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**The Historical Origins and the Evolution of  
Modern Trade Theory**

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*“If you took all the economists in the world and laid them end to end, they still wouldn’t reach a conclusion.”*

~ George Bernard Shaw

There has been much disagreement among economists as to the scope of economics. The quality of this disagreement is of some significance for estimating the present and future of the science. It is useful to summarize briefly the historical origins and the evolution of modern trade theory as a part of the economic theory. Foreign trade, in general, has been looked at suspiciously since the beginning of history. The Greek philosophers and early Christians were disdainful of merchants in general and since early trade meant dealing with merchants this was not a positive thing. In the three centuries that elapsed between the end of the Middle Ages<sup>1</sup> and the appearance of Smith’s *Wealth of Nations*, the classical system of political economy was being prepared. Pre-classical political economy can be divided into two parts. The first is largely a reflection of the rise of commercial capitalism and is generally referred to as ‘mercantilism’. The second, accompanying the expansion of industrial capital in the late seventeenth and early eighteenth centuries, contains the real founders of the science of political economy. Any discussion of mercantilist theory must be prefaced by some account of the charges which led from the particularist, feudalist economy to the growth of commerce between large, wealthy, and powerful nation-states. A number of factors were operating to sweep away the medieval world. The growth of national states, anxious to destroy both the particularism of feudal society and universalism of spiritual power of the Church, resulted in a greater concern for wealth and a quickening of economic activity. The loosening of the central doctrinal authority, caused by the Reformation, and the progress of the concept of natural law in jurisprudence and political thought prepared the ground for a rational and scientific approach to social problems; and the invention of printing created new possibilities of intellectual intercourse. Feudalism also became inadequate in its regulation of production. The revolution in the methods of farming destroyed the basis of feudal economy. It led to rural overpopulation, growing commutation of feudal dues, increased indebtedness of feudal lords and their resort to trade or new methods of farming for the market. Another powerful factor is to be found in the maritime discoveries which led to a very great expansion of foreign commerce (Roll, 1978, pp.54-55).

These two developments were closely interconnected. In England, for example, where the development of capitalism can be most clearly observed, the growth of commerce destroyed subsistence farming and caused agriculture to rely increasingly on the market. The enclosure movement, perhaps the most important of the economic phenomena of the later Middle Ages and the early modern era, was thereby greatly accelerated. Sometimes it was designed to give greater scope to improved methods of arable farming; sometimes it converted arable land into pasture with consequences which social historians have often described. In either case, it made farming subservient to the needs of the great markets and the merchant capital which dominated them. The accumulation of commercial capital was accelerated by the growth of foreign commerce. For reasons of profit, political power

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<sup>1</sup> It is generally considered to cover a period of roughly a thousand years, from the fall of the Roman Empire in the fifth century to about the middle of the fifteenth century.

or merely prestige, this capital was often invested in land while an opposite movement took place from the landed aristocracy. And intermarriage completed the union between finance, merchant capital and the landed interest.

The revolution in commerce was accompanied by changes in the organization of production. A new phase appeared in which the merchant capitalist dominated the productive process, which was carried out by small craftsmen. The merchant's profit was the product of monopoly and extortion. During this phase the dominance of the commercial capitalist was complete. But this phase inevitably evolved towards a primitive form of industrial capitalism: the putting-out, or *Verlag* system. A special class of merchant-manufacturers appeared who employed semi-independent craftsmen, working in their homes. The class was recruited from the merchant capitalists or the craftsmen, and its interests were opposed to those of the 'pure' commercial capitalists, who were monopolizing the wholesale and export trades. The seventeenth century saw the rivalry between these two methods of production: the commercial capitalist and the primitive industrial capitalist.

The great importance of the merchant up to that stage is shown not only by his function in production; it is also exemplified by the methods of home and foreign trading, and by the social and political status of those engaged in trade. Monopoly was the outstanding way in which the rising nation-states sought to increase trade and to create sources of revenue for themselves. To the merchant who wished to develop a particular manufacture the possession of a monopoly appeared the best possible way. The tradition of medieval thought was favourable to carefully defined privilege, and, what was more important, monopoly itself was a necessary form of trading at a time when both lust of adventure and risk were great. If in the process the crown exacted a tribute, which was regarded as a necessary expense allocated to the strengthening of an institution which would protect the trading interest.

In domestic production and trade the beginning of industrial capitalism led to occasional anti-monopoly campaigns. But the arguments against monopoly were *ad hoc* arguments directed against any particular interest whose privilege it was desired to supplant. Primitive industrial capitalism was not opposed to monopoly; it was only opposed to those monopolies which were in the interests of the merchant capitalists. The newer interests, having ousted the old, often became, in their turn, defenders of monopoly. Particularly in the first half of the seventeenth century, the anti-monopoly agitation was due to the struggle between the *Verleger* and the bigger merchant capitalists. It was not until the end of the eighteenth century that industrial capital became fully anti-monopolist. It had no need then a legal monopoly, since the new methods of production, requiring costlier methods, gave it a decisive competitive advantage. And it was anxious to sweep away all obstacles to the use of new techniques.

