mill's *Principles* of 1848 it received its most humane and capacious restatement, which held the field until the 1870s. His labour theory of value was turned against capital by the so-called Ricardian socialists and, far more powerfully, by Marx, who took the embodied-labour theory and the analysis of surplus as the foundation of his own system, so that Ricardo stands, against his own intentions, among the ancestors of socialist economics as well as of free-trade liberalism. Then, with the marginal revolution of the 1870s, the Ricardian edifice was set aside; the new economics of marginal utility and marginal productivity explained value and distribution by demand and scarcity at the margin rather than by labour and surplus, and Ricardo passed, for several generations, into the history of the subject. His twentieth-century revival is owed above all to Piero Sraffa, whose monumental edition of Ricardo's works and correspondence recovered the precise structure of his thought, and whose own *Production of Commodities by Means of Commodities* (1960) reconstructed the classical surplus approach with a rigour Ricardo could not command, reopening questions about capital and distribution that the marginalist settlement had seemed to close.

12 Modern Criticism, and the Arguments on Each Side

Ricardo's system has been criticised as searchingly as any in economics, and, as with Smith, the criticisms are best taken one at a time, each with the argument that supports it and the argument on the other side. Several of his results have been superseded, several heavily qualified, and at least one stands essentially intact; and a number of his apparent errors proved more fruitful than other writers' truths.

12.1 The labour theory of value and the invariable measure

The most decisive supersession concerns the theory of value. Ricardo could not make relative values depend on embodied labour alone once capital intensities and time-structures differed, and he never found the invariable measure that would have let him separate changes in a commodity's value from changes in the measuring rod. The supporting argument for the criticism is that the marginal revolution rendered the whole project unnecessary: value is determined not by labour or cost alone but by the interaction of marginal utility and scarcity with cost, in a simultaneous system of supply and demand, and the search for a single substance or measure of value was a wrong turning. Marx's attempt to complete Ricardo's labour theory ran aground on the transformation problem, which many regard as a demonstration that the labour theory cannot consistently generate the prices that rule

when profit rates are equalised. The argument on the other side comes from the classical revival. Piero Sraffa showed that the surplus approach Ricardo pioneered can be stated rigorously: given the physical conditions of production and one distributive variable – say the wage – prices and the rate of profit are determined together, and Sraffa’s “standard commodity” supplies exactly the invariable measure Ricardo had sought, a composite good whose value is unaffected by changes in distribution. On this view Ricardo’s instinct was sound and his failure technical, and the labour theory, dead as a theory of relative prices in the mainstream, survives in transformed and defensible shape within the classical and Sraffian tradition.

12.2 The theory of rent

On rent the verdict is almost the reverse: it is Ricardo’s most complete and least controversial success. The supporting argument for criticism is modest and concerns generality rather than validity. Ricardo tied rent specifically to the differential fertility of land and to the “original and indestructible powers of the soil,” a phrase that is empirically questionable, since soil can be exhausted, improved, and created; and he gave less attention than the German economist von Thünen to the rent that arises from location rather than fertility. Modern theory has generalised his result far beyond land: Alfred Marshall extended the idea to the “quasi-rents” earned temporarily by any factor in fixed supply, and the concept of economic rent now applies to any payment to a factor above what is needed to keep it in its use, whatever the factor. The argument on the other side is simply that the core of Ricardo’s analysis was absorbed whole into modern economics and remains correct: rent as a differential surplus determined at the margin, and the proposition that the marginal unit pays no rent so that rent is price-determined rather than price-determining, are now elementary microeconomics. Far from being superseded, Ricardo’s rent theory became part of the permanent foundation.

12.3 Comparative advantage

Comparative advantage is the jewel of the system, and the modern discussion concerns its completeness rather than its truth. As a logical proposition – that mutually beneficial trade depends on differences in comparative, not absolute, costs – it is unassailable and remains the foundation of trade theory. The criticisms are qualifications of a model that is single-factor, static, fully employed, and built on given technology and constant returns. The supporting arguments are several and weighty. The Heckscher–Ohlin theory recast comparative advantage in terms of factor endowments, explaining the pattern of trade that Ricardo left exogenous. The new trade theory of Paul Krugman and others showed that a great deal of actual trade, especially the large volume of trade in similar goods among similar rich countries, is driven not by comparative advantage at all but by increasing returns and

product differentiation, which Ricardo's constant-returns model cannot accommodate. The Stolper–Samuelson theorem made explicit what Ricardo's single factor concealed: that trade has powerful distributional effects within each country, creating losers as well as winners, so that the gains, though real in aggregate, are not shared by all. Development economists from the structuralist tradition, drawing on the Prebisch–Singer thesis of declining terms of trade for primary producers, argued that specialising according to current comparative advantage can lock a poor country into low-value activities and forgo the dynamic gains of industrialisation. And – most pointed of all in an age of globalisation – Ricardo's own assumption of the international immobility of capital, on which he expressly rested the result, has weakened, so that when capital and technology move freely across borders the logic shifts back toward absolute advantage and the location of production by lowest cost; Paul Samuelson himself, late in life, used Ricardian tools to argue that such mobility can leave a rich country worse off. The argument on the other side is that none of this overturns the principle. Comparative advantage remains true as a statement about the gains from differences in opportunity cost; the newer theories explain additional sources of trade and additional consequences of it, and the distributional caveats concern the sharing of the gains, not their existence. The crown jewel is intact; what has grown up around it is a richer theory of what trade does and to whom.

