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A Critical Comparison of Two Major Theories of International Trade

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EU	European Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
HOM	Heckscher-Ohlin Model
PPF	Production Possibility Frontier
WN	An Inquiry into the Nature and Causes of the Wealth of Nations, book by Adam Smith, published 1776
WTO	World Trade Organisation

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1 Introduction

Foreign trade is an old phenomenon. In modern times international trade has become more common than at any time before and it is hard to imagine our world without international trade. Each time we buy goods, parts of them or even the whole good was produced abroad. On the other hand, German cars, for example, are driven in nearly every country of the world. It is not a question whether a country should participate in international trade. Besides a few exceptions (e.g. North Korea), every country participates in international trade. The overall amount of international trade is constantly increasing. Even setbacks like "the Great recession" – the term that is used to label the latest economic crisis[1] – have only a temporary negative effect on world trade. Between 1948 and 2004 the volume of world trade (in US dollars) increased about one hundred fifty fold.[2] International trade has grown by 4 percent each year on average since 1920. In the same period, worldwide GDP grew "only" by 2.7 percent each year on average.[3]

The concept of free trade is not as old as international trade itself, but it is not a new topic. Economists are engaged with it since more than two hundred years. Today it concerns big parts of the world population. Inside the European Union (EU), free trade is even directly perceivable by ordinary citizens. Nowadays, every citizen cannot only travel unrestricted between the EU countries but going through customs is history as well. Everybody can freely buy goods in another EU country without restrictions. The development of the EU led to a European single market that contains four freedoms, namely the free movement of goods, the free movement of capital, the free movement of services, and the free movement of persons.[4]

Internationally, trade is not as free as inside the EU. However, after World War II, an international trade system was developed with the aim of introducing free trade worldwide. In the framework of the General Agreement on Tariffs and Trade (GATT) trade barriers were reduced. In the last decades, the world became more and more economically integrated.[5] The World Trade Organisation (WTO) that succeeded the GATT provides a legal and institutional base for international trade and

1 See The Economist 2009c, 13.
2 See O'Brien/Williams 2008, 159. Exports rose from $58 billion to $8,907 billion and imports increased from $66 billion to $9,252 billion.
3 See Maddison 1991, 74.
4 See Dicke 2004.
5 See Krugman/Obstfeld 2009, 227–42.

continues the reduction of trade barriers.[6] The function of the WTO is mainly to promote the liberalisation of international trade.[7] Despite the standstill of the current round of the WTO negotiation, the so-called Doha Round, world trade is likely to become more liberalised in the future. The WTO has 153 member states.[8] They represent over 95 percent of the existing international trade.[9] Free trade, therefore, is the central topic of the international trade regime. Though it is arguable how liberalised international trade already is, the tendency towards free trade is clear. This development is backed by huge academic support. A poll showed that 97 percent of economists support free trade.[10] Though this data is 30 years old, the support of economist for free trade did not decline since.[11] Today, free trade can be seen as a 'virtual ideology'.[12]

The centrality of free trade in our world is thus reflected by its importance in economic theory. Theoretical approaches are significant to analyse the benefits and the development of free trade. The theory tries to answer questions about the direction or pattern of and the gains from international trade. What circumstances or developments determine which goods a country exports and imports? Who benefits from free trade? Do all countries benefit likewise? Or can some countries actually suffer a loss as a result of free trade?

These are important questions and supporters of free trade usually answer them with reference to the theory of comparative advantage. Trade patterns are determined by a country's comparative production advantage and free trade will benefit every participating country. It is argued that it is of central importance for poor countries to open markets and to join a free trade regime in order to raise living standards.[13] The whole WTO process of trade liberalisation is based 'on the assumption that the best way to raise global living standards is to maximize free trade'.[14] Many economists state that poor countries are even able to catch up with developed economies as a consequence of free trade. However, such a development can hardly be seen in the

6 See Jackson 2002, 44–78.
7 See Wilkinson 2000, 55–56.
8 See WTO 2009. The number of member states will grow to 157 soon. The accession packages of the Russian Federation, Montenegro, Samoa and Vanuatu were all approved by the WTO in late 2011, but they are formally not full members yet (state in December 2011).
9 See Fergusson 2007, 2.
10 See Ruffin/Gregory 1993, 13. The proposition that was supported by 97% of the questioned economists was: 'Tariffs and import quotas reduce general economic welfare.' The poll was taken in 1979.
11 See for example Krugman 1993, 362 and Gualerzi 2005, 324.
12 Nayyar 2007, 69.
13 See Rodrik 2001, 9–10.
14 Felipe/Vernengo 2002, 49.

real world. Many critics of the WTO and the free trade arguments dispute those welfare effects of free trade. This can be seen by the "anti-globalisation" movement.

A reason why the theoretical and normative claims are not in accordance with the development of the real world might be that trade barriers exist in practise and undermine the possible achievements of free trade. Our perspective in this thesis will, however, be different. We will concentrate on theoretical considerations and will be less concerned with the practical and historical development of international trade. Therefore, we will scrutinise the theory that underlies the mainstream argumentation,[15] namely the theory of comparative advantage. We will discuss its assumptions and compare it with the theory of absolute advantage, another significant theory of international trade. Our aim is to understand how free international trade develops. Additionally, we want to examine if and how a country can benefit from free trade.

Before a road map of this thesis is given, free trade should shortly be defined. Free or liberalised trade is commonly defined negatively by 'the absence of government policies designed to regulate international trade, especially import limitations such as tariffs or quotas'.[16] Irwin similarly defines free trade as the condition in which 'there are no artificial impediments to the exchange of goods across national markets'.[17] This negative definition will be used throughout this thesis.[18] It is not restricted to commodity trade but it is also applied to trade in services. Additionally, it also includes that capital and personal movements are not restricted by government policies. Throughout this thesis we use the terms international trade and free trade interchangeable.

As mentioned, the aim of this thesis is to compare two important theories of international trade in order to get a better understanding of free trade. In chapter 2 the theory of absolute advantage is examined which dates back to Adam Smith. It has not been developed much

15 We use the term mainstream economics in this thesis as a synonym for the neoclassical theory of international trade that is widely acknowledged today and is used in modern textbooks. It is based on the neoclassical formulation of the theory of comparative advantage. It is the dominant school of economic thought and 'has been taught as the leading economic paradigm in graduate schools of economics, political economy and other social disciplines at all major universities around the world for the last four or five decades' (Ruiz Nápoles 2006, 3).

16 Moon 2001, 574.

17 Irwin 1996, 5.

18 Connected to this theoretical definition of free trade is the doctrine of free trade. This doctrine is a normative statement and claims 'that markets will maximize the efficient allocation of resources whenever unfettered by government interference' (Moon 2001, 574). It applies the basic claims of the liberal theory to international trade. This connection of free trade with the liberal doctrine originates mainly in the prevalence of neoclassical and neo-liberal ideas in economics and underlies the broad support of free trade. However, this doctrine is not included in our definition of free trade because it is a pure normative claim.

since Smith and therefore his theory is used in this thesis. The theory of comparative advantage is presented in chapter 3. Especially Ricardo's first formulation of it and its neoclassical development are dwelled on. Both theories are compared in chapter 4. This comparison leads to the conclusion that both theories are different approaches, which exclude each other, and are not, as some argue, compatible or supplemental approaches. It is argued that the theory of absolute advantage is more useful in explaining international trade than the theory of comparative advantage because it is based on more accurate assumptions. The assumptions of the theory of comparative advantage are proven to be unrealistic or useless and hence of little help for explaining free international trade. As a result, the direction of international trade is determined by absolute and not by comparative production advantages. In chapter 5, we will examine Smith's theory of absolute advantage in regard to its predictions about trade patterns and benefits from free trade. Smith's theory of international trade is closely linked to his theory of development. In fact, both cannot be separated and thus the latter will be considered in this chapter as well. The emphasis lies on the impacts of free trade on rich and poor countries. Contrary to the mainstream opinion, it is concluded that free trade does not necessarily benefit each participating country. Free trade can even hinder the development of poor countries. Chapter 6 summarises this thesis and gives some concluding remarks.

This work on the theory of absolute and comparative advantage should deepen the understanding of free trade and the impact it has on different countries. This analysis can help us to understand why the gap between developed and underdeveloped countries is widening and not – as the mainstream theory claims – closing. It should be stressed here that this thesis is a theoretical examination of the development of free international trade. It does not discuss economic policy approaches or the question which trade policy is best for a country. Free trade is not evaluated from a normative point of view in this thesis. We discuss only the effects of free trade which is by definition free of government intervention.

2 The Theory of Absolute Advantage

Adam Smith is appreciated as the founder of modern economics.[19] His theory of international trade is less known or recognised although he is one of the first and most famous thinkers who argue in favour of free trade. He is the first classical economist who wrote about the gains and the direction of free trade. His writings are formulated predominantly as normative statements against mercantilist thinking and less as a positive theory. His aim is to show that free trade and capitalism in general is superior to the then predominant mercantile system and its feudalistic legacy.[20] Most of his main economic work *An Inquiry into the Nature and Causes of the Wealth of Nations (WN)*, which was published in 1776, is a polemic against mercantilists.[21] However, it contains positive aspects that constitute together with the normative part Smith's theory of absolute advantage. In order to understand this theory we will elaborate Smith's thoughts on the division of labour and his labour theory of value. Afterwards, we will examine the normative and the positive part of Smith's theory of absolute advantage. Finally, the development of this theory after Smith is briefly discussed.

2.1 Adam Smith, the Division of Labour, and the Labour Theory of Value

Smith's theory on foreign trade is based on his thoughts on the division of labour,[22] which he expounds in the first three chapters of his *WN*. According to Smith, the division of labour led to 'the greatest improvement in the productive powers of labour'[23] and therefore the division of labour is more advanced in the most industrial countries.[24] The biggest advantage of the division of labour is that the same number of workers is able to produce more. His famous pin factory example illustrates

19 See Shaw 2000, 231.

20 See Polanyi 2001, 72–74. Albeit mercantilism has already some capitalistic features it has more in common with absolutism and thus with feudalism, which proceeded the capitalistic system (see Vaggi/Groenewegen 2003, 108 and Biggart 2002, 59–60). Though, in opposite to the presentation of Smith in modern textbooks, he took over some ideas from different mercantilist thinkers (Maneschi 1998, 40). Furthermore, in his works he attacked a simplistic view of mercantilism. In fact, mercantilist thinking is not as homogeneous as Smith presents it, but it includes diverse subgroups (see, e.g., Perrotta 1991 and Gomes 2003, 3–30).

21 See Petrella 1968, 373.

22 See Streissler 1999, 27.

23 Smith 1993, 3.

24 See ibid., 4.

this point: while one worker can make a pin a day, ten workers, each of them specialised in two or three operations can make 48,000 pins a day. As a result of specialisation, the output grew from one pin per worker to 4,800 pins per worker.[25] In that way, the division of labour produces an 'increase of the quantity of work which […] the same number of people [is] capable of performing'.[26] Smith emphasises that the division of labour leads to increased returns.[27] This development has three underlying reasons:

> 'first, […] the increase of dexterity in every particular workman; secondly, […] the saving of the time which is commonly lost in passing from one species of work to another; and lastly, […] the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many.'[28]

The division of labour, by exploiting economies of scale, leads to a greater output and to an increase of the national wealth, which Smith defines as 'the annual produce of the land and labour of the society'.[29] The division of labour leads to technical development and an increase in productivity. Smith's underlying theory of growth is easily derived from this: 'the more specialization, the more growth'.[30] We can summarise that an extension of the division of labour leads to economic growth and to an increase in wealth.

Another basic feature of Smith's theoretical framework is his labour theory of value, which he uses to determine prices.[31] Smith defines the value of a commodity as 'the quantity of labour which it enables him to purchase or command'.[32] Labour is the only universal measurement of the value of a good.[33] It should be noted here that Smith was aware that labour had different levels of quality. The labour value of a commodity

25 See ibid., 3–4. He divides the making of a pin into 18 distinct operations. Though his example may be exaggerated, he uses it in order to emphasise his point.
26 Ibid., 5.
27 See Groenewegen 1977, 65.
28 Smith 1993, 5.
29 Ibid., 2.
30 Staley 1989, 43.
31 Smith notices that there are actually two different meanings of the word value, namely the 'value in use' and the 'value in exchange' (Smith 1993, 14). Smith's focus is on the value in exchange and we will follow him and refer to it when we speak of value. Moreover, it should be noticed here that Smith had no overall labour theory of labour. Rather he had 'several different minor theories of value' (Whitaker 1904, 10) that are spread in different chapters of the WN. Many, especially those who see Smith as a precursor of neoclassical thinking, argue that Smith actually rejected the labour theory of value, but this view rests on a disputable interpretation of Smith's writing (see Henry 2000).
32 Smith 1993, 14–15.
33 See ibid., 15–18.

was not only determined by the hours that were used to produce it. The value depends also on how complex a special labour is and how educated and skilled the labourer is. This is the reason why wages differ.[34] Smith differentiates between the value and the price of a commodity. The market price is defined as the 'actual price at which any commodity is commonly sold'.[35] The market price is connected to the value of a commodity because 'the market price of every particular commodity is […] continually gravitating […] towards the natural price'.[36] But they are not equal. The price of a commodity 'may either be above, or below, or exactly the same with its natural price'.[37] The market price is regulated by supply and demand. The price and the labour value include 'rent, labour, and profit'[38] as well as transportation costs.

We have dealt with Smith's approach of the division of labour and his labour theory of value here because both play a significant role in his trade theory.

2.2 Adam Smith and Gains from International Trade

Smith answers the question why trade takes place in a somewhat unusual way. For him, trade does not exist because of human wisdom or effective management, but it is a necessity of the human 'propensity to truck, barter, and exchange one thing for another'.[39] However, trade has selfish reasons. When people trade with each other and when they convince others to trade with them, they pursuit their own interests, not some altruistic ones:

> 'Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.'[40]

34 See ibid., 49.
35 Ibid., 27.
36 Ibid., 29.
37 Ibid., 27.
38 Ibid.
39 Ibid., 7.
40 Ibid.

Obviously that is true for every kind of trade, including international trade. But what exactly are the gains from foreign trade? These are contained in Smith's normative part of his theory of international trade and consist of 'the increase of its enjoyments' and 'the augmentation of its industry'.[41] Smith gives 'two distinct benefits' that make international trade advantageous for nations:

> '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.'[42]

International trade enhances the division of labour and thus increases the wealth of a country. Smith sees only one limitation of the division of labour namely 'the power of exchanging' or in other words 'the extent of the market'.[43] If trade is extended from a mere domestic trade to international trade, an extension of the division of labour will be possible because the international market is bigger than the domestic market. Hence, international trade is advantageous to countries because the enhanced division of labour leads to an increase 'of the exchangeable value of the annual produce of the land and labour of the country, or [to an] increase of the annual revenue of its inhabitants'.[44] International trade exploits the quantitative and qualitative benefits of the extension of the division of labour. Due to economies of scale, more goods can be produced in all trading nations together with the same amount of labour. Additionally, international trade leads to an increase in the dexterity of the workforce and to technological innovation because of the invention of new machinery and techniques. The productivity will be increased and technological change stimulated. As a result, specialisation boosts economic development.[45] Resources are activated and industry is encouraged.[46] It is obvious that Smith's theory of

41 Ibid., 286.
42 Ibid., 213.
43 Ibid., 9.
44 Ibid., 234.
45 See Myint 1977, 232–34.
46 See Bloomfield 1975, 473.

(international) trade 'is closely interwoven with his theory of economic development'.[47] Trade and development cannot be separated in Smith's theory. They are linked through the division of labour.

Controversy has arisen over Smith's statement that international trade 'gives a value to their superfluities'. This has become known as the so-called "vent-for-surplus" gain.[48] Smith's vent-for-surplus notion states that a nation can exchange its overproduction for other goods which are demanded. In that way, more wants and needs of its population can be satisfied. Smith crucial assumption here is that nations have some surplus resources that yield excess production. He mentions this in various paragraphs in the *WN*. We can conclude that this vent-for-surplus approach is not a separate theory, as some suggest, but it is merely an additional corollary of a wider international market.[49]

Another beneficial aspect of international trade in his theory is that it transmits knowledge and technology between different countries.[50] Smith points out that these gains might even be more important to a country than a wider market, especially for big countries.[51] Technological transfer leads to productivity growth and to economic development and is, thus, a source of wealth.

