

Adam Smith on Foreign Trade: The Underlying Theory and Doxography

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Abstract: Adam Smith (1776) is generally ignored as an international trade theorist in textbooks and surveys because of the common belief that he only confirmed the rule of absolute advantages to explain structure of foreign trade. On the other hand, many textbooks and surveys on growth theories simply overlook Smith's significant contributions to economic growth theory. Smith's insights can still be relevant today and what can be learnt from the mistreatment Smith has suffered in the historiography of international trade theory.

However, his vent-for-surplus approach may be interpreted as a pioneering study which stresses the importance of economies-of-scale in explaining the structure of foreign trade. Furthermore, in Smith, both learning by doing and economies-of-scale are crucial to explain long-run economic growth.

This paper addresses to the undeniable influence of Smith's concepts on the promotion of quality labour that increases the productivity of the nation and causes an increase in the international trade of the nation leading to the integration of economies.

Keywords: Doxography, International Trade, Constant Returns to Scale (CRS).

I. INTRODUCTION

The trade theory that first indicated importance of specialization in production and division of labour is based on the idea of *theory of absolute advantage* which was developed first by Adam Smith in his famous book *The Wealth of Nations* published in 1776. Later on, David Ricardo in his book titled *On the Principles of Political Economy* published in the year of 1819 extended it to incorporate the theory of comparative advantage and showed that it is the basis why nations need to trade and why trade is mutually beneficial to countries. Before going into the details of the Adam Smith's and Ricardo's models it to illustrate requires to illustrate the idea in an informal way. Consider the following situation of a physician and a secretary. Clearly the physician has both absolute and comparative advantage in terms of performing surgery. However, also suppose the physician is a better organizer, typist and administrator than secretary. Hence the physician has an absolute advantage over the secretary in terms of both surgery and secretarial services. There is no way the secretary could perform the physician's job. Hence, the physician is comparatively better in performing surgery than the secretary. On the other hand, the secretary is comparatively better at performing secretarial job.

However, Smith endeavours to show that not only single merchants but the society as a whole benefits from international trade.

Assumptions:

- Factors of production cannot move between countries. This assumption excludes the possibility of migration between countries, as well as presence of multinational companies. It also implies that the PPF of each country will not change after the trade and there is no reason to expect wages (measured in the same currency) be the same after trade.
- No barriers to trading of goods.

- Exports must be equal to imports. This assumption means that we exclude trade imbalances, trade deficits or surpluses.
- Labour is the only relevant factor of production.
- Production exhibits constant returns to scale. *Constant Returns to Scale (CRS)* means that the technological relationship between inputs and output is characterized by constant returns in the sense that proportionate changes in *all* inputs lead to proportionate changes in output.

For example, if it takes 2 hours to make 1 pound of cheese in country A, then it should take 4 hours to produce 2 pounds of cheese, and 8 hours to produce 4 pounds of C etc. To illustrate the idea of absolute advantage (AA) consider the following table which gives the labour hours required to produce one unit of C and W in our hypothetical countries A and B.

| | A | B |
|--------|---|----|
| Cheese | 2 | 10 |
| Wine | 8 | 4 |

A has Absolute Advantage in production of cheese as it takes fewer hours to produce a unit of cheese in A than in B. Since it takes less hours in B to produce wine, therefore B has an Absolute Advantage in production of wine over A

II. ADAM SMITH’S THEORY

Countries should specialize in the production of goods in which they have an absolute advantage. So A will be better off if it specializes in the production of cheese and similarly B will be better off if it specializes in the production of wine. So they don’t need to produce both goods at home. What happens if A and B follow Smith’s theory? Suppose the output of wine is reduced by one unit in A and output of cheese is reduced one unit in B. Per unit gains from specialization when A specializes in cheese and B in wine becomes:

| | In Production of C | In Production of W |
|----------|--------------------|--------------------|
| In A | +4 | -1 |
| In B | -1 | +2.5 |
| In World | +3 | +1.5 |