12.4 The falling rate of profit and the stationary state

Ricardo's central dynamic prediction – the secular fall of profits toward a stationary state – did not come to pass, and this is the most consequential empirical failure of the system. The supporting argument is that Ricardo, like Malthus and Mill, gravely underestimated technological progress. Diminishing returns in agriculture were not merely offset but overwhelmed by sustained advances in productivity; food did not become dearer in labour terms but cheaper; the Malthusian population mechanism broke down with the demographic transition; real wages rose secularly far above any subsistence floor; and the stationary state receded indefinitely rather than approaching. The model's prediction was, in the event, simply wrong. The argument on the other side is that Ricardo identified the very counteracting forces – improvement and free trade – that falsified his prediction, and stated his result as a conditional tendency, not an unconditional forecast; the failure was to underweight how strong those forces would prove. Moreover the structure of his argument survives in unexpected places: the idea of diminishing returns to a fixed factor offset only by technical progress is precisely the skeleton of the modern Solow growth model, in which output per head stagnates without exogenous improvement; and “Ricardian” models of land quality and of exhaustible resources remain standard tools in environmental and resource economics, where the constraint Ricardo described is real. The prediction failed; the analytical apparatus endures.

12.5 Wages and subsistence

The subsistence theory of wages, with its Malthusian adjustment of population to the wage, has been abandoned. The supporting argument is straightforward: real wages rose continuously across the industrial era, the population mechanism that was supposed to hold them down ceased to operate, and the theory of wages was rebuilt on marginal productivity and later enriched by bargaining, human capital, efficiency-wage, and search models that bear no resemblance to a subsistence floor. The argument on the other side is the one already noted in Ricardo's defence: his natural price of labour was explicitly conventional and historical, dependent on the habits and customs of the people and capable of rising over time, so that the rigid "iron law of wages" attributed to him is a hardening by his followers of a more flexible doctrine; and as an abstraction for an economy in which the mass of workers did live near a customary minimum, it was not unreasonable in its day.

12.6 Method: the Ricardian vice

The method itself has been a standing target. The supporting argument, made most memorably by Schumpeter, is that Ricardo set the bad example of building models on heroic simplifications and then applying their conclusions directly to the complex world, treating a tendency isolated under restrictive assumptions as if it were a concrete prediction or a policy imperative – a "vice" that recurs whenever economists forget how much their clean results owe to what they have assumed away. The single-factor, full-employment, constant-returns apparatus hides demand, money's real effects, increasing returns, and the distribution of the gains from trade. The argument on the other side is that the deductive method Ricardo pioneered is the very source of economics' analytical power, and that the abstractions, used responsibly, isolate genuine causal mechanisms – comparative advantage, differential rent, the inverse wage-profit relation – that have survived every change of fashion. The vice is the abuse of the method, not the method; and Ricardo's own machinery chapter, in which he overturned a cherished conclusion when his reasoning required it, shows a discipline about assumptions that his imitators often lacked.

12.7 Say's Law and the absence of a theory of demand

A criticism from the macroeconomic direction holds that Ricardo's acceptance of Say's Law left him unable to conceive of a general deficiency of demand. The supporting argument is the Keynesian one, and Keynes pressed it with unusual force: by siding with Say against Malthus and denying the possibility of general gluts, Ricardo closed off the problem of effective demand and involuntary unemployment, and because "Ricardo conquered England as completely as the Holy Inquisition conquered Spain," economics was diverted for a century from the questions that the Great Depression would make unavoidable. On this view Malthus, not Ricardo, was the prophet, and the triumph of the Ricardian system was a

misfortune. The argument on the other side is that within the long-run questions of real allocation and distribution that Ricardo set himself to study, the abstraction from demand failures was legitimate, and that the machinery chapter shows he was not in fact blind to the possibility that labour might be left without employment. The criticism is just as a description of what the system omits; it is less just as a charge that the omission was a simple error rather than a deliberate boundary of the inquiry.