In foreign trade the rule of monopoly was even less seriously challenged for a long time. Throughout the sixteenth and seventeenth centuries we encounter the larger privileged trading companies which monopolize trade with different regions; they are the first to use extensively the typically capitalist joint-stock organization. The Merchant Adventurers,

the Eastland Company, the Muscovy Company, and, most important of all, the East India Company, are some of the great trading monopolies of the time. The trade carried on by these companies and by independent merchants was still largely that of middlemen only. They were concerned in the same *entrepôt* trade that had enriched their earlier forerunners in Genoa, Venice, and Holland. This carrying business shows the quality of commercial capitalism in its purest essence. However, it soon became complicated by a more advanced form of commerce which involved the export of the country's own manufactures.

To mitigate the hazards of trade, colonization became an important weapon. The efforts of the merchants and companies to achieve control over the distant areas with which they traded were seldom sufficient. They had to be supplemented by the exercise of the power of the state, towards the strengthening of which the merchants were contributing in such large measure. The links between trading interest and the state policy became increasingly concentrated on problems of trade. Symptomatic of this union between commercial capital and the state is the prestige which some of the merchants enjoyed (Roll, 1978, pp.55-57).

The appearance of Locke's<sup>2</sup> philosophy at the end of the seventeenth century shows that the new state was beginning to be seen for what it was: the creature of economic power no less than its master. The change of economic policy was less rapid than that of political philosophy<sup>3</sup>. However, at the end of the seventeenth century state regulation of economic life was breaking down. Its decline was by no means uniform in all countries. But the progress of unrestricted individualism was uneven even in the countries which took the lead in the transition to modern industry. Freedom from the fetters of the state was achieved in some directions in the last years of the seventeenth century. But more often liberal philosophy did not win its decisive victory until well into the nineteenth century (Roll, 1978, p.92).

Many of the restrictive regulations of domestic industry were abolished in England after the middle of the seventeenth century. Others, regulation of wages, for example, didn't finally disappear until 1813. Acts regulating apprenticeships and the conditions of production in many industries became inoperative conditions of production in many industries became in operative with the expansion of production and the growth of the factory system; and when Parliament came to abolish them in the nineteenth century it was only registering an accomplished fact. Within the system of guilds considerable

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<sup>2</sup> John Locke was largely influenced by mercantilist notions. He insisted that a country grew rich by exporting more than it imported.

<sup>3</sup> In the eighteenth century the development of modern industrial capitalism was greatly accelerated. Its theory, embodied in the works of the classical economists, comes to maturity in the period of forty years that separate Smith's *Wealth of Nations* and Ricardo's *Principles*. But its roots reach back almost two centuries. At least three streams of thought accompany the transition from commercial to industrial capitalism, and, together with that economic development, help to mould classical theory. The first of these is philosophical: the development of political thought from its canonical origin to philosophic radicalism. The second is that progress of English economic thought from the later mercantilists onwards. The third foundation of political economy is of French origin, the physiocratic system which was developed by a number of thinkers in eighteenth century France (Roll, 1978, p.86).

changes began to take place. A complex differentiation was growing up which led to the appearance of many conflicts of interests. The older type of export merchant company, descend from the guilds of the fourteenth and fifteenth centuries, was being displaced by the great colonial companies. There were also the newer capitalist corporations, dominated either by wholesale merchants or by semi-industrial capitalists of the *Verleger* type, and their influence was growing. The smaller local urban guilds of small master craftsmen, on the other hand, were declining in importance owing to the competition of domestic industry controlled by the *Verleger*. Local regulation was, therefore, continually diminishing in power in favour of national regulation (Roll, 1978, p.92).

The decline of the regulation of foreign trade took place with a time-lag. The trade-treaties, which had at one time been protectionist and restrictive instruments, were capable of different use. Once economic interests were strong enough, treaties were concluded for the purpose of expanding trade between the countries concerned. Free trade suffered many set-backs, but over the eighteenth century as a whole it was undoubtedly progressing. The earliest symptom of the new spirit of trading was the decline of the regulated companies. Their monopoly rights were undermined by the growth of trade itself, which gave a scope to independent merchants, 'interlopers' or, more significantly, 'free traders', as they were called. By the end of the seventeenth century the regulated company was ceasing to be the dominant form of organization in international trade. The Eastland Company began to lose its privileges in the Baltic trade in the last quarter of the seventeenth century. The Merchant Adventurers were deprived of their monopoly of the cloth trade within their area in 1689. And most of the other trading companies shared their fate at about the same time. Only the East India Company, which was in a different position from the rest, was able to retain monopoly rights much longer. But even that lost its exclusive trading privilege in India early in the nineteenth century (Roll, 1978, pp.92-93).

The last quarter of the eighteenth century is full of events which seem to herald the founding of a new era in economic and political organization. In the field of production it witnesses the beginning of the Industrial Revolution, which was to open up vast possibilities of expansion to the recently established mode of industrial capitalism.