But how workers are persuaded in each country to behave along the lines of absolute advantage? The answer is Adam Smith’s invisible hand” idea. Free market forces along with supply and demand will ensure that this will happen. But how exactly? Labour theory of Value (classical economists believed the relevance of this theory, like Adam Smith, David Ricardo, Karl Marx) indicates that pre-trade prices of goods are determined by of a good in autarky is simply the cost of the labour inputs used in its production, that is:

$$PC = WA * LC; A = WA * 2$$

$$PW = WA * LW; A = WA * 8$$

Therefore, relative price ratio will be

$$(PC/PW)A = (WA * 6 / WA * 12) = 2/8 = 1/4$$

Similarly,

$$(PC/PW)B = (WB * 10 / WB * 4) = 10/4 = 2/5$$

The division of labour and its benefits:

Smith's thoughts on the division of labour constitute the basis for his theory of international trade. For him, it is the division of labour that leads to "the greatest improvement in the productive powers of labour" As a result of a more advanced division of labour, more output can be produced with the same amount of labour. He illustrates this point with his famous pin factory example, which shows that the division of labour produces an "increase in the quantity of work which the same number of people are capable of performing". Then he goes on to identify the three major reasons for this development:

- 1) First, the increase of dexterity in every particular workman.
- 2) Secondly, the saving of the time which is commonly lost in passing from one species of work to another.
- 3) And then, the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many.

Gains from Trade:

According to Smith, international trade is advantageous for nations because "it gives a value to their superfluities, by exchanging them for something else, which may satisfy a part of their wants, and increase their enjoyments. By means of it the narrowness of the home market does not hinder the division of labour in any particular branch of art or manufacture from being carried to the highest perfection. By opening a more extensive market for whatever part of the produce of their labour may exceed the home consumption, it encourages them to improve its productive powers, and to augment its annual produce to the utmost, and thereby to increase the real revenue and wealth of the society. Controversy has arisen over Smith's statement that international trade "gives a value to their superfluities". This has become known as the "vent-for-surplus" gain, namely: that a nation can exchange its overproduction for other goods which are demanded.

Ricardo, in Chapter XXI of the Principles, 'Effects of Accumulation on Profits and Interest', comments on the latter as follows. He first gives Smith the credit for anticipating Say's Law in all important respects: 'No writer has more satisfactorily and ably shown than Dr Smith, the tendency of capital to move from employments in which the goods produced do not repay price the whole expenses, including the ordinary profits, of producing and bringing them to market'. Hence any glut of particular commodities will be only temporary: it will be overcome by an appropriate reallocation of capital and labour. Ricardo concludes that Smith's 'vent-for-surplus' doctrine is at variance with all his general doctrines on this subject.

Essentially the same objection occur in the subsequent literature. Smith's respective view is generally regarded as a somewhat puzzling remnant of the mercantile doctrine which, as is well known, he was keen to refute. Because the 'vent-for-surplus' argument seemingly does not fit with the rest of his doctrine, various attempts were made to play down its importance. According to Hollander, Smith does not appear to have been clear about the subject and a 'mere lip-service' was paid by him to the 'vent-for-surplus' doctrine. In Bloomfield's opinion 'there still remains something of a mystery as to the exact meaning of Smith's "surplus-produce" argument. It is probable that more may have been read into this argument than Smith in fact intended.

While it cannot be claimed that the following argument is capable of fully clearing up the 'mystery' Bloomfield spoke of, it does provide some hints as to the circumstances under which Smith's argument is both perfectly reasonable and exempt from the criticism that it represents a leftover of the (infamous) mercantile doctrine.