International trade in Smith theory is not a zero-sum-game, both the individual countries and the world-as-whole benefit. Additionally, it should be emphasised that Smith has an optimistic approach towards growth and economic progress.[52] He never mentions any ceiling of the division of labour and growth in his theory is boundless.[53] The division of labour is limited by the extent of the market, but the extent of

47 Myint 1977, 233.

48 This name was introduced by John Stuart Mill (J. S. Mill 1929, 579).

49 Myint distinguishes between two benefits from international trade, which he labels "vent-for-surplus theory" and "productivity theory" (Myint 1958, 318). However, it is misleading to separate both benefits. They can rather be seen as two sides of the same coin. The vent-for-surplus aspect leads to an activation of idle resources, which is another dynamic benefit from international trade in Smith's theory (Gomes 2003, 32–33). Additionally, trade and the following extension of the division of labour create surplus products. As Blecker points out both concepts are mutually dependent and are thus complementary approaches (Blecker 1997, 530). Moreover, Smith remarks that the production of one good can also yield another by-product for which a nation is in no need of (Smith 1993, 80). This is another application of the vent-for-surplus aspect. Therefore, Kurz applies it to 'joint-product processes of production' (Kurz 1992, 478). For further discussions of Smith's vent-for-surplus approach see Staley 1973, Kurz 1998, 79–82, Myint 1977, and Elmslie/Sedgley 2002.

50 See Smith 1993, 305.

51 He discusses this point with regard to China. China had already a big domestic market and would primarily gain from open trade with Europe by getting access to its technology rather than by widening her market and increasing her production (see ibid., 332–33).

52 Samuelson suggests that there is a limit of the division of labour in Smith's theory by saying that development finally leads to diminishing returns (Samuelson 1978). However, this was never considered by Smith.

53 See Darity/Davis 2005, 146–48.

the market is not limited in Smith's theory. Rather the market itself is dependent on the division of labour and an extension of the division of labour leads in turn to a widening of the market.[54]

Smith does not discuss in detail how the benefits from trade are divided between trading nations, because his main intention is to show that foreign trade is beneficial for a country and its population. However, he says that countries do not necessarily benefit in the same manner:

> 'But that 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. By advantage or gain, I understand […] the increase […] of the exchangeable value of the annual produce of the land and labour of the country, or the increase of the annual revenue of its inhabitants.'[55]

In Smith's theory, international trade follows the same rules as domestic trade. It is obvious that in a free domestic market, trade is not equally beneficial to all participants. Differences in income and living standard do not vanish inside a country as the result of free domestic trade but they can be increased by it. In Smith's theory the same proves to be true for free international trade. Especially if two countries trade with each other that differ in wealth, gains from trade will not be shared equally. In his *Lectures on Jurisprudence* Smith compares the trade relations between a developed and an underdeveloped country to that between a rich and a poor man:

> 'When a rich man and a poor man deal with one another, both of them will encrease their riches, if they deal prudently, but the rich man's stock will encrease in a greater proportion than the poor man's. In like manner, when a rich and a poor nation engage in trade the rich nation will have the greatest advantage, and therefore the prohibition of this commerce is most hurtfull to it of the two.'[56]

From England's point of view it is more advantageous to trade with a country that has a wider market and thus a more extended division of labour, or in other words is more developed.[57] Smith argues that free

54 See Young 1928, 539–40.
55 Smith 1993, 234.
56 Smith 1982a, 512.
57 Smith was, like most economists of his time, a patriot. Thus, he was primarily concerned with the well-being of England and Great Britain (see Sai-Wing Ho 1998, 310) .

trade with France would be more beneficial to England than free trade with Portugal because (at his time) France had a 'superior opulence' and 'would take more from us, and exchanging to a much greater value and in a much greater variety of ways, would encourage more industry in Great Britain and give occasion to more subdivisions of labour'.[58] A rich nation has a greater interest in (free) trade with other rich nations because their markets are more developed and generally bigger.[59]

2.3 Adam Smith and the Pattern of Trade

Although Smith highlights the normative part, his theory of international trade includes a positive part besides the demonstration that countries can gain from free trade. This part is concerned with the development of the direction of international trade. Both parts belong together and are not strictly separated in Smith's writings and they both constitute Smith's theory of absolute advantage.

Most importantly, Smith argues that domestic and international trade are determined by the same rules. Free international trade will evolve in the same way domestic trade is evolving under free conditions. Since Smith is in favour of a free market system, he describes free trade as desirable:

> 'It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy […] 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.'[60]

The division of labour works internationally the same way it does nationally. A country specialises in the production of some goods while buying other goods from abroad. But what does a country specialise in? Smith claims that it is in the interest of every country '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

58 Smith 1982b, 578.
59 See Vaggi/Groenewegen 2003, 113.
60 Smith 1993, 218.

the same thing, with the price of a part of it, whatever else they have occasion for'.[61] This means that a country produces and exports those commodities which it can produce cheaper than other countries. It, thus, has an absolute advantage in the production of those goods. A country does not produce those goods itself that are produced cheaper abroad or in other words, in which it has an absolute disadvantage. Instead it will import them.

Smith demonstrates with an example what an absolute advantage is: '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 expense for which at least equally good can be brought from foreign countries'.[62] He uses this exaggerated example to highlight his point. Scotland's costs of wine production are higher than abroad. Therefore, Scotland has an absolute disadvantage in the production of wine while (some) foreign countries have an absolute advantage in the production of wine because they have lower costs of production. A good is produced where the production is cheapest. In the same way that Scotland will not produce wine because her production is thirty times more expensive than abroad, Scotland will not produce any commodities whose production is more expensive than in other countries – be it 'a thirtieth, or even a three-hundredth part more of either'.[63]

Free international trade develops in the same way as free domestic trade. 'Were all nations to follow the liberal system of free exportation and free importation, the different states into which a great continent was divided would so far resemble the different provinces of a great empire'.[64] Every country will produce those commodities which it can produce with less production costs than other countries. The underlying assumption is that consumers buy a good from whoever sells it at the lowest price. The country (or producer) with the lowest production costs is able to sell it cheaper than every other producer and is able to undersell its competitors. This is a translation of Smith's writings into modern times. At his time, neither transnational companies existed nor were average citizens involved in international trade.[65] Rather, merchants were engaged in foreign trade. Their main concern

61 Ibid.
62 Ibid., 218–19.
63 Ibid., 219.
64 Ibid., 260.
65 Companies that operated in different parts of the world did exist at Smith's time, but they were chartered companies and operated only inside colonial empires and were organised mercantilist (see Spiegel 1999, 99).

was the money price of a commodity because their intention was to sell goods in order to make profits, i.e. to get high returns on their capital.[66] Thus, the direction of free international trade is determined by absolute production cost advantages.

The origin of absolute advantages is of no significance for the trade pattern:

> 'Whether the advantages which one country has over another be natural or acquired is in this respect of no consequence. As long as the one country has those advantages, and the other wants them, it will always be more advantageous for the latter rather to buy of the former than to make.'[67]

Smith recognises that there are some differences between countries that yield specialisation. These include a country's 'soil, climate, and situation' as well as its 'laws and institutions,'[68] and its means of communication and transport.[69] However, Smith's overall approach towards specialisation is that trade and the division of labour leads to specialisation and not the other way around. He gives an example of a philosopher and a street porter who 'were perhaps very much alike'[70] in their early childhood. The difference between them arose when they were educated for different jobs. This difference continues to widen while they pursue their professions. Smith argues that specialisation is in most cases not the cause but 'the effect of the division of labour'.[71] Trade between nations is in general not based on the differences between countries but it leads to specialisation and differences. Differences between countries are mainly due to the level of the division of labour of a country and, therefore, of its productivity and its technology and less due to natural differences.[72] An absolute advantage of a country develops mainly endogenously through the market-widening effects of international trade.[73] A mutual relationship between international trade and domestic economic development exists. Both are not independent of each other and both have an impact on the pattern of trade. It can be summarised that 'a country's absolute advantage in any sector, instead of exogenously given, is

66 See Smith 1993, 18, 177, 182, 237.
67 Ibid., 219.
68 Ibid., 46.
69 See ibid., 201–2, 233.
70 Ibid., 8.
71 Ibid.
72 See Myint 1977, 237–38.
73 See Blecker 1997, 534.

endogenously determined by its development path, which is in turn affected by its trade pattern'.[74] Both, international trade and the domestic development affect the division of labour and thus a country's wealth. As a result, absolute production advantages of a country are not fixed and they tend to be amplified by trade. But they may also change over time. A country can gain an absolute advantage in the production of a good, for example, or it can lose such an advantage, even as a direct effect of trade.

The direction of unrestricted international trade is determined by the current absolute advantages. The production of a country will automatically be determined by its absolute advantages. Every country will produce those goods it has the lowest production costs and can offer at the lowest price. However, costs of transportation have to be considered.[75] International competitiveness is determined the same way as competitiveness inside a country, namely by price advantages, which in turn are determined according to the labour theory of value.[76]

2.4 Absolute Advantage after Adam Smith

The theory of absolute advantage has not been in the focus of trade theory after Adam Smith. 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'.[77] Therefore, the theory of absolute advantage was barely developed any further. Nonetheless, many of today's textbooks have an introduction to the theory of absolute advantage, mainly in one of the starting chapters about trade theory. They portray Smith's theory as 'a stepping-stone to a more sophisticated theory'[78] – the theory of comparative advantage. It is normally presented with an example of two countries and two commodities (2x2 model). Therein, each country can produce one good with less expenditure of human labour than the other and thus cheaper. As a result, each country has an absolute advantage in the production of one good. An example is given in Table 2.1. Country A

74 Maneschi 1998, 48.

75 Smith emphasises the importance of transportation costs frequently (e.g. Smith 1993, 80, 212, 219, 333). This means that different countries can have an absolute advantage in the same good in different (domestic) markets – taking into account the transportation costs of this good from the place of production to the market it is sold.

76 See Shaikh 2007, 56.

77 Maneschi 1998, 10.

78 Staley 1989, 52.

has an absolute advantage in the production of Commodity 1 because it needs only 50 labour days to produce one unit of it while Country B needs 120 labour days. Country B has an absolute advantage in Commodity 2.[79]

Table 2.1 A Textbook Example of Absolute Advantages

Days of labour required to produce one unit of	*Country A*	*Country B*
Commodity 1	50	100
Commodity 2	120	60

If both countries start trading with each other, each country will specialise in the production of the good it has an absolute advantage in and obtain the other commodity from abroad. In this way, more units of both commodities can be produced overall. Through trade both countries are able to end up having more units of at least one commodity.[80] In our example Country A would specialise completely in Commodity 1 and Country B in Commodity 2.

However, this presentation falls short of Smith's theory. It assumes unrestricted internal mobility of labour, which Smith does not assume. Trade is beneficial only because existing resources are used more efficiently, which leads to an increase in the amount of both commodities. This is not simply an oversimplification of Smith's theory but a false interpretation. It is a mere comparison of two static situations, one before and one after the opening of trade. Smith never uses such a comparison. Gains in form of technological change and economic growth are excluded. Therefore, the modern presentation lacks the depth of Smith's theory of absolute advantage. This can be explained by the fact that Smith's theory serves as a mere introduction to the theory of comparative advantage and is aligned with it. Smith, on the other hand, is not seen as an ingenious trade theorist, mainly because he is seen as having failed to discover the principle of comparative advantage.[81] This allegation can only be understood by the fact that the mainstream economists look at Smith and his theory 'through the neoclassical spectacles,'[82] as Myint puts it.

79 For a similar example see Eicher et al. 2009, 15 and Bieling 2007, 35. Others use the reciprocal value, which shows how many units can be produced per labour year (e.g., Markusen et al. 1995, 69) or per labour hour (e.g., Salvatore 1990, 2).

80 See Bieling 2007, 34–35.

81 See Myint 1977, 231. Viner, e.g., criticises Smith on that ground (see Viner 1937, 104, 440).

82 Myint 1977, 246.

The theory of absolute advantage has in recent times been used by post-Keynesian and Marxian writers.[83] Shaikh talks in this context of the 'classical theory of competition'.[84] Yet they do not develop Smith's theory further or integrate it into other theories of international trade.

Since the theory of absolute advantage has not been developed much further – and its modern mainstream formulation even falls short of Smith's theory – we will refer to Smith's original formulation in this thesis when we talk of the theory of absolute advantage. This includes the dynamic and growth aspects of this theory. However, Smith's intention was to attack mercantilist thinking rather than to develop a stringent theory. He is not always unambiguous and can be interpreted differently. We will justify our interpretation of his writing, but it has to be admitted that other interpretations of Smith's writing remain possible.

83 For example Milberg 1994, 2002 and Shaikh 1980, 2007. For the use of absolute advantage in Marxian theories see also Milberg/Elmslie 1993, 41–42.

84 Shaikh 2007, 56–58.

3 The Theory of Comparative Advantage

The theory of comparative advantage is one of the most praised theories in economics since Ricardo's formulation of it and has become 'something of an article of faith'[85] in modern economics. Its formulation has been described as 'an intellectual *tour de force* of unusual brilliance'.[86] The theory itself has been vaunted as the 'deepest and most beautiful result in all of economics'[87] and as 'an unassailable intellectual cornerstone'.[88] Samuelson calls it the only proposition in social science that 'is both true and non-trivial'.[89] Pullen, therefore, describes it as having a 'semi-religious esteem'.[90] Free trade is widely seen as beneficial because it brings with it the 'magic of comparative advantage'.[91] In this chapter, we examine the theory of comparative advantage. First we will look at Ricardo's original formulation. Afterwards we will deal with the modern formulation.

3.1 David Ricardo and Comparative Advantage

David Ricardo might not be the first who developed the theory of comparative advantage. In fact, many attribute the credits for discovering this theory to Robert Torrens. However, this theory is closely connected with Ricardo's name and he was the first who wrote a complete formulation of this theory, namely in chapter 7 of his main work *On the Principles of Political Economy and Taxation*.[92] His intention is to show that free trade is beneficial to the participating countries. This assumption rests on the theory of comparative advantage. Parallel to the previous chapter we will first look at the normative part of Ricardo's theory, viz. at the gains from trade and Ricardo's exemplification of them. Afterwards, we direct our attention to the positive part that contains how comparative advantages are realised automatically.[93] This is based on Hume's price-specie-flow mechanism.

85 MacDonald/Markusen 1985, 277.
86 Angell 1926, 67, italics in original.
87 Findlay 1987, 514.
88 Harrigan 2003, 86.
89 Samuelson 1972, 683.
90 Pullen 2006, 60.
91 The Economist 2009a, 13.
92 Additionally, his formulation is quoted most often by economists. For an early discussion of the role of Torrens see Seligman/Hollander 1911. For a list of literature on the discovery controversy and a discussion of it, see also Ruffin 2002, 727–28, Aldrich 2004, and Maneschi 1998, 51–57.
93 Pullen has a different view which will not be considered here. He argues, that Ricardo's theory

3.1.1 The England-Portugal Example: Gains from International Trade

Like Smith, Ricardo believes that free trade is desirable and that nations benefit from it. Opposite to Smith, Ricardo sees a basic difference between foreign and domestic trade: 'The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries'.[94] His distinction is based on the assumption that labour and capital do not move between countries as they do inside a country.[95] The reason for the immobility of capital is the 'fancied or real insecurity of capital, when not under the immediate control of its owner'.[96] The immobility of labour origins in the 'natural disinclination which every man has to quit the country of his birth and connexions' and the trouble he has to 'intrust himself with all his habits fixed, to a strange government and new laws'.[97] As a result, international trade does not 'increase the amount of value in a country'.[98] Accordingly, Ricardo uses two different theories of value.[99] Similar to Smith, Ricardo bases his domestic trade theory on the labour theory of value. The labour value determines the domestic prices and therefore the relative value of commodities.[100] Thus, trade within a country is regulated by absolute production advantages. Internationally, however, the labour that is needed to produce a good does not determine its exchange relationship.[101] Rather comparative advantages become decisive. Opposite to domestic trade, internationally goods can be exchanged for other goods that embody different quantities of labour: 'The labour of 100 Englishmen cannot be given for that of 80 Englishmen, but the produce of the labour of 100 Englishmen may be given for the produce of the labour of 80 Portuguese, 60 Russians, or 120 East Indians'.[102] Impor-

of comparative advantage 'was intended as a practical guide or a piece of commercial advice for commodity traders, not as a prestigious law designed to govern the deployment of the world's productive activities' (Pullen 2006, 60). Yet, he neglects the positive part of Ricardo's theory.

94 Ricardo 2004a, 133.

95 See ibid., 128 and 134. Capital is defined by Ricardo as 'that part of the wealth of a country which is employed in production, and consists of food, clothing, tools, raw materials, machinery, etc. necessary to give effect to labour' (ibid., 95).