#### *David Hume*

The world began to change in the 1700s, and economic trade policies changed with it. The first Classical economist to help change the way that international trade was viewed was David Hume (1711-1776)<sup>4</sup>. Hume deals primarily with the international monetary mechanism. Before Hume the idea that prevailed that time was Bullionism, it's a belief that all wealth is measured by quantity of gold and silver; so wealth is represented in these precious metals. Government (Mercantile system) that ruled by the thought of Bullionism was persuaded to erect trade barriers and to run a permanent trade balance by seeking to export more than to import. For example in England to export [a textile]

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<sup>4</sup> Although David Hume's fame rests mainly on his work as a philosopher, he is also well-known by his work in economic theory.

becomes really synonym to the price of Conquest and Imperialism [to explode other foreign industries].

Hume came to deviate from Mercantilism with the publication of his essay “Of the Balance of Trade” in 1752; the mercantilists’ belief was soundly refuted<sup>5</sup>. He argues against their fear of losing gold through buying foreign imports.

“I should as soon dread, that all our springs and rivers should be exhausted, as that money should abandon a kingdom where there are people and industry. Let us carefully preserve these latter advantages; and we need never be apprehensive of losing the former.” (Hume, *Essays, Moral, Political and Literary*, II.V.4).

Hume pointed out that trying to maintain a positive trade balance was doomed to failure because the trade imbalance itself created a series of events that pushed it back into balance. The idea he developed was called price-specie-flow mechanism, because specie flow affected prices, and the new prices affected demand for exports. Hume claimed that accumulation of precious metals (gold and silver) would just mean an increase in the money supply that would serve to increase domestic prices and consequently discourage exports while at the same time encouraging imports (Salvatore, 2001, pp.573-574). In other words, assuming a fixed amount of gold and silver in the world and by increasing exports and restricting imports, the quantity of gold and silver will increase; which will have an effect on domestic prices (an increase). As a result imported goods will be cheaper and exported goods will be dearer which will increase imports and decrease exports until they equate ( $X=M$ ), as Hume mentioned in:

“Suppose four-fifths of all the money in GREAT BRITAIN to be annihilated in one night, and the nation reduced to the same condition, with regard to specie, as in the reigns of the HARRYS and EDWARDS, what would be the consequence? Must not the price of all labour and commodities sink in proportion, and every thing be sold as cheap as they were in those ages? What nation could then dispute with us in any foreign market, or pretend to navigate or to sell manufactures at the same price, which to us would afford sufficient profit? In how little time, therefore, must this bring back the money which we had lost, and raise us to the level of all the neighbouring nations? Where, after we have arrived, we immediately lose the advantage of the cheapness of labour and commodities; and the farther flowing in of money is stopped by our fulness and repletion.

Again, suppose that all the money of GREAT BRITAIN was multiplied fivefold in a night, must not the contrary effect follow...” (Hume, *Essays, Moral, Political and Literary*, II.V.9 and 10).

It is an application of the Classical model<sup>6</sup>, when money supply increases, prices rise, but output and employment stay the same. Inflation will reduce foreign demand for the

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<sup>5</sup> It is clearly written and often contains an excellent summary and synthesis of the ideas of his predecessors. In that respect, however, Cantillon’s *Essai sur la nature du commerce en g n ral*, published in 1755, but written probably over twenty years previously, is superior.

<sup>6</sup> Based on the quantity theory of money that can be explained by:  $MV=PQ$ , where  $M$  is the nation’s money supply,  $V$  is the velocity of circulation of money,  $P$  is the general price index and  $Q$  is physical output.

nation's exports. The result would be an outflow of these precious metals, and a nation's balance of trade would tend toward equilibrium in the long term<sup>7</sup>. It is interesting to note that he does not overlook dynamic elements. Thus, he admits that during the period of transition from one equilibrium point to another, following a disturbance in a previous equilibrium situation, an increase or decrease of the quantity of money may well have a temporary influence on the volume of production. This notion later assumed great importance in the work of Malthus and, more recently, in Keynesian theory (Haberler, 1961, pp.6-8).

Hume shows the role of the invisible hand and the neutrality of money for the natural tendency of the level of trade to equilibrium. Hume quoted an example which was unsurpassed. He talked about "the level of trade" that it is the natural tendency for water to flow until it equilibrates, as in:

"All water, wherever it communicates, remains always at a level". (Hume, *Essays, Moral, Political and Literary*, II.V.11).

He described trade as a physical phenomenon. It is futile to attempt to raise the water level (the amount of gold) above its natural level in some compartment (nation) as long as the compartments are connected with one another (as long as nations are connected through international trade). We should make a distinction between the natural laws (that exist in a social realm) and the laws of nature (that exist in a physical realm). Hume describes economics as governed by natural laws more than laws of nature.

Hume argued that policies by government intervention lead to a distortion (disequilibrium in the short run). He said the truth is to be found in nature not in manipulation of this nature, so it is natural to be in equilibrium even against any power (God). He believed that manipulation of the economy is "a sinful" act causing damage to it. His ideology was against government intervention, as his belief was that this intervention inflicted irreparable damage to the economy. So Hume argued that Mercantilist policies could not be successful in keeping exports higher than imports to accumulate precious metals.

"A government has great reason to preserve with care its people and its manufactures. Its money [gold and silver], it may safely trust to the course of human affairs, without fear or jealousy. Or if it ever gives attention to this latter circumstance, it ought only to be so far as it affects the former." (Hume, *Essays, Moral, Political and Literary*, II.V.39).