III. ABSOLUTE ADVANTAGE DESCRIBED IN MODERN TIMES

Subsequent economists did not pay much attention to Smith's theory of international trade. In general, it is not seen as relevant because of the predominance of the theory of comparative advantage, which "has been the bedrock on which all subsequent developments in the theory of international trade have rested" As a result, Smith's theory was barely noticed and not developed any further. Nonetheless, many of today's textbooks deal briefly with the theory of absolute advantage, which is ascribed to Smith. They portray Smith's theory as "a stepping stone to a more sophisticated theory", namely the theory of comparative advantage that is attributed to David Ricardo. Following this, most textbooks discuss the merits and failings of the Ricardian model and introduce the neoclassical version of the theory of comparative advantage, including the Heckscher-Ohlin model and the factor price equalisation theorem. In this way, Smith's theory is presented as the starting point of a theoretical development that leads directly to neoclassical trade models. Smith's concerns and ideas are thus aligned with those of neoclassical trade theories. However, they are dwarfed by the theory of comparative advantage, which is one of the most praised theories in economics.

The presentation of Smith's international trade theory in textbooks is essentially standardised and does not vary significantly. Textbooks emphasise that the theory of absolute advantage "can explain only a small part of world trade". Thus, it is seen as a special case of the theory of comparative advantage and both theories are seen as complementary. Smith is often criticised for not being able to come up with the more sophisticated theory of comparative advantage. In comparison to Ricardo, Smith is described as a "poor trade theorist" and his theory as a "naive theory".

The textbook presentation of the theory of absolute advantage can be classified as a mythology in Skinner's sense. He defines different types of mythologies, several of which are used by textbooks, namely the mythology of doctrines and the mythology of prolepsis. First, only a fraction of Smith's theory of international trade, namely that countries specialise according to absolute production cost advantages, is used and it is reinterpreted into an entirely different theory. This exemplifies the first type of the mythology of doctrines: "mistaking some scattered or incidental remarks by one of the classic theorists for his 'doctrine' on one of the themes which the historian is set to expect". Second, the charge or criticism that Smith did not identify the mechanism of comparative advantage and failed to come up with this theory exemplifies the second type of the mythology of doctrines because it presupposes that he tried to. Third, because it describes Smith's "work and its alleged significance in such a way that no place is left for the analysis of what the author himself meant to say" the presentation of the theory of absolute advantage also exemplifies the mythology of prolepsis. Thus, what economic textbooks present is not a legitimate anachronism which could be the basis of proper rational reconstruction or *Geistesgeschichte*. Rather, they adulterate Smith's theory and use the deficient methodology of doxography to reconstruct it.

A Whig History of International Trade Theory:

In order to understand why modern textbooks use doxography to reconstruct Smith's ideas one has to understand how the history of international trade theory is written. Smith is discussed at the beginning of a linear theoretical development that leads directly to the neoclassical formulation of the theory of comparative advantage. As a result, Smith's theory of international trade is adjusted in order to fit into the story of modern economics and, thus, into the neoclassical paradigm. This paradigm, which is based on marginal analysis, dominates international economics. The history of international economics starts with Adam Smith and evolves step by step up to today's standard trade models. It is argued that Smith, together with Ricardo, laid the foundations of modern trade theory. Since neoclassical thinking dominates current economics, it also dominates the writing of economic history. Neoclassical economists can choose their predecessors, i.e., who are seen as forerunners of its theoretical approach. "Winners" are able to write the history of their subject. This, however, is not a sufficient reason to reject historiography as doxography. It is an established method of *Geistesgeschichte* and rational reconstruction to interpret and represent the history of a subject as a Whig history. A Whig history claims a linear development from past to modern theories, leaving out anything that does not fit into the story. However, if past theories are misrepresented and their original meanings are changed considerably in order to fit them into such a Whig history, this does not constitute a legitimate reconstruction.

A Whig history without any historical reconstructions to keep it honest can easily turn into doxography, as is the case with Smith's theory of international trade. His ideas are reconstructed deficiently and his theory is adulterated to suit the neoclassical history of international trade theory.