96 Ibid., 136.

97 Ibid. This personal immobility is not only a fact but for 'the patriot Ricardo' (Haberler 1933, 3) it is desirable: 'These feelings, which I should be sorry to see weakened […]' (Ricardo 2004a, 136).

98 Ricardo 2004a, 128.

99 See Myint 1977, 234.

100 Ricardo's labour theory of value differs in some points from Smith's formulation (see Whitaker 1904, 22–32). However, these differences do not matter in our context.

101 See Ricardo 2004a, 134–35.

102 Ibid., 135.

tant in international trade are not absolute production cost differences between countries but comparative production cost differences. Ricardo demonstrates this point with his famous Portugal-England example. He uses a 2x2 model with two countries – England and Portugal – and two commodities – cloth and wine. In the initial situation, both countries produce both goods domestically and no trade between the two nations takes place. Table 3.1 shows the amount of workers that are needed to produce the same amount of cloth and the same amount of wine in both countries in one year.

To produce the cloth, England needs 100 workers and Portugal 90 workers. England needs 120 workers to produce the same amount of wine that Portugal produces with 90 workers.[103] That both countries need different amounts of labour is due to the dissimilar circumstances. These are exogenously given in Ricardo's theory by a country's situation, climate, and other 'natural or artificial advantages'.[104] Hence, different natural conditions and technical knowledge are decisive. The actual origin of these differences is not important in Ricardo's theory.

Table 3.1 Initial Situation of Rocard's England-Portugal Example

Number of workers required to produce	*England*	*Portugal*
Cloth	100	90
Wine	120	80

Source: Ricardo (2004, 135)

On the basis of these 'four magic numbers,'[105] Ricardo shows that it would be advantageous for both nations if they start trading with each other and specialise in the production of one commodity, even though Portugal has an absolute cost advantage in both goods. Which country should specialise in which good? This is decided by the comparative production costs. To calculate the comparative costs we have to compare the production costs in both countries or of both goods.[106] Here, we will compare the cost ratios of each country. England's relative price of cloth expressed in wine, or in other words its domestic rate of exchange – is $\frac{5}{6}$ $(=\frac{100}{120})$ while its relative price for wine is $\frac{6}{5}$. Portugal's relative

103 See ibid.
104 Ibid., 132.
105 Samuelson 1972, 678.
106 Though some insist that the cost ratios inside each country have to be compared (e.g. Cairnes 1874, 373), it does not matter which ratio we compare because the result is the same in both cases: $P_{C,E}/P_{W,E} < P_{C,P}/P_{W,P}$ is the same as $P_{C,E}/P_{C,P} < P_{W,E}/P_{W,P}$; for $P_{i,y}$ is the price of commodity i (cloth, wine) in country y (England, Portugal) (see Viner 1937, 438–39).

price of cloth is $\frac{9}{8}$ and its relative price of wine is $\frac{8}{9}$. By comparing these cost ratios, we figure out that England has a comparative advantage in the production of cloth ($\frac{5}{6}$ is less than $\frac{9}{8}$) and Portugal has a comparative advantage in the production of wine ($\frac{8}{9}$ is less than $\frac{6}{5}$).

England should then specialise in the production of cloth and Portugal in the production of wine. Hence, England would import wine from Portugal and export cloth to Portugal while Portugal would import cloth from England and export wine to England. As a result, England would give the labour of 100 workers in form of cloths and get the amount of wine that would take her 120 workers to produce domestically. Portugal gives the labour of 80 workers in form of wine in order to get the amount of cloth that would take her 90 workers to produce.[107] England 'gains the labour of 20 Englishmen […] and […] Portugal gains the labour of 10 Portuguese'.[108] Both countries gain from trade and specialisation. Howe ver, the workers are not saved or made redundant. Rather, they will continue to work and thus, the same amount of workers will produce a bigger amount of both commodities. In order to achieve these gains, Ricardo assumes that workers can smoothly change between the production of wine and the production of cloth and vice versa.[109] Additionally, it is implicit in this approach that commodities are more or less perfectly mobile among countries, meaning transportation costs are neglected.[110]

Ricardo's four numbers present 'labour embodied in trade'.[111] Yet, many have interpreted his for numbers as labour unit coefficients, even though Ricardo never uses his numbers in this way. This is mainly the fault of John Stuart Mill who is 'responsible for the rational reconstruction of Ricardo in which the labor cost coefficients were interpreted as the amounts used in a unit of each good produced'.[112] This interpretation of Ricardo's numbers is used by most economists since.[113]

Additionally, many claim that this example implies how the gains from trade are divided between both countries. James Mill, for instance, concludes that these gains are equally divided between both countries in Ricardo's example.[114] Schumpeter, too, argues that Ricardo assumes

107 See Ricardo 2004a, 135.
108 Sraffa 1930, 541. Maneschi 2004 illustrates these gains graphically.
109 See Robinson 1977, 1333–34.
110 See Chipman 1965a, 479.
111 Bernhofen 2009, 6.
112 Ruffin 2002, 742.
113 See Chipman 1965a, 483–91. The interpretation of Ricardo's numbers as labour embodied in trade has been used by Sraffa (Sraffa 1930). It has only recently got more support (see Ruffin 2002, Maneschi 2004 and 2008, and Bernhofen 2009).
114 See J. Mill 1965, 122.

equal gains for both countries in this example,[115] as well as Viner who ascribes this to the fact that one unit of cloth is exchanged for one unit of wine in Ricardo's example.[116] Ricardo, however, did never state that one unit of wine is exchanged for one unit of cloth. He rather notes that a certain amount of wine is exchange for a certain amount of cloth.[117] Therefore, Viner's interpretation is without any foundation.[118] Pullen states that both countries gain exactly the same profit, namely 35 percent.[119] Angell argues that the benefit is 'confined to one country alone with respect to any given commodity'.[120] But, these discussions overinterpret Ricardo's example. Ricardo merely intended to illustrate with this England-Portugal example that international trade is advantageous even for Portugal though it could produce both commodities with less labour.[121] Thus, his point here is that absolute production costs are not significant but comparative production costs are.

From a theoretical point of view, the exchange relationship between wine and cloth can adopt any magnitude 'between the limits of one unit of English cloth for $\frac{9}{8}$ of a unit of Portuguese wine and one unit of English cloth for $\frac{5}{6}$ units of Portuguese wine'.[122] If the exchange relationship is exactly one of the two limits, one country will get all the benefits from trade. In Ricardo's theory, the exchange relationship is determined automatically through an adjustment mechanism that will be discussed in the next chapter. But this was not what Ricardo wanted to show with his England-Portugal example. Again, he uses this example not as a determination of the terms of trade, but his whole point is that no country needs to 'be afraid of free trade, for it humbles the mighty and raises the weak'.[123] If the cost ratios are different in both countries, specialisation and trade will be beneficial to them. However, the opposite is also true, namely when the cost ratios are equal in both countries

115 See Schumpeter 1954, 607–08.
116 See Viner 1937, 445.
117 See Ricardo 2004a, 135.
118 See Bouare 2009, 107.
119 Pullen reaches this result by the following calculation: 'A unit of cloth in England costs 100 ELU [English Labour Unit, R.S.]. When exported to Portugal it is worth 90 PLU [Portuguese Labour Unit, R.S.] and will exchange in Portugal for 90/80 = 1.125 units of wine, which if exported to England will be worth 1.125 × 120 = 135 ELU. The investment of 100 ELU in England has thus increased to 135 ELU, or a profit of 35 percent. Conversely, if wine worth 80 PLU in Portugal is exported to England, it will be worth 120 ELU and can be exchanged in England for 120/100 = 1.2 units of cloth, which when exported to Portugal will be worth 1.2 × 90 = 108 PLU, making a profit of 28 on 80 PLU, or 35%' (Pullen 2006, 65).
120 Angell 1926, 67.
121 See Ricardo 2004a, 136. Since they yield so many different interpretations, Ricardo's numbers can in fact be seen as 'magical'.
122 Schumpeter 1954, 607.
123 Shaikh 1980, 205.

no gains can be made by specialisation and trade according to the theory of comparative advantage.[124] In this situation, trade will not take place at all because there would be no incentive for it. Different comparative production cost is 'the essential and also the sufficient condition'[125] for the existence of international trade.

Although Ricardo's example does not determine the division of the gains from trade, one conclusion can be drawn from it. It suggests that England, the less productive, gains more than Portugal. Maneschi concludes that Ricardo wants to show that 'even if she were inefficient in producing both commodities, UK could end up garnering the lion's share (20/30 or two thirds) of the worldwide gains from trade'.[126] Yet, this interpretation is misleading insofar as it assumes that labour in England has the same quality than labour in Portugal. But Ricardo does not suggest that English labour and Portuguese labour are directly comparable. However, the tendency is still true. The less productive country benefits to a greater degree than the more efficient country. This implies that the gap of economic wealth between both countries is reduced while both are better off.[127]

To conclude, international trade does not increase the value but it is beneficial to the trading countries, because it leads to an increase of 'the amount and variety of the objects on which revenue may be expended'[128] and thus increases 'the sum of enjoyments'.[129] This means the whole population – in the form of consumers – benefits because goods become cheaper and available in a larger quantity. Ricardo identifies these gains from comparing 'the composition of output in each country when it was self-sufficient with the composition that trade brings about'.[130]

However, economic growth is not a result of international trade.[131] The rate of profits and wages are usually not affected by international trade. Ricardo expounds one exceptional case when wage goods become cheaper as a result of international trade. This would lead to an increase in the wage rate and a decrease in the general rate of profits.[132] In

124 See MacDonald/Markusen 1985, 278.
125 Cairnes 1874, 371.
126 Maneschi 2004, 440.
127 This implication is enunciated more explicitly by John Stuart Mill. He writes 'that the richest countries, caeteris paribus, gain the least by a given amount of foreign commerce: since, having a greater demand for commodities generally, they are likely to have a greater demand for foreign commodities, and thus modify the terms of interchange to their own disadvantage' (J. S. Mill 1929, 604).
128 Ricardo 2004a, 133.
129 Ibid., 128.
130 Robinson 1979, 141.
131 See Ruiz Nápoles 2006, 6.
132 See Ricardo 2004a, 128–32. Yet Ricardo's main aim is to show that international trade has generally no influence on the distribution of wealth or the income of the different classes.

Ricardo's theory, profits and wages are mutually dependent. That means, if wages increase profit will decrease and vice versa.[133] The wage level in Ricardo's theory is at a subsistence level and 'depends on the price of the food, necessaries, and conveniences required for the support of the labourer and his family'.[134] If the prices of those necessity commodities decline because they can be acquired cheaper through foreign trade, the wages will fall and profits will increase.[135] But both models – the theory of comparative advantage and the profit-increasing model – appear to be separated in Ricardo's theory. 'In fact, Ricardo used two trade models which he never managed to integrate'.[136] The theory of comparative advantage does not include the profit-increasing model. We will not consider this model in our further analysis. The main reason thereto, besides the separation of both models in Ricardo's theory, is that the former is the rule while the latter occurs only in exceptional cases.[137] Static gains are, thus, the only gains from international trade according to the theory of comparative advantage.[138]

3.1.2 The Role of David Hume's Price-Specie-Flow Mechanism

Ricardo's theory is not merely a normative statement that countries can benefit from free trade. His theory includes a positive part that contains how each country will, unintentionally, specialise according to its comparative advantages and automatically benefit from trade. Thereto, Ricardo uses the so-called price-specie-flow mechanism of David

133 See ibid., 110–11.

134 Ibid., 93. The price, which must be paid for labour, is not the natural price of labour but the market price of labour. This market price is regulated by supply and demand. But that does not matter here, because 'however much the market price of labour may deviate from its natural price, it has, like commodities, a tendency to conform to it' (Ricardo 2004a, 94).

135 See ibid., 132. This development benefits a country as a whole, but, Ricardo is aware, that it is only beneficial 'to those who derive a revenue from the employment of their capital, either as farmers, manufacturers, merchants, or capitalists, lending their money at interest' (Ricardo 2004c, 25). Rents, however, would fall, making landlords worse off, while the others would neither gain nor lose. Therefore, international trade can lead to a redistribution of income in a way that was welcomed by Ricardo (see Maneschi 2008, 1172–75).

136 Gomes 2003, 44.

137 Maneschi argues that Ricardo regarded the rise of the profit rate 'as an equally important gain from trade' (Maneschi 2008, 1175) for industrialised countries. He develops a 'dynamic model of Ricardian trade' in an effort to combine both theories (see Maneschi 1998, 65–71). This, however, goes beyond Ricardo's own formulation. From Ricardo's wording it can be concluded that he sees an increase in profit as an exceptional effect (e.g. 'can never take place but in […]' (Ricardo 2004c, 25); 'Foreign trade […] has no tendency to raise the profits of stock, unless […] ' (Ricardo 2004a, 133).

138 Other classical economists such as John Stuart Mill consider in addition indirect gains such as intellectual and moral effects that follow the contact with foreigners (see J. S. Mill 1929, 581). Those gains will not be considered here, since they lie outside the economic framework of the theories with which we deal in this thesis.

Hume, which is a simple version of the quantity theory of money.[139] Ricardo sees international trade as a form of barter. Trade with money is only an extension of barter trade.[140] International trade is seen as 'an actual trucking of one commodity against another' and therefore 'the laws of interchange [are] essentially the same, whether money is used or not'.[141] A corollary of this is that trade is balanced. This is an important presumption of Hume's price-specie-flow mechanism. Money in Hume's theory is 'the instrument which men have agreed upon to facilitate the exchange of one commodity for another. It is none of the wheels of trade: It is the oil which renders the motion of the wheels more smooth and easy'.[142] In Hume's and Ricardo's lifetime, gold and silver were the means of payment in international trade.[143] As a result of the barter assumption, gold and silver have only one function, namely they serve as a mean of circulation and therewith rate labour and commodities.[144]

Hume supposes that changes in the quantity of gold and silver have no real effect, only a price effect. If we look at an isolated country, the quantity of money that this country possesses is irrelevant for its economy. If the quantity of money changes in this country, the commodity prices, the price of labour and profits will change in absolute numbers but not relatively. Thus, if the quantity of gold and silver were doubled in a country prices would double as well.[145] This is the only influence that a change in the monetary quantity exerts. A change in the quantity of gold and silver has 'no other effect than to make the commodities for which they were exchanged comparatively dear or cheap'.[146]

139 See Darity 1987, 120.

140 See Ricardo 2004a, 137.

141 J. S. Mill 1929, 583. Ricardo's classical and neoclassical successors keep this assumption.

142 Hume 1903a, 289.

143 See Ricardo 2004a, 137.

144 See Hume 1903a, 292–93.

145 See Hume 1903b, 318–19. However, Hume mentions that in the short run a change in the quantity of money has an 'impact upon employment, output, and productivity' (Duke 1979, 573). If money flows into a country and thus the quantity of money is increased, then 'every thing takes a new face: labour and industry gain life' (Hume 1903a, 293). The opposite is true when the quantity of gold and silver diminishes and is therefore 'pernicious to industry' (ibid., 296). These effects occur only in the interval between the change of the monetary quantity and 'before matters be adjusted to their new situation' (ibid.). Ricardo did not approve of this part of Hume's theory or at least, he does not mention this effect. Since this part of Hume's theory is not part of the theory of comparative advantage, it will not be pursued further in this thesis. A reason why this short run effect is neglected or even rejected by both classical and neoclassical economists is that it has a mercantilist connotation (see Petrella 1968, 366).

146 Ricardo 2004b, 53. Ricardo's monetary theory differs from Hume's insofar as he ascribes money an intrinsic value, contrary to Hume (see ibid., 52). However, this is of no consequence here, because both draw the same conclusion, namely that the price levels are dependent on the quantity of money. Ricardo comes to this conclusion because of 'the absence of any role for money in exchange other than means of circulation' (Lapavitsas 1996, 67).