This process described by Hume was an automatic market adjustment that would make it impossible for governments to achieve a positive trade balance in the long run.

Several things have to happen for this mechanism to work. Going through each step in the adjustment process will outline these necessary conditions. If exports rise and imports fall, the nation experiences a trade surplus. If trade is financed by precious metals, the supply of precious metals in the exporting country increases. If there is a gold standard, there is an increase in the money supply. A gold standard is a direct relationship between

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Classical economists believed that  $V$  and  $Q$  are constant, and a change in  $M$  led to a direct and proportional change in  $P$ .

<sup>7</sup> Hume had a foot and a half in the classical world; [He] began the practice amongst economists of stressing the importance of the equilibrium position (Keynes, 1936, p.343n).

the supply of gold in the treasury and the supply of money in the economy. The increase in money supply will result in higher prices if two conditions are met. First, the classical theory of money must operate, so that an increase in the money supply leads directly to a proportional increase in prices, but no change in output. Second, prices must be flexible, both upward and downward, in both product and factor markets. This insures that prices will respond to both increases in money supply (rise in prices) and decreases in money supply (fall in prices). Once prices have risen, it is expected that demand for the country's exports will fall. Price elasticity of demand for imports will ensure that imports fall when prices rise. If these conditions hold, any trade surplus or deficit will set in motion market adjustments that bring trade back to equilibrium.

However, Hume sometimes repeated mercantilist errors which had already been discarded. Occasionally he praised the uses of money in stimulating trade and urged the desirability of treasure. Yet he adopted and emphasized Lock's view that money was only a symbol and that the amount which a nation possessed was of no importance. On the quantity theory of money he based the belief that the balance of trade argument was wrong, because the movements of specie would affect prices and therefore merchandise trade. The balance of trade of a country could not be permanently favourable or unfavourable. In the long run a balance would be established in accordance with the relative economic conditions of the countries concerned. Hume therefore ranged himself on the side of the free-traders<sup>8</sup>; but his advocacy of free trade was no stronger than that of North<sup>9</sup> (Roll, 1978, p.118).

#### *Adam Smith*<sup>10</sup>

Hume's contribution to the theory of international trade is without question more significant and more original than the work of Smith, although the latter's influence on economic theory and practice proved much greater as he extended Hume's thought about trade to all the markets (Haberler, 1961, p.6).

Smith stated that it is commodities (gold and silver) that determine the wealth of nations. Achieving wealth from his point of view is by pursuing self interest, particularly the rational self interest in opposition to passion (emotional economic behaviour). Smith showed, in the frame of Newtonian physics, the gravity of market explaining that about all prices of commodities (even price of currency dictated to the demand of those currencies) that set by demand of imported and exported goods. He showed that government intervention is immoral because it is a deviation from that gravitation path using a short run predatory passion (any government policy).

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<sup>8</sup> Marx claims that Hume's statements on all these points were only repeated the views expressed earlier by Vanderlint in *Money answers all things* (1734).

<sup>9</sup> Sir Dudley North took up an intransigent free-trade attitude. He made a devastating attack on protection, in particular on the prohibition of trade with France. It was he who expressed, for the first time, the view that the whole world was as much an economic unit as was a single nation (Roll, 1978, p.112).

<sup>10</sup> Adam Smith (1723-1790) was educated at the universities of Glasgow and Oxford and became professor first of logic and then a moral philosophy at Glasgow. He was first academic economist.

Smith supposed that if there are three persons; a tailor, a shoemaker and a farmer, each will have his advantage on his production process desired by others.

“The [tailor] does not attempt to make his own shoes, but buys them of the shoemaker. The shoemaker does not attempt to make his own clothes, but employs a [tailor]. The farmer attempts to make neither the one nor the other, but employs those different artificers. All of them find it for their interest to employ their whole industry in a way in which they have some advantage over their neighbours, and to purchase with a part of its produce, or what is the same thing, with the price of a part of it, whatever else they have occasion for.” (Smith, *Wealth of Nations*, IV.2.11).

He stated that trade is not a zero sum game. In fact, he stated it is a positive sum of game as he wrote,

“[Trade] which, without force or constraint, is naturally and regularly carried on between any two places is always advantageous, though not always equally so, to both.” (Smith, *Wealth of Nations*, IV.3.31).

As otherwise, no trade will occur, if both traders don't gain from this trade.

He also applied this idea on nations, committing the “fallacy of composition” that assumes that what is true for a part (what is good for an individual) is true for the whole (must be good for all the society).

“What is prudence in the conduct of every private family can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage.” (Smith, *Wealth of Nations*, IV.2.12).

So according to him, trade will exist but he explained it in a simple static state of the world, not in a real dynamic world (a more complex state) that we really live in. As we live in a dynamic state of world, there must be a kind of protectionism for people who produce (e.g. technology) against invaders. So in this dynamic world we have to engage in protectionism to go from one comparative advantage to another. However, this protectionism should be a short run phenomenon to make the economy efficient. He argued that protectionism cannot be applied in certain situations due to the natural advantage (e.g. climate and soil in France as opposed to Scotland).