IV. INCORPORATION OF SMITH'S THEORY IN INTERNATIONAL TRADE

The concept of absolute advantage was first used by economists, without referring to Smith, to explain the theory of comparative advantage, sometimes with numerical. This changed, however, and Smith's name was connected to the concept of absolute advantage. By the 1950s and 1960s, this view had become generally accepted and incorporated into textbooks.

Other assumptions used by neoclassical trade theory are similarly ascribed to Smith's theory so that it fits well into the Whig history. For example, textbooks wrongly claim that Smith assumes unrestricted domestic mobility of labour and capital. Actually, Smith assumes that neither factor of production is perfectly mobile, whether domestically or internationally. In both cases they are assumed to be only partly mobile.

However, textbooks falsely assert that Smith abstracts from transport costs as neoclassical models do. This claim was established long ago and is repeated in modern textbooks. In this way, doxography became an integral part of the "official" or mainstream history of international trade theory. Today, Smith is universally connected to the theory of absolute advantage and as such he is seen as a pioneer of the theory of comparative advantage.

Smith on the Long-Run Economic Growth:

In the economics literature, it is generally argued that, in Smith (1776), capital accumulation plays a leading role in the economic growth process of a country, and technological progress passively follows it (Brewer, 1991, and Ahmad, 1996). But Barkai (1969) suggests that in the *Wealth of Nations* technological change is more important than other factors to explain the nature and causes of the wealth of nations. The determinants of economic growth and development in Smith's world and their complicated interactions may be schematically summarized as shown in Figure 2. Obviously, this figure is based on the thought that, according to Smith (1776), not only capital accumulation but also technological progress, and both institutional and social factors play a crucial role in the economic development process of a country. Furthermore, it is shown that his thoughts were strongly influenced by the natural philosophy of his age. Smith combines the concept of learning by doing with economies-of-scale through the concept of division of labor, which in turn only can be improved by extending the market. Under conditions of increasing returns to scale, the experience, or cumulative output, of workers rises. This leads to technological change. As a response, technological change in terms of learning by doing (and in the form of inventing new machines or improving an old one) stimulates the division of labor and specialization through increases in wealth, profits, and the process of capital accumulation.

Note that Smith distinguishes between three stages of economic growth (see Figure 3). In his opinion, nations like China and Turkey were at "a low level equilibrium trap" (Stage A) because of "bad-governance" and an insufficiency in maintaining basic human rights and freedoms or "property rights" in modern parlance. This was due to cultural and institutional backwardness of these countries. Leading nations in his age were England and North America but they were only at the second stage of development (Stage B). They were still in a "natural freedom" environment, and therefore, in an ongoing economic growth process. Smith believed that no country in the 18th century was at the third stage of economic growth (Stage C). According to him, the nature limits economic growth beyond a certain level. Falling profit rates along the growth path of an economy, changes in the relative factor scarcity, and decreases in profitable investment opportunities all play a significant role in constraining economic growth. These limitations of nature arise from limited land endowment, lack of favorable conditions, and both climate and geographical location of the country. Thus, every growing economy, had to slow down and stop at an upper limit of development. The notion of an upper limit to growth perhaps is related to the agrarian based society of Smith's age. Smith (1776) was aware of the possibility of extending the natural limits of a country by technological improvements in the manufacturing industry, which in turn was a result of learning by doing among others. However, one should not overestimate his views on the role of technological development as a determinant of economic growth.