But in a free trade system, doubling the quantity of gold and silver in a country would affect its trade position. Since commodity prices will be higher in this case, other nations will stop buying commodities from this country and its quantity of exports falls. On the other hand, prices in the rest of the world will become comparatively cheap, consumers will buy more abroad and imports increase. Fewer exports and more imports mean that money will flow out of the country. If money flows out, the quantity of money will decrease. This leads to decreasing prices and wages. Now, exports will increase and imports decline. The money outflow will continue until the prices of commodities and labour decrease to a level, at which trade will be balanced, meaning the value of exports will equal the value of imports.[147] Prices will be equalised in all countries because of the gold flows that began as a result of different prices.[148]

Additionally, Hume argues that this mechanism does not only eliminate trade imbalances, but it will also prevent trade from being unbalanced: 'it is evident, that the same causes, which would correct these exorbitant inequalities, were they to happen miraculously, must prevent their happening in the common course of nature'.[149] He compares the quantity of money and the balance of trade to the level of water:

> 'All water, wherever it communicates, remains always at a level […] were it to be raised in any one place, the superior gravity of that part not being balanced, must depress it, till it meet a counterpoise; and that the same cause, which redresses the inequality when it happens, must for ever prevent it, without some violent external operation.'[150]

A perpetual trade surplus or deficit is not only undesirable but, under free trade conditions, it is also impossible to sustain because the price-specie-flow mechanism will eliminate such a surplus. The volume of trade may change but foreign trade will always be balanced at least after some time. If the quantity of exported or imported commodities will

147 Hume 1903b, 318–19. Hume's adjustment process is actually more complex and takes not place immediately. It rather requires 'some time' (Hume 1903a, 293). The process can be summarised as follows: If exports increase (decrease), money will flow into (out of) the country. At first, no modification takes place. Then, wages of the workers of the export companies will increase (decrease) and they will spend more (less) money, i.e. buy more (see ibid., 293–98). This in return will increase (decrease) the price and thus the income of the sellers and, finally, the effect proceeds in the whole economy of that country until 'the whole at last reaches a just proportion with the new quantity of specie which is in the kingdom' (ibid., 294).

148 See Staley 1976, 253.

149 Hume 1903b, 319.

150 Ibid.

increase – and thus the quantity of money in a country will increase or respectively decrease – the quantity of imports or exports respectively will adjust automatically in order that the quantity of imports and exports are always equal. Ricardo has this mechanism in mind when he says that 'each country naturally devotes its capital and labour to such employments as are most beneficial to each'[151] in a free trade system. Although each country seeks to maximise its own advantage, it brings about the best possible outcome because the labour is distributed 'most effectively and most economically'.[152]

To illustrate how this mechanism underlies the theory of comparative advantage we will consider Ricardo's example of England and Portugal again.[153] As Table 3.1 shows, Portugal can produce both cloth and wine with less labour costs and hence cheaper than England, which means that the gold price of both goods will be lower. We assume that wages have the same level in the initial situation, this means, before both countries start trading. Therefore, consumers from both countries buy both commodities from Portugal. Money, in forms of gold, flows out of England and into Portugal. England has a trade deficit, while Portugal has a trade surplus.[154] As a result of Hume's price-specie-flow mechanism Portugal's prices and wages rise. Contrary, the quantity of money in England is diminished and her prices and wages fall.[155] English commodities become cheaper and England will improve her competitive situation. This leads to a situation in which England becomes competitive in one good and will be able to sell it cheaper than Portugal, namely cloth, because the price of cloth in England is comparatively (or relatively) cheaper than the price of wine. The outflow of money from England will gradually slow down because cloths are now exported. Finally, the prices of both goods will adjust in a way that the trade is balanced and the value of imports equals the value of exports in both countries and an equilibrium state is achieved in which both countries produce the commodity in which they had a comparative advantage.[156] Thus, comparative production cost advantages are transformed into absolute money price advantage for the

151 Ricardo 2004a, 133.
152 Ibid., 134.
153 Ricardo uses another example to show this effect (see Ibid., 137–41), but we will continue to use the example discussed in chapter 3.1.1 for reasons of simplicity. It should be emphasised again that Ricardo's original use of his England-Portugal example was not intended to show the positive part of his theory.
154 See Milberg 1994, 220.
155 See Darity 1987, 121.
156 See Shaikh 1980, 205, 215–16. These imbalances only occur because both countries enter trade with different initial situations. Once they trade, Hume's mechanism prevents any imbalances.

consumer.[157] The transformation is significant in Ricardo's theory. As Cairnes explains it, the 'cost of production, though it may be, and generally is, the ultimate condition governing international exchange, is never in any case the proximate or immediate cause. That proximate or immediate cause is not cost, but price'.[158] As a result, each international transaction, though it is performed independently, affects the whole pattern of trade through the price-specie-flow mechanism.[159]

By now it should have become clear that the theory of comparative advantage states that free trade is not only beneficial to both countries, but also that each country will specialise automatically according to its comparative advantages. Therefore, comparative advantages determine the pattern of international trade.

3.2 Modern Presentation of the Theory of Comparative Advantage

The importance of the theory of comparative advantage stems from the fact that modern models of international trade are based on it. Though Ricardo's theory of comparative advantage is widely acknowledged, it has been developed further. Most importantly, the neoclassical formulation introduces the marginal analyses framework into the theory of comparative advantage.[160] Perfect competition is assumed in order to increase the predictability of outcomes.[161] We will first examine the modern presentation of Ricardo's theory and afterwards the neoclassical formulation of the theory of comparative advantage.

3.2.1 The Ricardian Model

The presentation of Ricardo's theory in modern textbooks differs from Ricardo's original formulation. This is mainly due to the fact that it is presented from a neoclassical point of analysis. This presentation is

157 See Gomes 2003, 58.
158 Cairnes 1874, 382.
159 See ibid., 383–84.
160 See Ruiz Nápoles 2006, 7.
161 See Machovec 1995, 268. Perfect competition, which is also referred to as pure or free competition, describes a market in which there are an infinitive number of buyers and sellers. Goods are standardised (identical or homogeneous). Output will occur where marginal cost is equal to marginal revenue. Further characteristics of a perfectly competitive market are zero entry and exit barriers, perfect information, and costless transactions. No single firm has influence over the price of the product it sells (see McConnell/Brue 2005, 169–93).

known as Ricardian model.[162] Textbooks focus on the demonstration of possible gains from trade according to the theory of comparative advantage. Thereto, modern economists use three neoclassical microeconomic tools: production possibility frontiers, consumption indifference curves, and optimised production-consumption equilibrium in autarky.[163] The positive aspect of Ricardo's theory is less important in this model.

Additionally, the Ricardian model is presented as a one factor model, which means that Ricardo uses only one factor in his theory, namely labour. Countries differ in the productivity of labour, which is the only reason for international trade in this model.[164] Labour is assumed to be of homogenous quality.[165] However, this interpretation falls short of Ricardo. Similar to Smith, his labour theory of value and consequently his price theory includes rents and profits. Hence, Ricardo's original trade model 'is a multifactor one'.[166] The interpretation of the Ricardian model as a one factor model can be explained by the fact that it misinterprets or oversimplifies the labour theory of value that Ricardo uses.[167]

Opportunity cost

The concept of opportunity cost was introduced into the theory of international trade by Haberler.[168] He uses it in order to 'eliminate' the labour theory of value that he and many of his successors reject.[169] This economic tool is used to determine relative prices in a country and is central to the Ricardian model. The opportunity cost of one commodity is defined as the amount of another commodity that must be given up in order to produce an additional unit of the first

162 The name Ricardian model is used by most mainstream authors in order to express that it originates from Ricardo's ideas. They use it as a synonym for the classical model (e.g. Krugman/Obstfeld 2009, Grieco/Ikenberry 2003, Kenen 2000). Others, however, use this name to stress the difference of the modern interpretation from Ricardo's original ideas (e.g. Steedman 1991, Maneschi 1992).

163 See Grieco/Ikenberry 2003, 21.

164 See Krugman/Obstfeld 2009, 29–36.

165 See Chacholiades 2006, 15.

166 Maneschi 1998, 59.

167 See, for example, Haberler 1933, 96–97, 132–37, whose presentation of Ricardo's labour theory of value is reduces it in many aspects.

168 See Bernhofen 2005 and Chipman 1965b, 698–700.

169 See Haberler 1930, 356–60. The reason for the rejection of the labour theory of value is not only based on theoretical considerations, but has also ideological reasons. Neoclassical economists wanted to distance themselves from the Marxian interpretation of Ricardo's theory (see Subasat 2003, 149). Marx himself uses the labour theory of value and states the most developed classical formulation of it (see Levine 1980).

commodity.[170] It determines its relative value. A country's comparative advantage is derived from its opportunity costs in the absence of trade: 'A country has a comparative advantage in producing a good if the opportunity cost of producing that good in terms of other goods is lower in that country than it is in other countries'.[171] Absolute values or production costs of a commodity play no role in international trade, only opportunity costs are important.[172] From Ricardo's example of England and Portugal, it is derived that he assumes constant opportunity costs. Since labour is the only factor of production, labour productivity determines the opportunity costs and thus a country's comparative advantages.[173] In order to give an example of the Ricardian model, we take a 2x2 model. The labour productivity is given in Table 3.2.[174] In this example, Country A has a comparative advantage in the production of Commodity 2 while Country B has a comparative advantage in the production of Commodity 1.

Table 3.2 An Example of the Ricardian model

	Country A	*Country B*
Commodity 1	1 unit per hour	1 unit per hour
Commodity 2	2 unit per hour	1 unit per hour

Production Possibility Frontier and Social Indifference Curves

Haberler uses the concept of opportunity cost to develop a transformation curve that shows the maximum output of a country.[175] This curve is called production possibility frontier (PPF). It also reflects the limit of consumption in autarky.[176] Figure 3.1 illustrates the PPFs (black lines) that are derived from the numbers given in table 3.2. It shows the PPFs in the state of autarky, i.e. without trade. Since the Ricardian model assumes constant opportunity cost, the PPF is a straight line. The absolute value of the slope equals the opportunity cost – or

170 See Zweifel/Heller 1997, 66.
171 Krugman/Obstfeld 2009, 29.
172 See Söllner 1999, 45.
173 See Krugman/Obstfeld 2009, 28–51.
174 Many textbooks offer similar examples (see, e.g., Dieckheuer 2001, 54). Some use unit labour requirement to illustrate this point, i.e. how much work is needed for one unit of time, which is the inverse of labour productivity (see, e.g., Krugman/Obstfeld 2009, 37).
175 See Haberler 1930, 357–58.
176 See Grieco/Ikenberry 2003, 24–28.

the so-called marginal rate of transformation – of Commodity B in terms of Commodity A.[177] It is assumed, that both countries have a capacity of 50 labour hours. In a closed economy, demand determines the composition of the production of both goods (the output). The output cannot lie outside ("above") the PPF, because a point outside is unattainable with the existing resources and technology. It will neither lie inside ("below") the PPF because neoclassical theory assumes full employment of all resources.[178] The demand in the Ricardian model is determined by so-called social or community indifference curves.[179] These curves are convex to the origin and are composed of points at which consumer needs are equally satisfied.[180]

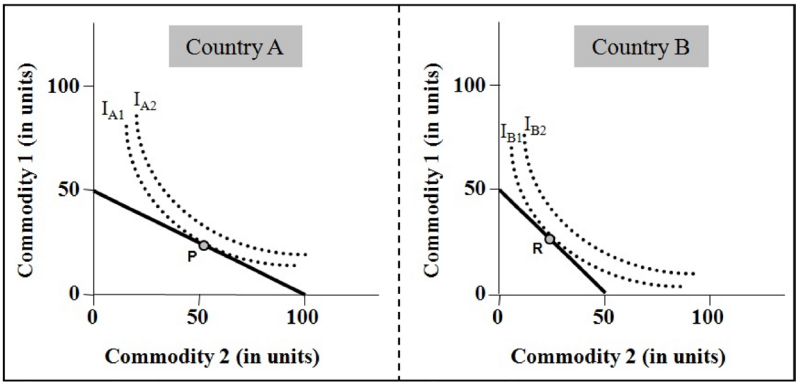

Figure 3.1 Production Possibility Frontier (PPF) and Social Indifference Curve

The production composition of Country A in Figure 3.1 is determined by the point where the indifference curve I_{A1} is tangent to the PPF (Point P). At this point, the maximum satisfaction is found because it lies on the highest possible social indifference curve that can be achieved with the given resources.[181] The output of Country B is determined respectively (Point R). This model assumes that in autarky production and consumption are at an optimum – neither production nor consumer satisfaction can be increased without trade.[182]

177 See Krugman/Obstfeld 2009, 30.
178 See Eicher et al. 2009, 41–43.
179 See Samuelson 1956. Viner, who first combined this concept with the PPF, used the term 'demand curve' (Viner 1931). Such a curve can be interpreted either as 'the representative citizen' or as 'community indifference' (Chipman 1965b, 689–98).
180 See Grieco/Ikenberry 2003, 21–24.
181 See Eicher et al. 2009, 35–40. This point is thus Pareto-optimal.
182 See Grieco/Ikenberry 2003, 27–28.

Specialisation and Gains from Trade

When both countries start trading, each country should specialise according to its comparative advantage derived from their opportunity costs. Country A would specialise completely in the production of Commodity 2, while Country B would specialise completely in the production of Commodity 1. The gains from trade in the Ricardian model are shown graphically in Figure 3.2. After both countries specialised and started to trade, each can reach a supply of both commodities that lies outside its own PPF, meaning that the available quantity of one or both commodities is higher than in the state of autarky. This is indicated by the grey line. The opportunity cost and hence the exchange ratio of both goods equalise in both countries after trade is introduced. It will lie somewhere between both domestic exchange rates and is illustrated by the slope of the grey lines.[183] Transportation costs are ignored in the Ricardian model.[184]

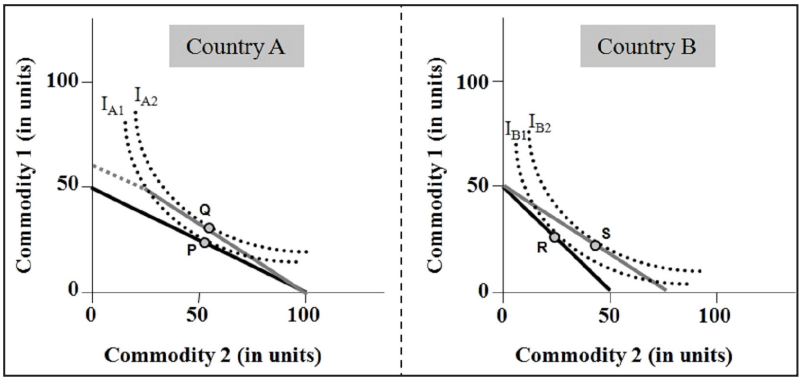

Figure 3.2 Gains from Trade in the Ricardian Model

In Figure 3.2, the exchange rate is 1:1.5. As a result of specialisation and trade, each country can reach a higher social indifference curve through trade. This is illustrated in Figure 3.2. Country A can reach the indifference curve I_{A2} and Country B the indifference curve IB2. Consumption increases in Country A from P to Q and in Country B from R to S. After trade is introduced each economy is again 'at a maximum point of efficiency, both in production and in consumption'.[185]

183 See Krugman/Obstfeld 2009, 36–38.
184 See Grieco/Ikenberry 2003, 30.
185 Ruiz Nápoles 2006, 11.

Ricardo and the Ricardian model

However, the Ricardian model interprets Ricardo in a way that can be disputed. As shown above, Ricardo uses more than one factor of production and he applies the labour theory of value and not opportunity cost in order to determine prices in a country. Furthermore, the Ricardian model ascribes constant cost to Ricardo. Ricardo actually uses decreasing return in his economic analysis.[186] Maneschi concludes, therefore, that Ricardo 'had little reason to argue that an economy's production possibility frontier is a straight line'.[187] Moreover, Ricardo never states that complete specialisation takes place. To the contrary, he mentions repeatedly that specialisation will be incomplete.[188] Another difference is implied in the transformation process from comparative production advantages to absolute money advantages. Ricardo assumes that the overall quantity of specie will be distributed in a way that trade is balanced and countries realise their respective comparative advantages. In contrast, the Ricardian model assumes that this transformation process is 'performed by the price-labor relation in each country and the exchange rate between the two countries'.[189] In the case that the exchange rate is fixed or gold is the international means of payment, the wage rates (price-labour relation) will solely perform the adjustment to balanced trade.

3.2.2 The Standard Trade Model

The theory of comparative advantage underlies the modern mainstream theory of international trade, which is known as the standard trade model. It uses the same microeconomic tools as the Ricardian model. In this context, the Ricardian model can be seen as an introduction to modern theory of comparative advantage and trade rather than reflecting Ricardo's own thoughts and tools. In this chapter we will examine this model in order to complete the presentation of the theory of comparative advantage. We will consider especially the differences between

186 In chapter 2 (2004a, 67–84) of his *Principles*, Ricardo shows decreasing returns in the agricultural sector. In chapter 5 (93–109) and in chapter 6 (110–127), he introduces wages and profits into this analysis. See also Maneschi 2008, 1170–72.