“The natural advantages which one country has over another in producing particular commodities are sometimes so great that it is acknowledged by all the world to be in vain to struggle with them. By means of glasses, hotbeds, and hot walls, very good grapes can be raised in Scotland, and very good wine too can be made of them at about thirty times the expence for which at least equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of all foreign wines merely to encourage the making of claret and burgundy in Scotland?” (Smith, *Wealth of Nations*, IV.2.15).

So his discussion about natural advantage seems to be an extension to Hume's thought about nature in a physical way (climate and soil), and not as a social system.

Among the factors which freed English foreign trade from regulations, which removed prohibitions, excessive import duties and restrictive trade treaties, Adam Smith's work

occupies a prominent place. A substantial part of his work was devoted to an attack upon what he called the mercantile system. Although Smith was not always correct in his analysis of the views of mercantilist writers his critique of mercantilist policy was most penetrating and lucid. One by one he examined the methods which had been, or were still being used to manipulate foreign trade in the interests of an individual country, and found them all ineffective and harmful. Bounties and restraints, the colonial system and trade treaties, these and all the other measures to secure a favourable balance of trade and a large stock of bullion, were quickly disposed of. They were all shown to have been productive of no common benefit, however much they may have enhanced the profits of individual sections of industry or trade (Roll, 1978, pp.148-149).

However, the ideologies of Hume and Smith are against government that will mess everything up by interfering with the economy; Smith put two cases for justification of protectionism. The first case related to the defence of the country, as it is dangerous to allow the military forces to be under the power of the private sector. But it is preferable to give the government the monopoly in this situation (Smith, *Wealth of Nations*, IV.2.24). The second case is to impose a tax on the importation of foreign goods when some taxes are imposed on the equivalent domestic goods (Smith, *Wealth of Nations*, IV.2.31). As a modern example the USA will impose taxes on imported alcohol, if there is already a tax on their domestic equivalent. Also revenge can cause natural protection against other countries, consider the impact on a country if another country imposes duties and prohibition against its goods.

#### *David Ricardo*<sup>11</sup>

David Ricardo is without doubt the greatest representative of classical political economy. He carried the work begun by Smith to the farthest point possible. The pure theory of international trade begins with Ricardo's theory of comparative costs, as it can be deduced directly from the celebrated England-Portugal example in his 'Principles' (Haberler, p.7; Bhagwati, 1964, p.5). Ricardo set out to modify Smith's value theory for his own use. Ricardo perceived certain deficiencies in Smith's doctrine of natural value. According to Smith, a rise in the price of one factor (wage) would increase the price of goods produced by that factor (labor). To Ricardo this was a superficial analysis, especially if the change in value was to be more than a nominal price level change (Ekelund, 1990, p.149).

Ricardo discussed the "positive" (as opposed to normative) proposition relating to the effects of cheap corn imports from the colonies on profits, wages and rents, and hence on the approach of the stationary state (Bhagwati, 1964, p.4).

He talked about profit in agriculture sector only; in the classical theory of rent, land was assumed to have no alternative uses. Either it was used to produce a homogenous commodity called "corn," or it lay fallow (Ekelund, 1990, p.148).

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<sup>11</sup> David Ricardo (1772- 1823) came of a Dutch Jewish family which had settled in England, though he himself seceded from the Jewish faith early in life. Like his father, he became a stockbroker, and, after acquiring a large fortune in a short time, he became a landed proprietor and a member of Parliament.

He stated that with no longer importation of grains and producing them domestically, due to the Corn Law<sup>12</sup>, rent will rise to superior prices of lands. accordingly, Price of agriculture output will increase as rent rises, which will lead to an increase in workers demand and then decrease profit rates, and this will encourage workers to have more children reflected in population increase which will be in need for more agriculture output<sup>13</sup>. In Ricardo's system, rent is viewed as a *socially unnecessary payment* (i.e. a current payment made but not necessary to bring forth the available supply of land). Thus when land rents rise (as Ricardo argued they would under the Corn Law), they do so at the expense of profits. Since Ricardo saw profit as the engine that drove economic progress, he perceived in the Corn Law a threat to economic growth, and he therefore argued vigorously in favor of free trade (Ekelund, 1990, p.154).

At stationary state (SS) that the economy will reach due to restrictions on importation, capitalists don't earn [more] profit and civilization reaches its low point as technological, social and political advantages is at its low point. According to him SS can never be eliminated because population increases with fixed piece of land; but it can be postponed.

When protection policies are implemented, the slope of total product (TP) will be steeper. It reflects the necessity of country to employ inferior lands faster. But with free (international) trade, TP will be horizontal resulting workers to get more wages and capitalists will continue to gain profit (as in England, it doesn't have agriculture comparative advantage so it's better to concentrate on textile).