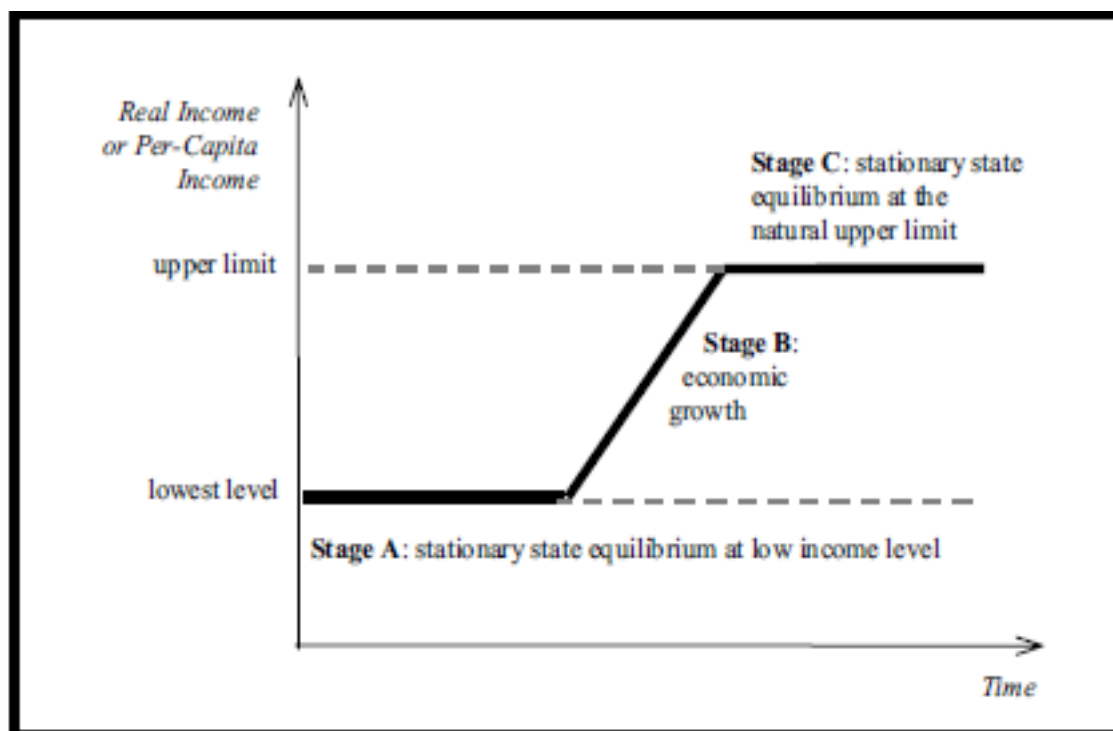


Figure 1: Three Stages of Economic Growth According to Smith (1776) Source: Adapted from Tezel (1995)