187 Ibid., 1168.

188 Ricardo says that an industrialised country, i.e. a country that has a comparative advantage in industrial goods over agricultural goods, will only 'import a portion of the corn required for its consumption' (Ricardo 2004a, 136) while still produce corn at home – if free trade exists. In another paragraph Ricardo argues that due to specialisation, a 'portion of' (see ibid., 137) the capital that is employed in one sector would change to another – not all the capital that is employed in this sector. See also Viner 1937, 452 and Maneschi 2008, 1170.

189 Haberler 1929, 377.

the Ricardian model and the standard trade model. Firstly, the standard trade model is characterised by increasing opportunity costs rather than constant opportunity costs.[190] This is seen as a more realistic assumption because it reflects decreasing returns to scale.[191] As a result, the PPF is not a straight line but a curve that is concave to the origin. The slope of the curve is the absolute value of the opportunity cost.[192] As a consequence, a country will in general not fully specialise in the production of one good. Rather, a partial specialisation takes place until the opportunity costs are equalised. This approach, too, rests on the assumption of full employment of all factors of production and on perfect competition.

Factor Endowment

Neoclassical theorists criticise Ricardo – or better the Ricardian model – that he/it does not explain the reasons for a country's comparative advantage, i.e. for the different productivity levels. Their aim is to fill this gap.[193] Their solution is known today as Heckscher-Ohlin Model (HOM) or factor endowment approach. It was developed by the two Swedish economists Eli Heckscher and Bertil Ohlin. While the Ricardian model considers only one factor of production, namely labour, the neoclassical approach assumes multiple factors of production. However, modern presentations of this model include only two factors of production – mostly labour and capital.[194] They are assumed to be perfectly mobile domestically but immobile internationally.[195] It is assumed, that countries differ in their respective endowment of these factors of production.

The production of both goods requires different compositions of capital and labour (different factor intensities). The availability of them differs in both countries, not only in absolute terms but also in relative terms (different factor endowment).[196] Furthermore, the HOM assumes that every good can be produced with different compositions of capital and labour. The production function for each commodity is

190 See Haberler 1933, 133–34.
191 See Grieco/Ikenberry 2003, 25. Decreasing returns are generally used in neoclassical theories.
192 See Haberler 1930, 358–59.
193 See Heckscher 1949, 276–77.
194 Heckscher emphasises 'that the term "factors of productions" does not simply refer to the broad categories of land, capital, and labor, but to the different qualities of each of these. The number of factors of production is thus practically unlimited'. (ibid., 279) Modern presentations use a 2x2x2 model, meaning two factors of production, two goods, and two countries (see Gomes 2003, 151).
195 See Ohlin 1933, 9–10. Ohlin himself speaks not of domestic and international mobility, but of intra- and interregional mobility. However this approach is not adopted by his successors.
196 See Zweifel/Heller 1997, 132–33.

identical in all countries, which means the same technology is accessible worldwide.[197] According to the HOM, each country has a comparative advantage 'in the production of commodities into which enter considerable amounts of factors abundant and cheap in that region'.[198] Each country will specialise in the production of those commodities that require its abundant production factor in the production process intensively while importing the goods, whose production requires its scarce production factor intensively. The reason for this specialisation is that the abundant factor is relatively cheaper than the scarce factor.[199] The HOM assumes identical demand in both countries. The factor endowment solely determines the production in autarky.[200] In the case that both countries have equal factor endowments, foreign trade is impossible. A 'difference in the relative scarcity of the factors of production between one country and another is thus a necessary condition […] for international trade'.[201] Although neoclassical writers accuse Ricardo of not having explained the sources of comparative advantage, the factor endowment approach uses exogenously given endowments and technology.[202] Additionally, the factor endowment is referred to as natural endowment. This suggests that trade flow are determined by "nature".[203]

We can summarise that the main difference between the Ricardian model and the standard trade model is the origin of a country's comparative advantage. While the former assumes that 'a country will export (import) that commodity in which her comparative factor productivity is higher (lower)', the latter assumes that 'a country will export (import) that commodity which uses her abundant (scarce) factor intensively'.[204]

Factor Price Equalisation

Paul Samuelson built on the HOM and developed the so-called theorem of factor price equalisation. It can be seen as 'a corollary of the

197 See Ohlin 1933, 15 and 19.
198 Ibid., 20.
199 See Cohen/Blecker/Whitney 2003, 55.
200 See Kenen 2000, 64–66.
201 Heckscher 1949, 278. However, modern trade theory considers the demand side as well. If relative factor endowments are identical in both countries, trade will still take place and will be beneficial if the demand conditions differ in both countries (see Dieckheuer 2001, 79–80).
202 See Maneschi 1998, 82.
203 See Milberg 2001, 414. In reality these "endowments" are not natural. Labour and land can be influenced by education and fertiliser, for example. Capital, on the other hand, can hardly be seen as an endowment at all (see Steedman 1991, 3–6 and Subasat 2003, 156–60).
204 Bhagwati 1967, 75–76.

Heckscher-Ohlin formulation of comparative advantage'.[205] It states that 'factor prices will be equalised, absolutely and relatively, by free international trade'.[206] This equalisation is explained by the relative scarcity and abundance of the factors of production in both countries. The labour abundant country will specialise in labour intensive goods and the demand for and the relative and absolute price of labour will rise while the demand for capital declines and with it the relative and absolute price of capital. The opposite is true for the capital abundant country.[207] As a result, trade 'equalizes factor prices (wage and profit rates) globally'.[208] As soon as factor prices are equalised, no further benefits from trade are possible and 'world productivity is […] optimal'.[209] In the neoclassical theory of comparative advantage, international factor mobility is therefore unnecessary because commodity trade leads to the same result. As Skarstein emphasis, 'free trade *alone* will eventually lead to an equalisation of factor prices between the two countries, even when there is no factor mobility between countries'.[210]

Gains from Trade

The gains from trade can be illustrated according to the Ricardian model. As in the Ricardian model, a country can reach an amount of both goods that lies outside ("above") its autarky PPF. Trade leads to a higher level of possible consumption in both countries compared with the autarky situation which is illustrated by attaining a higher social indifference curve.[211] Since increasing opportunity costs are assumed, the PPF is concave to the origin. Hence, factor price equalisation will take place before complete specialisation is attained and both countries will specialise only partially. Gains from international trade are only static and, as Heckscher notes, dynamic changes 'are completely disregarded'.[212] There are no qualitative changes in the factors of production.

205 Nayyar 2007, 71–72. Heckscher anticipated this theorem: 'When trade is begun, there will thus be no difference between "rich" and "poor" countries in regard to the price of each unit of a factor of production of a given quality' (Heckscher 1949, 289). Ohlin saw only a 'tendency towards equalisation of factor prices', but 'no complete equalisation' (Ohlin 1933, 37–39).

206 Samuelson 1948, 169. However, Samuelson notes certain conditions that must be met. Further, he gives reasons why factor prices do not always equalise (transportation costs, complete specialisation and different production functions) (see ibid. and Samuelson 1949a).

207 See Stolper/Samuelson 1941, 65–66.

208 Milberg 2001, 413.

209 Samuelson 1948, 169–70.

210 Skarstein 2007, 350, italics in original.

211 See Dieckheuer 2001, 63–67. We will abstain from a graphical illustration because it is similar to the Ricardian model. For an illustration, see for example Grieco/Ikenberry 2003, 39.

212 Heckscher 1949, 274. See also Samuelson 1949b.

Since factor prices are equalised and the overall amount of goods that can be produced increases, all countries will improve their welfare situations if they start trading.[213] Poor countries will benefit in the same way as rich countries: 'free trade enable[s] developing countries to realise their comparative advantages'.[214] Modern theory of international trade acknowledges that there are some groups inside a country that might suffer from trade, namely those groups who are employed in a sector that has a comparative disadvantage, viz. a sector that uses the relatively scarce factor of production.[215] However, since the nation as a whole still benefits and improves its welfare, modern trade theory suggests that the winners from trade liberalisation can compensate the losers and 'both groups would still be better off with trade than with autarky'.[216]

Balanced Trade

Like the other formulation of the theory of comparative advantage, the standard trade model consists of a positive part besides the normative part. As Ricardo, modern economists assume balanced trade. Therefore, an adjustment mechanism is needed in case trade imbalances occur. Today, specie is not the standard means of payment in international trade anymore and paper money is in general not backed by gold. The modern theory of comparative advantage uses the exchange rate mechanism to equalise trade imbalances. If a trade imbalance occurs, it 'will cause the exchange rate to shift'.[217] The exchange rate is solely determined by trade imbalances – at least in the long run.[218] The absolute level of money prices is internationally determined by the exchange rate of a country's currency. A change in the money supply will lead to a change in the exchange rate.[219] The currency of the country that experiences a trade deficit – and, thus, an outflow of money – will be depreciated and the currency of the country that has a trade surplus will be appreciated.[220] The commodities that are produced in the deficit country will become cheaper internationally while those from the surplus country will become more expensive. 'When exports become

213 See Krugman 1997, 101.
214 Skarstein 2005, 352.
215 See Stolper/Samuelson 1941.
216 Grieco/Ikenberry 2003, 49.
217 Eicher et al. 2009, 65.
218 See Blanchard 1997, 276.
219 See Krugman/Obstfeld 2009, 363.
220 See ibid., 382–420.

equal to imports in money value, the exchange rate will stop moving and equilibrium will exist'.[221] Anytime a trade imbalance exists, the equilibrium state will be restored through this exchange rate mechanism. As in Ricardo's theory, trade will automatically be balanced and changes in the money supply – because of a trade deficit or a trade surplus – do not change relative price levels or long-run allocation of resources.[222]

Neoclassical economists are aware that absolute price differences, and not comparative cost differences, determine the flow of international trade. The exchange rate mechanism is needed to transform a country's comparative advantage into a real price advantage for the consumers in the other country.[223] Money is seen as neutral.[224] As a result, each country will automatically specialise in the production of those goods in which it has a comparative advantage and each country will be able to 'successfully compete in world markets'.[225]

3.3 Conclusion

As we have seen in this chapter, the theory of comparative advantage is central to current theories of international trade. The modern formulation of this theory differs from Ricardo's original presentation and the standard trade model differs from the Ricardian model. However, they are similar in many respects. Most importantly, comparative not absolute cost advantages are decisive in international trade. A comparative advantage is ascribed to supply-side differences.[226] They all assume balanced trade. A comparative advantage is then transformed with the help of an adjustment mechanism into absolute price advantages. International trade is seen as 'mutually beneficial (or, at worst, not harmful) to each country'.[227] The theory of comparative advantage is based on the assumption that 'specialization and subsequent trade become advantageous because of the inherent differences among potential trading parties'.[228] In a free trade system, trade 'will occur and will be beneficial whenever countries' relative prices would be different without trade'.[229]

221 Eicher et al. 2009, 65.
222 See Krugman/Obstfeld 2009, 367.
223 See Dixit/Norman 1998, 15.
224 See Krugman/Obstfeld 2009, 367.
225 Jones 1980, 235.
226 See Maneschi 1998, 1.
227 Shaikh 1980, 206.
228 Buchanan/Yoon 2002, 400.
229 Kenen 2000, 37.

Therefore, Krugman and Obstfeld argue rightly in respect of the theory of comparative advantage that 'even though much about international trade has changed, the fundamental principles discovered by economists at the dawn of a global economy still apply'.[230] The similarities of the different formulation of comparative advantage will be used as a basis for the comparison of the theories of absolute and comparative advantage because they are central to the theory of comparative advantage. Before we compare both theories we will briefly mention some developments of the trade theory in recent years.

Mainstream trade theory has limited the range of application of the theory of comparative advantage. It excluded intra-industry trade because of empirical difficulties.[231] Hence 'new theories of trade'[232] developed which describe 'noncomparative advantage trade'.[233] They incorporate economies of scale and imperfect competition which are incompatible with the theory of comparative advantage.[234] As a result, it is argued that comparative advantage determines only inter-industry trade, but cannot be applied to intra-industry trade.[235] However, some economists argue that the theory of comparative advantage can also be applied to intra-industrial trade.[236]

Though the New Trade Theory, as this approach is known today, rejects some assumptions and conclusions of neoclassical approaches, it accepts the theory of comparative advantage as the underlying force of the development of international trade. It just wants to complement it.[237] It gives the impression that the theory of comparative advantage is sound and true 'under ideal conditions' but that the real world itself is imperfect.[238]

230 Krugman/Obstfeld 2009, 23.

231 Intra-industry trade is trade of goods that belong to the same industry. An example of intra-industry trade is that France exports cars to Germany and at the same time imports cars from Germany. It is contrasted by inter-industry trade, which describes trade of goods that belong to different industries, for example, if one country imports cloth and exports wine. Intra-industry trade takes place between countries with similar economies. It compromises about one-fourth of world trade and is especially large between advanced industrial countries (see ibid., 131–32).

232 Krugman 1983.

233 Krugman 1979, 469.

234 See Krugman 1994, 11–21. Despite the fact that Smith already uses economies of scale and increasing return, these have largely been ignored by neoclassical economists because they have 'raised so many difficult problems for marginatlist economic theory' (Groenewegen 1977, 65).

235 See Krugman/Obstfeld 2009, 114–51.

236 Davis applies the theory of comparative advantage on intra-industry trade and concludes that intra-industry trade is determined by 'small technical differences [which] induce specialization and trade' (Davis 1995, 223). Weder applies the theory of comparative advantage to the demand side and argues that 'the pattern of intra-industry trade...is determined by comparative advantage arising from domestic demand' (Weder 1995, 343).

237 See Shaikh 2007, 55.

238 See Skarstein 2007, 348.

On the other hand, the theory of comparative advantage is applied today beyond international trade.[239] In the field of international trade, the theory of comparative advantage has been extended beyond the 2x2 cases which we discussed, and its supporters argue that it holds true in the case of many countries and many commodities. However, as Milberg argues, the theory of comparative advantage 'has never been formally generalized'.[240]

239 Findlay states that the logic of comparative advantage 'applies equally to interpersonal, interfirm, and interregional trade' (Findlay 1987, 514). For inter-firm theory see Rosen 1978; for a critique of it see MacDonald/Markusen 1985. Yet, this is outside the scope of this thesis. In the area of international trade, a 'comparative institutional advantage' (Hall/Soskice 2003) has been developed as well as an 'intertemporal comparative advantage' (Krugman/Obstfeld 2009, 162–63), which refers to international borrowing and lending. However, the latter two will not be discussed in this thesis because they, too, go beyond the questions raised by this thesis.

240 Milberg 2001, 413. A short overview over the extension of the theory of comparative advantage beyond the 2x2 case is given by Maneschi 1998, 11–13 and by Milberg 1994, 222–24.

4 Comparison of the Theories of Absolute and Comparative Advantage

As discussed above, many textbooks shortly refer to Smith's theory of absolute advantage as an introduction to the theory of comparative advantage. However, those textbooks and modern economists don't have a single view on the relationship between absolute and comparative advantage. On the one hand, some emphasise that this theory is only true in the case where each country can produce one commodity cheaper than the other country and that the theory of absolute advantage 'explains only a small portion of international trade'.[241] Thus, the theory of absolute advantage is seen as a special case of the theory of comparative advantage. Both theories are seen as complementary approaches.[242] In this view, Smith was a direct precursor of Ricardo's theory. Ricardo formalised and generalised Smith's theory of absolute advantage.[243] However, as we have seen in chapter 2.4, this view rest on a simplification of Smith's theory.

On the other hand, some textbooks suggest that both theories are opposing approaches and exclude each other: '*Comparative* advantage must not be confused with *absolute* advantage; it is comparative, not absolute, advantage that determines who will and should produce a good'.[244] In this view, an absolute advantage in the production of one good 'is neither a necessary nor a sufficient condition for having a comparative advantage in that good'.[245] It is rejected that the theory of absolute advantage will determine any party of international trade. Rather, it is claimed that the reason why many misunderstand international economics is their confusion of absolute and comparative advantage.[246] Brandis even argues that the theory of absolute advantage is 'a logical impossibility'[247] in international trade. He comes to this conclusion because in his view international trade is only about comparative costs. 'The only way the price of home-produced food can be higher in Europe than America is for the price of home-produced clothing to be lower in Europe than in America'.[248] In such a comparison an absolute

241 Salvatore 1990, 2.
242 See, for example, Dieckheuer 2001, 50.
243 See Bhagwati 2002, 3–5.
244 Krugman/Obstfeld 2009, 37, italics in original.
245 Ibid., 40.
246 See Krugman 1993, 362.
247 Brandis 1967, 169.
248 Ibid., 174.

advantage can indeed not exist. However, this proves to be true only in the neoclassical model, in which an 'impossibility of global absolute advantage'[249] exists. The reason thereto is that countries only differ in their endowment of production factors but have the same technology. Thus, the production functions are assumed identical in all countries.[250]

In this chapter we will examine the question if the theories of absolute and comparative advantage are in fact complementary approaches or if they can be seen as two opposing theories.[251] Therefore, we will contrast both theories by looking at the most important assumptions of the theory of comparative advantage. They include, firstly, a significant difference between international and domestic trade; secondly, balanced trade and an adjustment mechanism that offsets trade imbalances; thirdly, full employment of capital and labour; and fourthly, static gains. Additionally, we will look at the description of international trade as a harmonious international division of labour.