12.8 The distribution schema and the Cambridge controversies

A final criticism concerns the three-class framework that organises the whole. The supporting argument is that the division of society into landlords, capitalists, and labourers, and the preoccupation with rent and the land, fitted an agrarian economy in transition and grew steadily less apt as land's share of income collapsed and industry and finance came to dominate; the marginalist turn dissolved the class-based theory of distribution into the pricing of factors by their marginal products, in which there are no classes, only factors. The argument on the other side is twofold. First, Ricardo's decision to put distribution – the question of who gets what, and how the shares move as the economy grows – at the centre of the subject has proved prescient, and after a long eclipse it has returned to the centre, in Marx, in the work of the Cambridge classical economists, and in the recent attention to inequality and to the relation between the return on capital and the growth rate that Thomas Piketty has placed at the heart of debate. Second, the marginalist theory of distribution that displaced Ricardo's did not go unchallenged: in the Cambridge capital controversies of the 1950s and 1960s, economists working in the classical and Sraffian tradition exposed deep logical difficulties in the notion of an aggregate quantity of capital with a well-defined marginal product, and the phenomena of reswitching and capital reversing showed that the simple neoclassical story of distribution could not be made generally coherent – a result that partially vindicated the classical surplus approach that Ricardo founded. The schema was dated; the questions it raised, and the surplus method it embodied, are very much alive.

12.9 What survives

The pattern of survival is sharp. One result stands essentially intact and undiminished: comparative advantage, qualified in its applications and completed by later theory but never overturned as a principle, still the foundation of the theory of trade. One result was absorbed wholesale into the permanent core of economics: the theory of differential rent and the price-determined surplus, now elementary. The deductive method, the wage-profit frontier and the surplus approach to distribution, and the quantity-theoretic monetary analysis remain live and productive, the last two especially in the classical revival. What has been superseded is equally clear: the labour theory as a theory of relative prices in the mainstream, the subsistence theory of wages, the prediction of a falling rate of profit and an approaching

stationary state, and the denial of general gluts. What has been heavily qualified is comparative advantage in its application, and the three-class distribution schema in its scope. And what is most striking about Ricardo is how fertile even his errors proved: his unfinished value theory gave Marx his starting point and Sraffa his reconstruction; his denial of gluts gave Keynes the foil against which to define modern macroeconomics; his rent theory gave neoclassical distribution theory one of its pillars; and his chapter on machinery gave the study of technological unemployment one of its earliest and clearest statements. More than any other economist, Ricardo set the problems on which his successors, in agreement and in opposition, have worked ever since.

13 Conclusion: The Shape of the System

The unity of Ricardo's economics lies in its method and in its object. The method is abstract and deductive: a few strong premises, a few decisive assumptions, and a chain of reasoning carried unflinchingly to its conclusions. The object is distribution: the division of the produce among rent, profits, and wages, and the law of motion of that division as population and capital grow. From the theory of value he derives the framework of relative prices; from the theory of rent, the proposition that price is set at the no-rent margin and that rent is a differential surplus rising with the progress of cultivation; from the inverse relation of wages and profits, the conclusion that the rising cost of subsistence drives profits down; and from these together, the tendency toward a stationary state that only improvement and free trade can hold at bay. The theory of comparative advantage completes the structure, supplying both the static case for free trade and, through cheap imported corn, the dynamic means of postponing the system's own gloomy terminus.

The judgement of two centuries is, once again, a discriminating one. Ricardo's specific theories of value, wages, and the falling rate of profit belong to the history of the subject; his system's central prediction was falsified by a force, technical progress, that he underrated; and his three-class world has receded with the economy that produced it. But the principle of comparative advantage is among the permanent possessions of the science, the theory of rent is part of its foundation, the surplus approach to distribution has been revived and rigorously reconstructed, and the deductive method is simply how economic theory is now done. Ricardo took the discipline that Smith had founded and gave it the form of a system – austere, powerful, and fertile in exactly the degree that it was abstract – and the errors that system contained were, in the hands of Marx, Keynes, Sraffa, and the trade theorists, more productive than most economists' truths. He remains the model of what it is to reason in economics, for better and, his critics would add, occasionally for worse.

14 Suggested Primary Reading

The central text is *On the Principles of Political Economy and Taxation* (1817; third edition, 1821, which adds the chapter on machinery). The reader pressed for time should take chapter 1, on value, with its crucial qualifications; chapter 2, on rent; chapters 5 and 6, on wages and on profits, where the inverse relation and the tendency toward the stationary state are set out; and chapter 7, on foreign trade, which contains the principle of comparative advantage. Of the earlier works, *The High Price of Bullion* (1810) gives the monetary theory, and the *Essay on the Influence of a Low Price of Corn on the Profits of Stock* (1815) – the “Essay on Profits” – states the rent-and-profit nexus in its first and clearest form. The indispensable scholarly edition is *The Works and Correspondence of David Ricardo*, edited by Piero Sraffa with the collaboration of M. H. Dobb in eleven volumes (Cambridge, 1951–1973); Sraffa’s introduction to the first volume is itself a classic of interpretation and the source of the modern reading of Ricardo’s system. The correspondence with Malthus, collected in that edition, is among the most rewarding theoretical debates in the literature. The companion notes on Smith’s *Wealth of Nations* and on Hume should be read alongside, since Ricardo’s system is at once a refinement of the first and an application of the monetary reasoning of the second.