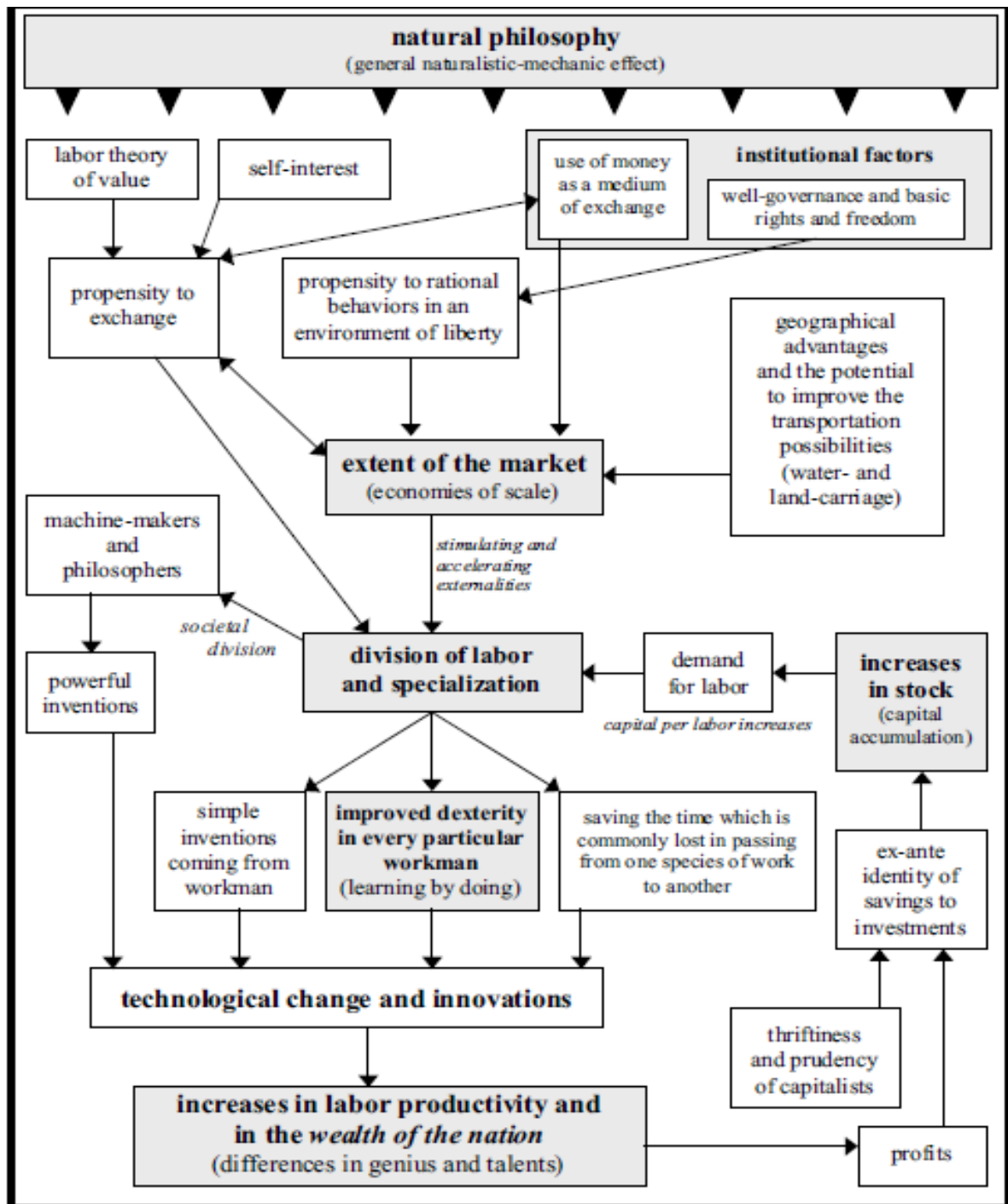


Figure 2: The Nature and Causes of the Wealth of a Nation According to Smith (1776)

V. CONCLUSION

In this article, it was argued that economic textbooks use doxography to interpret Smith's ideas on international trade. Smith's original theory was discussed and compared to its representation in modern textbooks. It was shown that these textbooks do not reproduce Smith's theory slightly inaccurately, but adulterate it completely. With few exceptions. Smith's 'vent-for-surplus' argument has been rejected as inconclusive and contradicting the rest of his doctrine, in particular his version of what was later to become known as 'Say's Law of markets'. However, both advocates and critics of his argument seem to have overlooked the fact that much of Smith's respective argument *explicitly* refers to the case of joint production: with the relatively fixed proportions in which different products are produced, it cannot be presumed that these proportions match those in which the products are domestically required for use.

Additionally, lessons can be drawn from the use of doxography in the reconstruction of Smith's trade theory. Smith's insights were reinterpreted into a neoclassical framework and fitted into a Whig history of international trade. This version of Smith is merely used to reflect the dominant thinking. Instead of advancing his original ideas, trade theory forgot them. By using doxography rather than a more adequate genre of historiography, the chance to learn from Smith was missed. Though mainstream trade theory improved the formalisation and predictive power of trade models, they ignored at the same time some of the most important issues of international trade, which with Smith had dealt. It took a long time for ideas, which Smith had put forward nearly 250 years ago, to be again considered by mainstream trade theory.

Even though some economists may find this remark too exaggerated, one can easily conclude that Smith's (both direct and indirect) influences on new trade and growth models are undeniable. Following particularly Adam Smith, new trade and growth theorists too seem to have made economies-of-scale and learning by doing an important part of their models of international trade and long-run growth. Adam Smith's theory of absolute advantage is a huge diversion from the recognition that Smith's original ideas deserve.

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