4.1 International and Domestic Trade

As we have seen, Ricardo argues that international trade is regulated by different rules. He assumes that while domestic trade is determined by absolute advantage, international trade is determined by comparative advantage. The modern formulation of the theory of comparative advantage adheres to this differentiation. Contrary, Smith assumes that free trade between countries resembles free domestic trade. This reveals an important difference between the theory of absolute and the theory of comparative advantage.

The reason why Ricardo and his classical successors presume a basic difference between domestic and international trade is that labour and capital are immobile between countries.[252] As shown above, the consequence is that Ricardo has to use two different theories of value for domestic and international trade, namely the labour theory of value and the theory of comparative advantage. As a result of the immobil-

249 Kemp/Shimomura 1988, 575.

250 See Ingram 1968, 516–17.

251 Besides the two views that are described here, Thuong Lang presents a third view. He argues that 'generally, comparative advantage is only particular case of absolute advantage' (Thuong Lang 2006, 27). However, he rests his unconvincing argumentation solely on the graphical illustration of the opportunity costs and the production possibility frontier.

252 See, e.g., Ricardo 2004a, 136 and Cairnes 1874, 368. Cairnes was aware that labour and capital did move internationally and that at least capital is 'cosmopolitan'. Yet he concluded that this international movement could be ignored because it represented only a small fraction of the overall capital and labour (see ibid., 362–64).

ity of capital and labour, the classical theory of comparative advantage states that the general rate of profit and the level of wages respectively will not equalise internationally as they do inside a country.[253] Capital cannot be shifted from less profitable to more profitable sectors of production which would lead to an equalisation of the rates of profit like it is the case domestically. The rate of profit is generally unaffected by international trade.[254] Similar, wage rates are not equalised internationally because of the lack of labour mobility.[255]

Ricardo is aware that the international immobility of labour and capital is a crucial assumption in his theory.[256] He devotes half of his explanation concerning the theory of comparative advantage to the discussion of it.[257] He argues that if this assumption does not apply and labour and capital are able to move freely internationally, international trade will 'be regulated by the same principle, as if one were the produce of Yorkshire, and the other of London,'[258] that is according to absolute production advantages. In this case, labour and capital would move to those places where the general rates of profit and of wages respectively are highest.[259] This implies that international trade leads not to a global optimum.[260] Ricardo is aware of this and refers to it in his discussion of his England-Portugal example:

> 'It would undoubtedly be advantageous to the capitalists of England, and to the consumers in both countries, that under such circumstances the wine and the cloth should both be made in Portugal, and therefore that the capital and labour of England employed in making cloth should be removed to Portugal for that purpose.'[261]

However, this worldwide global optimum is only advantageous to Portugal, because the 'flight of capital and labor would be detrimental to England and its remaining population as a whole'.[262]

253 See Ricardo 2004a, 128–35.
254 The only exception is, if international trade leads to lower prices of workers' necessities and hence to a decrease in the wage level (see ibid., 132). However, this is not part of the theory of comparative advantage as we concluded above.
255 See Cairnes 1874, 364–65.
256 See Ricardo 2004a, 136–37. Though it is crucial to his theory of comparative advantage, in another discussion in his Principles he assumes that capital can move abroad (see ibid., 396). He, thus, contradicts himself (see also Anspach 1968, 516).
257 See Ruffin 2002, 734.
258 Ricardo 2004a, 136.
259 See Anspach 1968, 514.
260 See Sau 1977, 1438.
261 Ricardo 2004a, 136.
262 Anspach 1968, 515. However, Ricardo does not discuss this consequence.

Neoclassical and modern theories maintain the difference between domestic and international trade. They retain the assumption that both labour and capital do not move internationally.[263] Though many neoclassical theorists consider mobility of the production factors, they dismiss it or assume that it takes place only on a small scale and can thus be ignored. Additionally, Samuelson's factor price equalisation theorem has made international mobility of capital and labour superfluous. Modern trade theory is based on the assumption that wage and profit rates equalise worldwide under free trade without international movement of capital and labour. Hence, there is no necessity for international mobility, because international commodity trade leads to the same result as the mobility of capital and labour.[264] Contrary to Ricardo and his classical successors, neoclassical and modern economists assume that international mobility of the production factors would not improve the overall situation. Even in the absence of factor movement, free trade will lead to the most advantageous overall state.

Together with the acceptance that labour and capital do not move internationally, the assumption of perfect domestic mobility is often mentioned. Ricardo assumes that capital is restricted in its mobility inside a country. But labour is perfectly mobile and can move freely from one employment to another.[265] Later classical economists extended this assumption to capital. Cairnes, for example, states that capital 'moves freely among all occupations and places within the same country'.[266] At least since the neoclassical economists, domestic mobility of labour and capital is an inherent part of the theory of comparative advantage. The standard trade model rests on this assumption.[267] Perfect domestic mobility is needed for the concept of opportunity cost and for the determination of the gains from international trade. It is possible since neither skills nor technology is influenced by international trade according to the theory of comparative advantage.

As shown above, Smith assumes that free international trade will follow basically the same rules as free domestic trade. Free trade between countries is comparable to free trade between different regions

263 See, e.g., Haberler 1930, 350. Haberler argues that labour and capital might be mobile internationally but he purposely neglects this point and assumes immobility.
264 See Samuelson 1948, 169–70.
265 See Ricardo 2004a, 266.
266 Cairnes 1874, 362. However, Cairnes has doubts that labour is perfectly mobile inside a country.
267 See Chipman 1966, 19.

inside a country.[268] Both are determined by absolute production costs. Contrary to Ricardo, he uses only one theory of value. This is a consequence of Smith's assumption that the factors of production (capital and labour) have the same degree of mobility internationally as they have domestically.[269] In both cases, capital and labour are neither perfectly mobile nor completely immobile.[270] Capital is not perfectly mobile, because capital can exists in the form of 'buildings or in the lasting improvement of lands'[271] that are not mobile, neither inside a country nor internationally. Since international and domestic trade are similar, the principles that determine the trade pattern must also be equal. Smith's theory of absolute advantages is valid in both, domestic and international trade.

To summarise, both Ricardo's formulation and the standard trade model imply a difference between domestic and international trade which is the consequence of the assumption that labour and capital do not move between countries. While Ricardo assumes that capital and labour cannot move internationally, modern theories assume that international mobility is unnecessary because international commodity trade will lead to the same result through an equalisation of factor prices. From a theoretical point of view, the distinction between domestic and international trade is necessary because otherwise there would be no reason why international trade should be regulated by other rules than domestic trade.

The theory of absolute advantage, on the contrary, states that domestic and international trade follow the same rules. It assumes that labour and capital have internationally the same level of mobility as they have domestically.

268 See Smith 1993, 260. Smith's theory contains some differences between domestic and foreign trade. However, they are not significant in our context. Smith differentiates domestic trade from foreign trade by its slower turnover rate of capital, which is due to greater international distances (see ibid., 179). However, this is only a general rule which does not hold true for all cases. Trade between Southern England and Northern France has roughly the same frequency of returns than domestic English trade (see ibid., 238). Additionally, Smith assumes that upon equal or nearly equal profits, the owner of capital will prefer to invest in home trade because it 'saves himself the trouble, risk, and expense of exportation' (ibid., 306). From a national point of view, domestic trade is more beneficial because it 'puts into motion a greater quantity of domestic industry, and gives revenue and employment to a greater number of the inhabitants of the country, than an equal capital employed in the foreign trade of consumption.' (ibid., 217).

269 See Bloomfield 1975, 460.

270 See Smith 1993, 202–03.

271 Ibid., 203. An additional difference to the theory of comparative advantage is that in Smith's theory the mobility of labour and capital is influenced by international trade. A bigger market extends the division of labour and increases specialisation. This enhanced specialisation lessens the domestic mobility of both labour and capital because skills and technology is more specialised. Therefore, Williams argues that 'specialisation is the antithesis of mobility, in this case of domestic movement of productive factors' (Williams 1929, 203).

4.2 Balanced Trade and Adjustment Mechanism

Another crucial point in the theory of comparative advantage and, as we will see, another difference to the theory of absolute advantage, is its assumption of balanced trade and the underlying adjustment mechanism. As described above, the theory of comparative advantage necessarily assumes that the value of imports equals the value of exports of a country. Balanced trade and the underlying adjustment mechanism are responsible for transforming comparative production advantages into real money price advantages. Hence, balanced trade is essential to the theory of comparative advantage as a logical result. The assumption that trade is balanced in the first place is a corollary of the fact that both Ricardo and neoclassical economists think of trade as barter.[272] Ricardo is aware that gold and silver are used as international means of payment. But he insists that – even if gold and silver are used – international trade takes place as if it 'were purely a trade of barter'.[273] Other classical economists after Ricardo state more or less the same. This is expressed most clearly buy J. S. Mill who writes under the headline 'The substitution of money for barter makes no difference in exports and imports, nor in the Law of international Values':

> 'All interchange is, in substance and effect, barter […] And so of nations: their trade is a mere exchange of exports for imports; and, whether money is employed or not, things are only in their permanent state when the exports and imports exactly pay for each other.'[274]

The assumption that international trade is merely barter trade is retained by neoclassical economists.[275] Heckscher, for example, says that his trade theory 'follows from the nature of barter'.[276] The consequence is, as mentioned above, that money is neutral towards output and employment. It serves only as a mean of payment. Money is seen 'as a simple commodity, indistinguishable from all others'.[277] Thus, the theory of comparative advantage would not change 'if goods did exchange directly for goods and if wage earners bartered their labor

272 See Prasch 1996, 43.
273 Ricardo 2004a, 137.
274 J. S. Mill 1929, 619.
275 See Dillard 1988, 311–14.
276 Heckscher 1949, 274.
277 Lapavitsas 1996, 63.

for subsistence'.[278] Since neoclassical economists keep the assumption of barter trade, they consequently have to keep the assumption of the neutrality of money.[279] Considerations of monetary and effective demand are precluded.[280]

If barter trade is presumed, international trade must be balanced. Barter trade can only take place if one good is actually changed for another good. Since goods are not exchanged for other goods internationally but bought with money, the theory of comparative advantage logically has to assume an adjustment mechanism. In order to achieve balanced trade, this adjustment mechanism has to re-balance trade automatically if imbalances occur. Mainstream economists do not only assume balanced trade, but state that trade cannot take place if it is not balanced.[281] Consequently, if one country has an absolute price advantage or disadvantage in the production of both goods, the adjustment mechanism will 'convert the across-the-economy absolute advantage/disadvantage into one where both countries have the ability to achieve balanced trade'.[282] As a result, comparative production advantages are transformed into absolute price differences.

Barter trade, balanced trade, and an automatic adjustment mechanism are essential for the theory of comparative advantage. If exports did not equal imports there would be no reason why comparative productivity or factor endowment differences would be converted to real price differences. The actual form of the adjustment mechanism is only of secondary interest.[283] It can be the quantity theory of money, an adjustment via wages, or the exchange rate mechanism. The existence of such a mechanism is important.

Smith on the other hand neither assumes balanced trade nor an automatic adjustment mechanism. Hume elaborated his price-specie-flow mechanism before Smith published his major economic works. Smith was familiar with it and could have included it in his work.[284] Yet, in his *Lectures* he disapproves this mechanism after describing it.[285] This rejection can be seen in connection with his rejection of

278 Dillard 1988, 300.
279 See ibid., 312.
280 See Prasch 1996, 43.
281 Siebert and Lorz, e.g., argue that trade will only take place between two countries if, in a 2x2 model, each country has an absolute price advantage in one good (see Siebert/Lorz 2006, 20).
282 Milberg 1994, 220.
283 See Sau 1977, 1438.
284 See Berdell 1998, 179–80.
285 See Smith 1982a, 507. Eagly argues 'that Smith did indeed incorporate the specie-flow mechanism in the Wealth of Nations' and concludes 'that the price-specie-flow mechanism was accepted by Adam Smith as a useful analytical device worth including in the economist's tool box' (Eagly 1970, 61, 68). However, his argumentation is not very convincing when compared to Smith actual

the notion of balanced trade.[286] Since balanced trade is not assumed in Smith's theory, an adjustment mechanism is not required. Smith argues that not the balance of trade but 'the balance of the annual produce and consumption' is important. This balance should be positive in order to increase the wealth of a country: 'if the exchangeable value of the annual produce […] exceeds that of the annual consumption, the capital of the society must annually increase in proportion to this excess'.[287] Smith emphasises its difference to the balance of trade: 'the balance of produce and consumption may be constantly in favour of a nation, though what is called the balance of trade be generally against it'.[288] Since Smith does not assume balanced trade, modern notions that exports will always equal imports in the long run are incompatible with Smith's theory. One reason why Smith does not assume balanced trade is that he sees a difference in monetary trade and barter trade. Smith himself never referred to free international trade as barter.[289] Trade in a capitalistic world is characterised by the fact that 'barter [has ceased], and money has become the common instrument of commerce'.[290] Additionally, Smith states that barter could only take place in a money economy if gold and silver fell short of demand and money trade were not possible.[291] He might have rejected Hume's price-specie-flow mechanism because it is incompatible with his theory of economic growth as Petrella suggests.[292] But, it can also be argued that there is no necessity of this mechanism in his theory. The price level in Smith theory is not dependent on the quantity of money. It rather is determined by the international value of gold and silver.[293] Contrary to Hume, Smith sees money not as an independent, but as a depended variable that depends on capital accumulation and the division of labour.[294] Money is not

writings. He overlooks or neglects Smith's rejection of the notion of balanced trade, which most economists recognise. Many of those who recognise Smith's rejection of the quantity theory of money portray Smith monetary theory as a 'retrogression' (Stigler 1993, 464) from Hume's theory.

286 See Smith 1993, 234.

287 Ibid., 239.

288 Ibid.

289 Contrary to the view in this thesis, Dillard accuses Smith of being the writer who first equated international trade with barter and calls it 'The Sin of Adam' (Dillard 1988, 301). However, he has to admit that Smith only 'toys with the puzzle whether goods chase money or money chases goods'. Ricardo, with the help of Jean Baptiste Say, enforces the barter assumption and neutralises money and 'bans [it] from all practical purpose' (ibid., 304). Thus, Smith can be accused that he did not exclude this interpretation explicitly. But he cannot be blamed for what his successor did. He probably played down the role of money because it was central in mercantilist theories, which he attacked (see Perrotta 1991, 313).

290 Smith 1993, 15–16.

291 See ibid., 203.

292 See Petrella 1968, 365–69.

293 See Glasner 1989, 208.

294 See Petrella 1968, 370.

seen as neutral in Smith's theory.[295] Gold and silver are not only used as circulating money but also for luxury goods and as 'treasury of the prince'.[296] If the amount of money exceeds the domestic use, prices will not increase but it will 'be sent abroad, in order to seek that profitable employment which it cannot find at home'.[297] Due to his monetary theory, Smith does not need balanced trade or an automatic adjustment mechanism. In the case of trade imbalances, Smith's theory does not necessarily assume that these imbalances are offset. As explained above, the theory of comparative advantage acts on the assumption that every single transaction influences foreign trade as a whole.[298] Such a relation is not included in the theory of absolute advantage. Trade will still take place in a 2x2 model even if trade leads to a long-term trade imbalance.[299]

4.3 Full Employment of Capital and Labour

The assumption of full employment is often mentioned together with the theory of comparative advantage. This refers to full employment of labour as well as capital. Ricardo and other classical economists, however, do not assume full employment of labour, though this belief is widely spread.[300] Ricardo considers two cases in which workers can be made abundant and he discusses opportunities how employment can be increased.[301] The first case in which unemployment can occur is that the population grows faster than the economy and the second case is

295 Though Smith's theory of money was not homogenous and it can be argued that he assumed neutral money in some cases (see Dillard 1988, 302–04). For example, he talks of money as a 'great wheel of circulation' (Smith 1993, 139). Money is, however, not the focus of his analysis.