However, Ricardo's idea about the decline of the rate of profits was based on an unsound foundation. The tendencies for the rate of profits to fall can only be true if profits were indeed inversely related to wages. In his discussion of capital Ricardo himself had dimly realized that two separate categories could be distinguished: the rate of profit which bore a relation to capital, and the surplus, which consisted of the difference between the value of a commodity and the wages paid by the capitalist to the worker who produced it. But he didn't work out the distinction and concluded that if wages fell, profits rose, and vice versa, without pointing out that this did not necessarily apply to the rate of profits. But the analytical faults in his theory made no difference to his affects on political thoughts

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<sup>12</sup> A Corn Law was first introduced in Britain in 1804, when the landowners, who dominated Parliament, sought to protect their profits by imposing a duty on imported corn. During the Napoleonic Wars it had not been possible to import corn from Europe. This led to an expansion of British wheat farming and to high prices. Farmers feared that when the war came to an end in 1815, the importation of foreign corn would lower prices. This fear was justified and the price of corn reached a peak of 126s 6d a quarter in 1812 and fell to 65s 7d three years later. British landowners applied pressure on members of the House of Commons to take action to protect the profits of the farmers. Parliament responded by passing a law permitting the import of foreign wheat free of duty only when the domestic price reached 80 shillings per quarter (8 bushels). During the passing of this legislation, the Houses of Parliament had to be defended by armed troops against a large angry crowd. And since costs of production were higher in England than abroad, the price of British grain rose.

<sup>13</sup> The effect of Corn Law was to force more intensive and extensive agriculture in England. What Ricardo showed was that diminishing returns existed at both the intensive margin (more inputs applied to the same land) and the extensive margin (the same inputs applied to different types of land).

and action, he was as ardent a free trader and believer in competition as Adam Smith, and with his theory of rent he had provided free trade doctrine with a specific problem to tackle. The interests of society demanded a low price of corn. A rise, however, seemed inevitable particularly in view of the observed rise during the crisis of Napoleonic Wars; and the only way to delay it was to secure as large a supply as possible, in particular from countries in which the fertility of the soil had not yet appreciably declined. The abolition of the Corn Laws, in the interests of cheap food and low manufacturing costs, was now based on an economic analysis and became the immediate objective of the free trade movement (Roll, 1978, pp. 187-188).

Ricardo determined the limits within which the terms of trade must lie, but did not specify how, and at what value, the terms of trade themselves are determined within these limits. It is a generally accepted opinion that the Ricardian theory of comparative costs as such is incapable of determining the terms of trade and only determines the limits within which they must lie. This would constitute a serious limitation to this theory. The limitation, on the contrary, would be almost irrelevant if one believes that the Ricardian theory must be seen from the normative, rather than the positive, point of view (Bhagwati, 1964, p.4).

In order to solve the problem of the determination of the terms of trade, it is necessary to introduce the demand side in addition to the productive side focused on by the original formulation of the theory of comparative costs. The first precise reasoning in this sense was J.S. Mill's equation of international demand, according to which the terms of trade are determined so as to equate the value of exports and the value of imports. It was further developed by Alfred Marshall, with the aid of graphic and analytical methods, in his theory of international reciprocal demand curves<sup>14</sup>, leading to the neoclassical theory of international trade (Haberler, 1961, p.9; Gandolfo, 1994, pp.28-29). But the weakness of the Ricardian analysis that faced the neoclassical is that they did not discuss anything about the power relations between countries because these relations would be nettlesome to be graphed or modeled mathematically.

The original Ricardian theory is perfectly able to determine the terms of trade without having recourse to demand factors, but by using solely cost-price relations. This would be possible, by making use of "the classical theory of wages, the rate of profit and the role of exporters and importers, which have been missing in the standard interpretation of the classical theory of international trade" (Negishi, 1982, p.200).

#### *Heckscher-Ohlin Theory*

An alternative approach of the Ricardian theory to explain the pattern of trade is attributed to the works of Heckscher and Ohlin. This approach breaks away from the Ricardian model and works in terms of an analytical framework which is in striking contrast to its predecessor. Although both theories (Ricardian and the Heckscher-Ohlin theories) belong to the realm of "static" because traditionally they have been formulated

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<sup>14</sup> "Reciprocal" means here that the demand curve of country A for the products of country B is simultaneously A's supply curve of its own exports.

as a theorem concerning the determination of traded commodities into exports and imports in a static analytical framework, we have to differentiate between the Ricardian trade theory and the Heckscher-Ohlin (H-O) theory (Bhagwati, 1964, p.4 & p.17).

The Ricardian model assumes 2-country, 2-commodity, 1-factor framework which makes the factor supply irrelevant in determining the trade pattern. It also attributes to international difference in production functions the explanation of comparative advantage. On the other hand the H-O model assumes 2-country, 2-commodity, 2-factor framework and makes international differences in factor endowments the crucial and sole factor determining comparative advantage and it explicitly postulates the international identity of production functions. The H-O theory is also different from the Ricardian analysis in having being presented explicitly as a contribution to the positive theory, as an attempt at explaining the structure of foreign trade, rather than with a view to establishing the welfare proposition of trade theory (Bhagwati, 1964, pp. 17-18; Jones, 1956, p.1).

The H-O theorem states that “each country exports the commodity which uses the country’s more abundant factor more intensively”. It means that a country should be able to produce more cheaply those goods that are intensive in the use of a factor when that factor of production is abundant in the country relative to its trading partner. For example, if a country is capital intensive therefore it has lower capital cost which means that goods that are capital intensive relatively cheaper than labor intensive goods in this country, therefore this country will export the capital intensive good to the other country assuming given (fixed) factor endowments (Gandolfo, 1994, p.65; Bhagwati, 1964, pp.17-18).