296 Smith 1993, 209–10.

297 Ibid., 141.

298 See Shaikh 2007, 52.

299 This is disputed by some who argue that trade will not take place in the case that one country has an absolute advantage in the production of both goods. Bouare, e.g., claims that 'free trade in Smith's sense excludes nations that have no absolute advantages over others' (Bouare 2009, 100) from trade. He illustrates that point by saying that in Ricardo's England-Portugal example, England would be excluded from trade in Smith's theory of absolute advantage while it would not be excluded in Ricardo's theory of comparative advantage (see ibid., 101). In the case that comparative production differences cannot be transformed into absolute price differences trade would not take place. This argumentation, however, is only true if international trade is seen as barter trade which, by definition, is balanced. Yet, this assumption is not part of the theory of absolute advantage. Therefore, Bouare's interpretation is false. Instead, one country would undersell the other country in both goods which leads to trade imbalances (see also chapter 5).

300 Ahiakpor blames Keynes for this misconception (Ahiakpor 1997). Keynes attributes it, falsely, to classical theories by saying that it is an 'usual classical assumption, that there is always full employment' (Keynes 1936, 191). Keynes did not distinguish between classical and neoclassical economists and uses the label "classical" for both (see ibid., 3).

301 See, among others, Ricardo 2004a, 386–97.

unemployment caused by the adoption of new machines. However, he assumes that capital is always fully employed in a liberalised economy, even in the two cases in which unemployment of labour can occur. This is a consequence of Ricardo's acceptance of Say's law.[302] Production in his theory is therefore only constraint by resources.

Neoclassical theories affirm Say's law. Thus, they assume full employment of capital.[303] Additionally, they assume full employment of labour. This is a necessary condition for the determination of opportunity costs and the production possibility frontier, as shown above. If unemployed or underutilised resources are assumed, the neoclassical theory will lose its theoretical basis because opportunity costs could no longer be determined. In this case the relative costs of a commodity would stay undefined and prices would not 'reflect relative scarcities within an economy'[304] because the commodity could 'be produced at no social cost'.[305] Besides, full employment of labour is necessary for the gains from trade in the neoclassical theory. Each nation is better off after it started trading. This could not be said if international trade led to job losses.[306] In the case of job losses the gains could not be unambiguously specified.[307]

From a theoretical point of view, the theory of comparative advantage has to assume that either labour or capital is used at full capacity and resources constrain the production. There are two reasons for this, namely the realisation of the gains from international trade and the adjustment mechanism. The theory of comparative advantage assumes only static gains in form of a more effective resource allocation which can be seen as a consequence of the resource constraint approach. This cannot be reached unless employment of resources has the highest possible level domestically.[308] If a country's resources

302 See ibid., 290–92. This law was first expressed by J. B. Say and asserts – as Keynes defines it in a simplified way – that 'supply creates its own demand' (Keynes 1936, 18); or in Ricardo's words 'that there is no amount of capital which may not be employed in a country, because demand is only limited by production […] By producing, then, he necessarily becomes either the consumer of his own goods, or the purchaser and consumer of the goods of some other person' (Ricardo 2004a, 290). Say's own description of this law is: 'It is worth while to remark, that a product is no sooner created, than it, from that instant, affords a market for other products to the full extent of its own value. When the producer has put the finishing hand to his product, he is most anxious to sell it immediately, lest its value should diminish in his hands. Nor is he less anxious to dispose of the money he may get for it; for the value of money is also perishable. But the only way of getting rid of money is in the purchase of some product or other. Thus, the mere circumstance of the creation of one product immediately opens a vent for other products' (Say 1855, 134–35).

303 See Felderer/Homburg 2005, 83.

304 Turnell 2001, 6. Neoclassical economics in general is based on the assumption of scarcity.

305 Prasch 1996, 42.

306 See Felipe/Vernengo 2002, 54–55.

307 See Turnell 2001, 6.

308 See Felipe/Vernengo 2002, 54–55.

would not be fully employed, a country could produce commodities it needs at home and would not have to participate in international trade. The whole reason of the existence of international trade would vanish. Additionally, if unemployment can exist, the adjustment mechanism could lead to unemployment in one country. Trade could no longer be beneficial in all cases because job losses can occur which can outweigh the gains.[309] However, full employment (of labour) is a necessary condition for the adjustment mechanism itself. If we assume changing unemployment levels instead, adjustment in the form of price level or exchange rate changes loses at least some of its explanatory potential. If income and thus demand can now alter, the current account balance will rather be influenced by them.[310] Demand effects are neither included in the quantity theory of money nor in the exchange rate adjustment approach.[311] Turnell reasons that 'with unemployment allowed to exist in the model, the effect of the initial trade imbalance of the higher cost country is not to bring about price changes, but changes in income (employment) and/or real interest rates'.[312] Therefore, the adjustment mechanisms that underlie the different formulations of the theory of comparative advantage no longer operate if unemployment exists.[313]

It should, shortly, be added that the realisation of the gains from international trade and the adjustment mechanism do not need necessarily full employment but the assumption of constant unemployment is sufficient.[314] However, once the possibility of unemployment is included in the theory it can hardly be argued, from a theoretical point of view, that the unemployment level will be constantly five percent or twenty percent. Rather, it must be assumed that the level changes.

In the case that full employment of all resources did not exist, the theory of comparative advantage could no longer be applied without severe theoretical problems. Additionally, the neoclassical version would become useless because 'relative prices lose their allocative role so central to neo-classical general equilibrium theory'.[315]

To the contrary, Smith's theory of international trade rests not on the assumption of full employment of labour. In general, Smith sees

309 See Shaikh 2007, 52.
310 See Turnell 2001, 6–9.
311 The reason is that international trade merely leads to a change in the composition of the production. Employment and income levels have the same level with and without trade in all countries (see ibid., 8).
312 Ibid., 7.
313 See Çağatay 1994, 242; see also Milberg 2002, 241.
314 See Milberg 2002, 239.
315 Milberg 1994, 228.

a tendency towards full employment, at least in industrialised countries.[316] The employment level is determined by the 'general industry of the society'.[317] Similar, Smith does not assume full employment of capital. He disapproves of Say's law. The main reason why Smith has no reason to assume full employment of any factor of production is that he does not assume that production is constraint by resources. He rather argues that production is constraint by demand which in turn is constraint by the extension of the market as we have seen above. Foreign trade is beneficial because it extents the market and, thus, leads to greater demand which in turn will enhance the division of labour.[318]

Theoretically, the theory of absolute advantage is valid, whether full employment of capital and labour exists or not. The country that is able to produce a good at the lowest price will export it – independently of the level of employment.

Moreover the level of employment is not independent from international trade according to the theory of absolute advantage. Rather, international trade influences the employment of labour and capital. A country that has an absolute advantage in the production of one commodity might increase its employment of both labour and capital in the production of this commodity. Contrary, if a country has an absolute disadvantage in the production of one good, employment in the production of this good decreases. This is similar to the theory of comparative advantage. However, since trade is not necessarily balanced, these consequences might not be offset as in the theory of comparative advantage. Instead of being exogenously given, the employment level of capital and labour is influenced by international trade. In the extreme case that one country has an absolute advantage in the production of all goods, it would follow that this country 'can manufacture everything cheaper and will certainly want to do so as long as it has a surplus population and labor force'.[319] This is not only true for labour but also for capital. Idle resources will be activated as a result of trade. The division of labour is limited not by the factors of production, which can be created, but by demand. That is, production will not take place beyond the amount of goods which consumers actually buy. The reverse is also true, namely that a country that has an absolute disadvantage in the production of all goods will not be able to sell anything to other countries under free trade.

316 See Smith 1993, 224–25.
317 Ibid., 216.
318 See Elmslie/Sedgley 2002, 715.
319 Lutz/Lux 1988, 285.

4.4 Specialisation and Gains from International Trade

As pointed out above, the theory of comparative advantage states that international trade leads to a more efficient use of the existing resources. According to Ricardo, international trade leads to an increased variety and an increased amount of goods that are available to the consumers of a country.[320] The static efficiency is improved. Dynamic gains are not considered by Ricardo. The reason is that he denies that foreign trade leads to conomic growth.[321] While Ricardo neglects technical progress in his foreign trade theory, the HOM, which assumes identical technology in all countries, excludes the possibility of technical change ex ante.[322] The HOM states that each country is "naturally" endowed with factors of production, which are not affected by international trade.[323] For Ohlin, the only gain from international trade is that it 'mitigates the disadvantages of the unsuitable geographical distribution of the productive facilities'.[324] As Bhagwati says, neoclassical theory belongs 'to the realm of "statics"'.[325] An improvement in static efficiency is the only benefit from international trade. Moreover, the gains from trade and specialisation are merely 'a once-and-for-all effect'.[326] New gains can only be achieved if trade is expanded.[327] In both Ricardo's and neoclassical theory, existing resources are allocated differently. This allocation can completely be reversed in case that international trade ceases or a country cuts its trade links.[328] A country can simply re-allocate its resources to the state that existed in autarky.[329] Thus, it can easily return to the production level that it had before it participated in trade.

The theory of comparative advantage has never been coalesced with dynamic gains that lead to technical change. Moreover, it is difficult to integrate both because the theory of comparative advantage would at least lose its predictability if technological change is introduced. A mere static comparison of the situations before and after the introduction of trade would not be possible.

320 See Ricardo 2004a, 133.
321 See Ruiz Nápoles 2006, 6. Ricardo argues that foreign trade can lead in special cases to a rise of profits. As argued above, Ricardo never included this part in the theory of comparative advantage. There, it will not be discussed here.
322 See Pasinetti 1988, 141.
323 See Subasat 2003, 157.
324 Ohlin 1933, 42.
325 Bhagwati 1964, 4.
326 Skarstein 2007, 352.
327 See Pasinetti 1981, 260. The existing trade yields no further gains.
328 See, e.g., Ricardo 2004a, 295.
329 See Myint 1958, 319.

Contrary, dynamic gains play a more important role than static gains in Smith's theory of absolute advantage, because they have greater effects on the economy and the wealth of a nation. The wealth of a nation depends on the division of labour and, hence, on the technical progress. According to Smith, international trade enhances the division of labour because it widens the markets. It leads to economies of scale and an activation of idle resources.[330] Additionally, it leads to an increase in skills and dexterity and to technological development and innovations.[331] Productivity will be increased as a result of specialisation. Therefore, international trade leads to economic growth. Smith's theory of international trade cannot be separated from his theory of economic development as both are connected by the enhancement of the division of labour.[332] These dynamic gains are, opposite to the static gains, not reversible. As a consequence, there is a mutual dependence once countries started to trade. A country cannot just return to its economic situation in autarky once it entered into international trade.[333] Trade leads to specialisation. Countries extend the division of labour in the production of those goods in which they have an absolute advantage. Differences between nations are mainly the result and not the cause of exchange as in the theory of comparative advantage. Opposite to the once-and-for-all effect of the theory of comparative advantage, international trade leads to a self-enforcing dynamic circle.[334] This cycle is illustrated in Figure 4.1. Exchange leads to an extension of the market which enhances the division of labour. This development, in turn, leads to productivity growth and technological change and to increased opulence. The increase of wealth leads to 'a still greater volume of exchange'.[335] A higher living standard and cheaper production, which are the result of productivity gains, enable this extension of exchange.

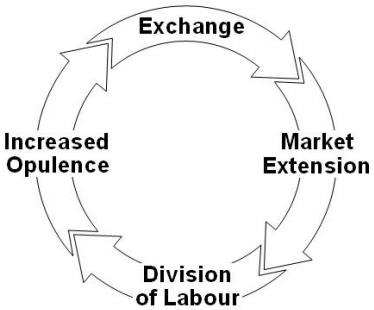

Figure 4.1 Dynamic Gains from Trade According to Smith's Theory

330 See Gomes 2003, 32.
331 See Smith 1993, 5.
332 See Maneschi 1998, 3.
333 See Williams 1929, 204. This does not mean that trade cannot cease. But if countries decide to stop trading with each other it is only possible at great economic costs.
334 See Milberg/Elmslie 1993, 40.
335 Ibid.

Young summarises Smith's approach by saying 'that the division of labour depends in large part upon the division of labour'.[336] Capital and labour are not exogenously given but they are '*products* (results) of international trade itself'.[337] As seen above, Smith has an optimistic approach towards economic development. He does not consider that growth will slow down or stop.[338]

The difference in the nature of gains reveals a basic difference between Smith's theory of absolute advantage and the theory of comparative advantage. Smith starting point is that people, and consequently countries, begin with more or less the same skills and resources before they specialise and trade with each other. This is illustrated by Smith's above discussed example of a philosopher and a street porter. Trade is beneficial because people and countries respectively, specialise and take advantage of the division of labour.[339] In Ricardo's theory, 'specialization and subsequent trade become advantageous because of the inherent differences among potential trading parties'.[340] The modern theory retains Ricardo's view. The basic difference between both theories is the reception of differences between countries. According to the theory of comparative advantage, these differences are the cause of exchange. Contrary, Smith's theory states that 'differences in nations...are the result, not the cause of exchange'.[341] This difference can be illustrated by using the 2x2 model. In the case that both countries have equal costs in the production of both commodities, trade will not take place according to the theory of comparative advantage, because the production costs ratios are equal. No gains can be realised since specialisation would not lead to higher output. Thus, there is no incentive to trade. However, according to the theory of absolute advantage, trade could take place in this situation. Specialisation would still be beneficial because economies of scale can be realised and the enlarged market leads to an extension of the division of labour. Yet, it cannot be said in advance which country would specialise in which good.

An additional gain from trade in Smith's theory of absolute advantage is technological transfer and international learning, as outlined above. Smith emphasises the importance of this gain. It, too, is a dynamic gain and cannot be applied to the static analysis of the theory of comparative advantage. As a result, it is not considered by the theory of comparative advantage.

336 Young 1928, 533.
337 Williams 1929, 205, italics in original.
338 See Darity/Davis 2005, 147–50.
339 See Rothschild/Sen 2006, 358–59.
340 Buchanan/Yoon 2002, 400.
341 Elmslie 1994, 256.

4.5 Harmony vs. Struggle

As a consequence of the discussed assumptions, both theories differ in the way they conceive the world of international trade. Contrary to domestic trade, the theory of comparative advantage argues that international trade is ruled by comparative advantages.[342] Each country has a comparative advantage in the production of certain goods by definition and can 'successfully compete in world markets, regardless of the degree of efficiency of its technology or resource-base'.[343] A country that lacks in productivity and is technologically backward is still 'competitive in industries in which it has a comparative advantage'.[344] Therefore, a country can balance its imports and exports independently of its productivity level. This view can be summarised by the words of Krugman who says 'that international trade is not about competition, it is about mutually beneficial exchange'.[345] This describes international trade as a harmonious international division of labour. In this 'idyllic picture,'[346] every country produces those goods that it is able to produce comparatively best, independently from its level of development. International trade leads to 'the happy result that all countries will be able successfully to participate in international trade in the sense that they will benefit from such trade and be able to generate export revenues equal to the value of imports'.[347] This reflects the assumption 'that production is for consumption,'[348] which is a corollary of the equation of international trade with barter trade. The profit motive is not considered in connection with foreign trade – neither by Ricardo by the neoclassical economists. Consequently, Ricardo assumes that, in a 2x2 model, both countries gain from the productivity growth in one country because such an improvement 'raises general prices in the country where the improvement takes place'.[349] According to Ricardo's theory, a country as a whole does gain because more goods and a greater variety of goods become available. This is 'highly beneficial to consumers' and to all workers because, with the same labour, they 'obtain in exchange a greater quantity'[350] of the

342 See Shaikh 1996, 61.
343 Jones 1980, 235.
344 Krugman 1997, 95.
345 Ibid., 120.
346 Jenner 1997, 52.
347 Milberg 2004, 56–57.
348 Dillard 1988, 300.
349 Ricardo 2004a, 141.
350 Ibid., 133. This conclusion is derived from the fact that Ricardo does not consider any losses that might be accounted for during the adjustment process: 'Nothing is said about difficulties or perturbations in making such a change. The argument is set out in terms of static comparisons of equilibrium positions. There is no account of a process of adjustment' (Robinson 1979, 133).

commodities that are imported. Ricardo sees no difference in the interests of consumers and workers in the context of international trade, except insofar as they are also consumers. Producers do not profit from international trade. According to the theory of comparative advantages, international trade has 'no effect whatever on profit'.[351] The modern theory of comparative advantage modifies this assumption, as discussed above. According to it, some groups inside a country might be worse off after free trade with other countries is introduced. However, from a global and from a national point of view, free trade is still beneficial.[352] Losers can be (over)compensated by the winners within a country.[353] Free trade is a 'static all win game'.[354] Moreover, the factor price equalisation even postulates that differences in real wages are reduced and are finally eliminated. Real earning per head in all free trading countries will be equalised.[355] Therefore, neoclassical economists argue that poor countries have the opportunity to develop and catch up with developed countries. Through free trade alone, the wage level in poor countries will conform to the wage level of rich countries. In this view, free trade has 'the potential for development and convergence between rich and poor countries'.[356]

The picture of international trade becomes less harmonious if the theory of absolute advantage is considered. In opposition to the theory of comparative advantage, Smith does not assume a harmonious international division of labour in which each country produces some goods.[357] Though Smith states that international trade is beneficial to countries, he is mainly concerned with England.[358] Smith is aware that trade does not benefit all countries equally as seen above. Countries differ in their competitiveness. In Smith's theory 'international trade is not a great equalizer'.[359] Rather, international trade will lead to the same competition as domestic trade, that is, firms or countries with lower production costs 'will be able to cut prices and expand market shares at the expense of their rivals'.[360] The producer with the lowest

351 Ricardo 2004a, 133.
352 See Milberg 2004, 67–68.
353 See Çağatay 1994, 241. Modern economists and textbooks do not discuss how such compensation could take place in a liberalised economy. In practise, it does almost never occur (see Buchanan/Yoon 2002, 402).
354 Ruiz Nápoles 2006, 13.
355 See Kaldor 1981, 594.
356 Kiely 2007, 15.
357 International trade leads to an extension of the division of labour in the production of a good inside a country (or even firm), but not in the sense of an international division of labour.
358 It should not be forgotten that Smith was a convinced patriot who was mainly concerned with England's well-being.
359 Felipe/Vernengo 2002, 71.
360 Ibid., 62.

costs will be rewarded while high cost producers lose ground. Instead of harmony, international trade is a competitive struggle like domestic trade. Competition is not understood in the sense of perfect competition and harmonious international trade. Rather, competition in Smith's classical analysis is 'a realistic process of rivalry that can include firm behaviour that might be considered imperfect competition'.[361] The aim of production is, as in domestic trade, to make profit.[362] Therefore, Smith assumes that 'the engine is the quest for profit'[363] and not consumption. At Smith's lifetime, foreign trade was mainly exercised by merchants and not, like today, by big firms and transnational companies. A merchant was interested only in a high return on his or her invested capital. He or she invested his or her capital where it promised the highest profit internationally – just as in the domestic economy. For this quest his/her capital 'may wander about from place to place, according as it can either buy cheap or sell dear'.[364] The same can be said about international operating companies in the modern world. Hence, profits are the main motive for international trade. Higher consumption and production is only a consequence.