Of course one can think of some exceptions immediately. For instance, it is clear that this presumption rests on the similarity of production conditions between trading countries. There could obviously be a contradiction of the H-O proposition if production functions for individual industries were different between countries. Alternatively, the country may quite well have an offsetting preference for the consumption of these commodities - so that the pre-trade (relative) prices of commodities may turn out to be higher (rather than lower) abroad - thus refuting the H-O proposition. Some qualifications are less intuitively seen. One of the theoretically interesting qualifications follows from the fact that although, technologically, the production function for an activity may be identical between countries, the operative segments of it may be intensive in the use of a different factor in each country. Where such “reversals of factor-intensity” can occur the effect can be similar to that of differences in production functions and the H-O proposition need not hold (Bhagwati, 1964, p.18).

The H-O model implies the factor-price-equalization theorem (FPE). This theorem states that international trade in commodities, under the assumptions of H-O model, equalizes factor prices across countries. The equalization concerns not only relative factor prices, but also absolute factor prices assuming that international trade does not bring about complete specialization, so that each country continues to produce both goods. Better to appreciate the importance of this theorem, it is sufficient to realize that it shows that free trade in commodities is a perfect substitute for perfect international mobility of factors. If

perfect international factor mobility existed as well, then perfect competition would necessarily lead to the full international equalization of factor prices. But in the H-O model, it was assumed that an absolute international immobility of factors, so that it might seem that no reason exists for the equalization of their prices (Gandolfo, 1994, pp.76-77). The H-O model tried to introduce more complete theory of trade by sacrificing consistency by assuming simultaneous perfectly rationality and irrationality<sup>15</sup>. Most of the failure of the H-O model is due to its assumption of identical technologies and that we can not homogeny labor and capital but we can only approximate them. Different factor endowments then are by themselves not sufficient to explain international trade patterns: differences in both technology and demand patterns should also be taken into account.

The most controversial application of the H-O theorem to appear is that based on Leontief's 1947 input-output studies of the American economy. since the United States was generally considered to be a capital abundant country relative to all its trading partners, Leontief's results were in sharp disagreement with the H-O theorem (according to which the US ought to have exported capital intensive commodities), whence the "paradox", as it came to be known in the literature. In criticizing Leontief's study, it is wrong to consider two factors of production (physical capital and labor) only. one must consider at least another factor, "natural resources: for example, the same equipment and the same workers with the same organization operating in the oil extractive industry will obtain better results in the Arabian countries than in the United States, for the very simple reason that US oil-fields are less rich. Therefore if one neglects the natural resources factor, incorrect will be obtained. Another point is the importance of the "human capital" factor, which is that embodied in skilled workers, managers, engineers as distinct from general or unskilled labor. Leaving aside the practical problems of the various methods of measuring human capital, the consideration of this factor lends support to the hypothesis that US exports are intensive in human capital (Gandolfo, 1994, pp.86-90; Jones, 1956, p.1).

#### *Stolper-Samuelson Theorem*

An additional theorem is the Stolper-Samuelson Theorem that postulates that an increase in the relative price of a commodity (for example, as a result of a tariff) raises the return or earnings of the factor used intensively in the production of the commodity. Thus, the real return of the nation's scarce factor of production will rise with the imposition of a tariff. for example, when a country (the K-abundant country) impose an import tariff on commodity (its L-intensive commodity), then the domestic relative price rises and it follows an increase in the relative price of labor, but the theorem asserts something more that the "real price" of labor increases (Salvatore, 2001, p.258; Gandolfo, 1994, p.96). An application of the Stolper-Samuelson theorem is the magnification effect that states that the increase in the nominal price of the benefited factor is proportionally greater than the increase in the commodity price. The relevance of this theorem for international economics lies in its use for the examination of the redistributive effects of tariffs. a tariff

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<sup>15</sup> Represented in this assumption: *Mobility*, Factors of production move costlessly between industries within a country, but are completely immobile between countries.

normally causes an increase in the domestic relative price of the good on which the tariff is levied, and hence income redistribution effects due to the change in real factor rewards as they mentioned in their conclusion in,

“Hence, it is always possible to bribe the suffering factor by subsidy or other redistributive device so as to leave all factors better off as a result of trade.”  
(Stolper and Samuelson, 1941, p.73).

The Stolper-Samuelson tariff theorem asserts that an *ad valorem* import tariff will bring about a more than proportionate rise in the price of the corresponding intensive factor in that industry. They assumed implicitly that the import tariff would increase the relative price of imports in the domestic market. The Stolper-Samuelson Theorem was derived from within the framework of the H-O model. The original Heckscher-Ohlin model was a two factor model with a labour market specified by a single number. Therefore, the early versions of the theorem could make no predictions about the affect on the unskilled labour force in a high income country under trade liberalization. However, more sophisticated models with multiple classes of worker productivity have been shown to produce the Stolper-Samuelson effect within each class of labour: Unskilled workers producing traded goods in a high-skill country will be worse off as international trade increases, because, relative to the world market in the good they produce, an unskilled first world production-line worker is a less abundant factor of production than capital.

However, as Metzler pointed out, an *ad valorem* import tariff has two effects on the domestic price of imports. On the one hand, the resulting reduction in the demand for imports depresses the foreign prices of these goods relative to the corresponding prices for export goods. Therefore, whether a tariff increases or decreases the price of the intensive factor of the import industry seems to depend upon which of these forces is the stronger (Minabe, 1974, p.329). Metzler paradox is unusual case and it is a good example for “it is always depends” and a necessary and sufficient condition for its occurrence is that the rest of the world’s offer curve is inelastic over the range of the tariff and that all of the export tariff collected by the government is spent on consumption of the importable commodity (Salvatore, 2001, p.274).

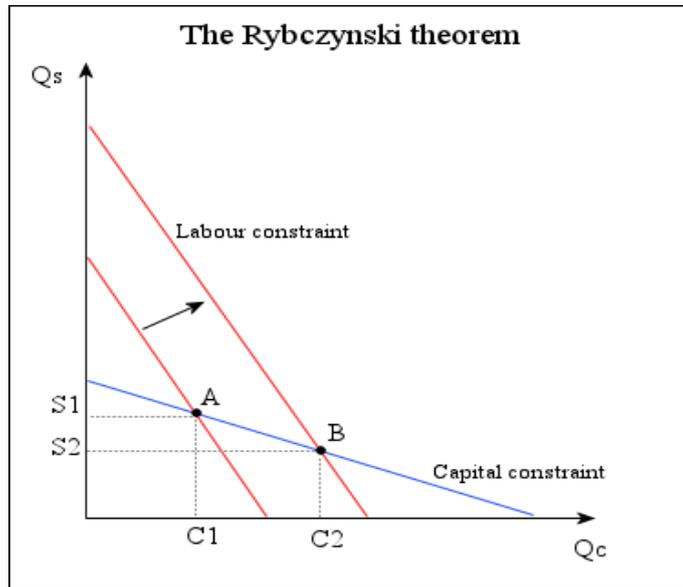
#### *Rybczynski theorem*

The two-good, two-factor, Rybczynski<sup>16</sup> (1955) theorem states that if the supply of one of the factors of production increases, the other one being held constant, the output of the good using relatively more of the increased factor will increase, and the output of the other good using relatively little of the same factor will decrease absolutely, provided that commodity prices are kept constant. Assuming a small country trading under a constant set of international commodity prices, the theorem may be stated as follows: an accumulation of capital, holding the labor supply constant, must lead to an absolute expansion in production of the capital-intensive commodity and to an absolute curtailment in production of the labor-intensive commodity (Gandolfo, 1994, pp.97-98).

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<sup>16</sup> The Rybczynski theorem was developed by the Polish-born English economist Tadeusz Rybczynski (1923-1998).

The Rybczynski theorem displays how changes in an endowment affects the outputs of the goods when full employment is sustained. The theorem is useful in analyzing the effects of capital investment, immigration and emigration within the context of a Heckscher-Ohlin model. Consider the opposite diagram, depicting a labour constraint and a capital constraint. Suppose production occurs initially on the Production possibility frontier (PPF) at point A. Suppose there is an increase in the labour endowment. This will cause an outward shift in the labour constraint. The PPF and thus production will shift to point B. Production of clothing, the labour intensive good, will rise from C1 to C2. Production of cars, the capital-intensive good, will fall from S1 to S2.



If the endowment of capital rose the capital constraint would shift out causing an increase in car production and a decrease in clothing production. Since the labour constraint is steeper than the capital constraint, cars are capital-intensive and clothing is labor-intensive.

In general, an increase in a country's endowment of a factor will cause an increase in output of the good which uses that factor intensively, and a decrease in the output of the other good.

#### *New Trade Theory*

New Trade Theory<sup>17</sup> (NTT) is the economic critique of international free trade from the perspective of increasing returns to scale and the network effect. Beginning in the 1970s some economists asked whether it might be effective for a nation to shelter infant industries until they had grown to sufficient size to compete internationally. New Trade theorists challenge the assumption of diminishing returns to scale, and some argue that using protectionist measures to build up a huge industrial base in certain industries will then allow those sectors to dominate the world market (via a Network effect). They wondered whether free trade would have prevented the development of the Japanese auto industries in the 1950s, when quotas and regulations prevented import competition. Japanese companies were encouraged to import foreign production technology but were required to produce 90 per cent of parts domestically within five years. It is said that the short-term hardship of Japanese consumers (who were unable to buy the superior vehicles

<sup>17</sup> The theory was initially associated with Paul Krugman and the MIT economists of the early 1970s. Krugman wrote that International economics a generation earlier had completely ignored returns to scale.

produced by the world market) was more than compensated for by the long-term benefits to producers, who gained time to out-compete their international rivals.

Although there was nothing particularly 'new' about the idea of protecting 'infant industries' (an idea offered in theory since the 18th century, and in trade policy since the 1880s) what was new in "New Trade Theory" was the rigour of the mathematical economics used to model the increasing returns to scale, and especially the use of the network effect to argue that the formation of important industries was path dependent in a way which industrial planning and judicious tariffs might control. The model they developed was highly technical, and predicted the possibilities of national specialization-by-industry observed in the industrial world.

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