It can be summarised that the theory of absolute advantage, contrary to the theory of comparative advantage, conceives the world as shaped by the profit motive and by competition – as is domestic trade. If international mobility of capital and labour (at least to a certain degree), unbalanced trade, underemployment of the production factors, and dynamic gains are assumed, there will be no international harmony. Instead international trade will result in 'a competitive struggle of absolute advantage and the relative desirability of a location for producing a particular input used in the overall production process'.[365] Thus, free trade is not necessarily beneficial to all nations and even less to every single person. Unlike in the theory of comparative advantage, an increase in the productivity in one country does not benefit both countries. Instead, 'the gains from productivity growth […] will remain within the country in which they take place'.[366] If the efficiency in the production of one good is increased in one country, this coun-

361 Ochoa/Mark 1992, 232.

362 See Smith 1993, 182. Smith is not consistent in his argumentation. While attacking mercantilist thinking, he accuses mercantilists of neglecting the welfare of consumers. In this context he says that 'consumption is the sole end and purpose of all production' (ibid., 322). Elsewhere he states the 'private profit is the sole motive' (ibid., 182) of the owner of capital. Additionally, Smith assumes that every merchant and producer wants 'to get a profit as high as possible' (ibid., 177).

363 Nitzan/Bichler 2000, 85.

364 Smith 1993, 177.

365 Milberg 2004, 45.

366 Pasinetti 1988, 145.

try will be able to sell this good at a lower price. The price level does not, as Ricardo supposes, increase. A price decline is beneficial to the consumers of all countries but it is advantageous only to the producers (and workers) in the production country. In all other countries, producers of the same good are undersold, they will lose market shares as well as capital, and workers might become redundant.

4.6 Who is right? A Short Evaluation of the Differences

The comparison of the theories of absolute and comparative advantage leads us to the conclusion that both theories are two different approaches towards international trade. They differ significantly and make dissimilar predictions about international trade. We can conclude that both theories are not complementary approaches. The theories of absolute and comparative advantage exclude each other, since they lead to different results. The former is not just a special case of the latter.

However, if they exclude each other, only one of them could be useful for explaining international trade. The question arises which theory will be more accurate and appropriate to describe international trade and to determine its pattern? In order to answer this question, we will look shortly at the theoretical and practical relevance of the assumptions that were used in the comparison.

International and Domestic Trade

The first assumption of the theory of comparative advantage, which we have examined, is that international trade differs significantly from domestic trade because both labour and capital do not move internationally. While Ricardo argues that this mobility is not possible, the modern theory formulation anticipates it is not necessary because free commodity trade leads to a factor price equalisation that brings about the same result as factor movements. The theory of absolute advantage does not assume international immobility of capital and labour. Instead, it states that domestic and international trade follow the same rules.

From a theoretical point of view, there is no reason why capital and labour should not be mobile internationally. The neoclassical statement, that factor mobility does not take place because factor prices

equalise, can hardly be obtained once it is recognised that neither capital nor labour is exogenously endowed. Rather, capital can be produced and labour can be educated. Hence, even if capital and labour are not mobile, there will be 'no reason whatsoever to assume that free trade should equalize the factor prices'.[367]

In practise, labour moves in significant amounts between countries. Even in the 18th and early 19th century when Ricardo developed his theory, labour migration took place in large scale, for example from Europe to America.[368] Today, labour migration 'is truly a global phenomenon'.[369] Migration that is driven by disparity in wages, takes place between many regions.[370] The same is true for capital which frequently moves between countries. Since transportation and communication costs have decreased, capital has become even more mobile.[371]

Furthermore, the neoclassical statement can be rejected because 'there is no evidence of factor-price equalization'.[372] Stalker, therefore, argues that the neoclassical 'idea that trade should substitute for migration involves a number of assumptions distant from conditions in the real world'.[373] It is hardly imaginable that, for example, wage levels equalise in poor and rich countries because of free trade.[374] Prichett calculated that in the period from 1870 to 1990, while the volume of international trade increased significantly, the income ratio of the richest to the poorest countries increased by the factor five. The ratio increased from 8.7 in 1870 to 45.2 in 1990.[375]

We can sum up that there is neither a theoretical reason nor empirical evidence that labour and capital do not move internationally. Rather, both are mobile to a certain degree. There is no rationale for the claim that international trade is significantly ruled by other laws than domestic trade. Rather, 'whatever is true of foreign trade, is also true of home trade'.[376]

We can also reject the assumption that labour and capital are perfectly mobile inside a country. The reason is mainly that 'complex labour skills and expensive production facilities are both relatively immobile'.[377] Even in Ricardo's lifetime labour was not perfectly mo-

367 Subasat 2003, 160.
368 See Oswald 2007, 50–54.
369 Stalker 2000, 31.
370 See ibid., 21–33.
371 See Kiely 2007, 15.
372 Subasat 2003, 152.
373 Stalker 2000, 33.
374 See Lutz/Lux 1988, 286.
375 See Pritchett 1997, 3. Pritchett uses the GDP per capita as measure.
376 Marx 1977, 325.
377 Prasch 1996, 41.

bile domestically, as he suggests.[378] However, if capital and labour are assumed to be mobile to a certain degree, it follows that absolute advantages play an important role and comparative advantages do not determine the pattern of international trade.[379]

Balanced Trade and Adjustment Mechanism

As we have seen, the theory of absolute advantage is not based on the assumption of balanced trade and, therefore, does not contain an adjustment mechanism. Contrary, the theory of comparative advantage necessarily assumes balanced trade, at least in the long run. An automatic adjustment mechanism countervails trade imbalances. Ricardo uses Hume's price-specie-flow mechanism as such an adjustment mechanism while neoclassical and modern economists use wage levels or exchange rates as means of adjustment.

However, from a theoretical point of view, these adjustment mechanisms cause problems. The quantity theory of money, which Ricardo uses, assumes that money is neutral and neglects the velocity of a currency. However, neither is the velocity constant in practise nor is money neutral.[380] Thus, the predicted dependence of price levels from the quantity of money cannot be proven in practise.[381]

Modern trade theory explains the adjustment via changes in exchange rates since free trade in the modern world is characterised by free floating currencies. According to this mechanism, a trade deficit of a country leads to a depreciation of its currency and that in turn will lead to an increase in the terms of trade by increased exports and decreased imports. This approach, too, has theoretical weaknesses. Firstly, the devaluation effects on the current account balance are ambiguous.[382] The problem is that a devaluation increases import prices and as a result demand for imported goods falls. The value of the imports may, however, rise, fall, or stay the same.[383] Equally, exports will increase, while the price of exported goods will decrease. The value of exports may rise, fall, or stay the same. The exact result on the current account balance

378 See Williams 1929, 198.

379 See Jones 2000, 7. Brewer shows in a model that production will be determined by absolute advantage if international capital mobility and sticky wages are assumed (see Brewer 1985, 177–80).

380 See Stadermann 1996, 87–91.

381 See ibid., 78–79.

382 See Dornbusch 1995, 25.

383 See Isard 1997, 95. The value of imports equals price times quantity. The price increases while the quantity decreases. This means, it is not obvious from the outset if the value rises, falls or stays the same.

cannot be predicted. The second theoretical problem of this approach is that exchange rates are not determined by current accounts. They are rather driven by financial and currency markets.[384] They are (mainly) independent of trade imbalances. Hence, there are no reasons to assume that trade will automatically be balanced – not even in the long-run. Then, however there is no transformation process which converts comparative production differences into absolute money differences.[385]

As seen above, balanced trade is a consequence of the equalisation of international trade with barter trade. Yet the modern capitalistic world is not characterised by a barter economy but by a market economy.[386] The main difference is that 'sales and purchases need no longer coincide. The seller does not necessarily have to buy at once'.[387] Money is not only a means of payment nor is it neutral. It is also used as 'reliable store of value, means of debt settlement, means of extraordinary payments, and medium of wealth transfer'.[388] Thus, contrary to the barter assumption of the theory of comparative advantage, money is not like any other commodity. It is rather of 'practical importance [to possess] specifically money rather than any commodities at all'.[389] Moneymaking is the main purpose of every economic activity in a capitalistic society. In our context it is especially important that 'money as a store of value in a world of uncertainty does affect motives and decisions of wealth-holders and wealth-producers in a significant way'.[390] There is no reason why trade imbalances can occur only as a short time or transitory phenomena. Rather, countries can take an advantage if they have a trade surplus and accumulate capital domestically. Since money can be used as storage of wealth, it is obvious why a country favours a trade surplus over balanced trade or a trade deficit. A surplus balance of payments is generally seen as a characteristic of a successful country.[391] A trade deficit, on the other hand, might mean a loss of reserves which worsen a country's situation.[392] This contrasts with Ricardo's and the

384 See Harvey 1995.
385 See Milberg 2004, 59.
386 See Sau 1977, 1438.
387 Sardoni 1986, 422.
388 Lapavitsas 1996, 64. In this sense, the barter assumption presents a 'belittlement of money' (Dillard 1988, 306).
389 Lapavitsas 1996, 67.
390 Dillard 1988, 300.
391 See Pasinetti 1988, 140. This conflicts with Smith's view because it revives 'the old mercantilistic idea of a desirable trade surplus' (ibid., 140). However, this is a mere description of the reality and is compatible with his theory of absolute advantage.
392 See Felipe/Vernengo 2002, 65. It should be mentioned here that a trade deficit is not necessarily bad for a country. It 'may be welcomed if it is due to a high rate of investment at home, which is developing resources that will yield a surplus of exports in the future to repay the debt. But a deficit that is due merely to competitive weakness is highly unfavourable' (Robinson 1977, 1334–35).

neoclassical view that money is neutral and trade imbalances are neither rewarding nor harmful. We can argue instead that

> 'the trade surplus country accrues liquid assets: there is no reason to assume these will be converted into non-liquid assets, much less into foreign-produced non-liquid assets. Saving is thus the mechanism which creates the possibility of […] persistently unbalanced trade.'[393]

It is, therefore, not surprising that balanced trade is only an exception but not the rule in practise. Even Krugman and Obstfeld admit that 'in reality, a country's foreign trade is exactly balanced only rarely'. [394] Internationally, trade imbalances that can be large and persistent are common.[395] The underlying adjustment mechanism does not come true. Rather, as Krugman notices, there are no long term trends in real exchange rates. They are more or less stable in the long run and do not countervail trade imbalances.[396] Additionally, financial crises like the Asian crisis in the 1990s show 'that balance of payment disequilibria are seldom benign and self-adjusting'.[397]

Without balanced trade and an adjustment mechanism in case of trade imbalances, comparative advantages cannot be realised. Since trade imbalances are the norm and an adjustment mechanism does obviously not exist in practise, we have to notice that 'these large and persistent trade deficits and surpluses indicate that comparative advantages are not realised, and that *absolute advantage* plays an important role in international trade'.[398]

Full Employment of Capital and Labour

The theory of comparative advantage assumes full employment of capital and labour – or at least of one of them – while the theory of absolute advantage is valid independent of the level of employment. Money is seen as a neutral means of payment by the former theory. However, once we allow that money can also be used as storage of wealth, we

393 Milberg 2002, 242.
394 Krugman/Obstfeld 2009, 295. However, mainstream economists mainly explain the occurrence of trade imbalances with protectionist interventions of states in foreign trade and foreign currency markets and insist that balanced trade is the rule in free trade (see, e.g. Dieckheuer 2001, 62).
395 See Milberg 2001, 407–08.
396 See Krugman 1989, 1045.
397 Felipe/Vernengo 2002, 71.
398 Skarstein 2007, 351, italics in original.

have to conclude that there is no tendency toward full employment of capital and of labour.[399] The possibility of saving 'creates the possibility of […] underemployment'.[400]

In practise, the 'world is characterized by unemployment'.[401] Unand underemployment of capital and labour is not a short run phenomenon but it is common. Saving takes place on a large scale internationally. Worldwide, between 175 and 200 million workers were unemployed each year in the last decade.[402] If underemployment is added, the figure rises to more than 1.5 billion people worldwide.[403] Even in the fifteen most economically liberalised countries, the unemployment rate has widely ranged from 0.5 percent to 16.6 percent in the last two decades.[404]

We have to conclude that unemployment is rather the rule than the exception. Similar, a country has usually 'productive capacity for more output than it can sell'.[405] Idle resources are the norm. This fact is not compatible with the theory of comparative advantage.

Specialisation and Gains from International Trade

The theory of comparative advantage assumes only static gains that are reversible. Contrary, the theory of absolute advantage emphasises dynamic gains that lead to technological change and productivity growth.

The world and especially the industrialised countries are characterised by enormous technical growth that led to a huge increase in the standard of living and the wealth of the industrialised world.[406] Dynamic gains are more important in today's world than mere static gains that arise from effective allocation of given resources. Skarstein calculates that the increase in production in Ricardo's England-Portugal example amounts to 10 percent in wine production and 6.25 per-

399 See Dillard 1988, 300.
400 Milberg 2002, 242.
401 Felipe/Vernengo 2002, 54.
402 See ILO 2009, 10.
403 See ILO 2005, 23–76.
404 These countries include Australia, Canada, Denmark, Finland, Germany, Hong Kong, Iceland, Ireland, Luxembourg, Netherlands, New Zealand, Singapore, Switzerland, the UK, and the United States. According to Economic Freedom of the World Index, these are the fifteen most liberalised countries on average between 1989 and 2008 (see Gwartney/Lawson 2009). The unemployment data is taken from IMF 2009. Chile should also be included in this list but there is no data on unemployment for Chile available.
405 Robinson 1973, 15.
406 See Pasinetti 1988, 141.

cent in the production of cloth. 'Nothing more happens'.[407] Compared with the growth rate of developed countries in the last decades this 'once-and-for-all effect of specialisation under free trade is quite insignificant'.[408] A theory of international trade should include technical progress and dynamic gains because these gains are much more significant than any static gains.[409] They should even be a central issue. Otherwise a theory runs the risk of excluding 'any question which is interesting in reality'.[410]

Harmony vs. Struggle

As we have seen, the theory of comparative advantage describes free international trade has a harmonious division of labour while the theory of absolute advantage sees free international trade as a competitive struggle. Both, Ricardo's theory and the neoclassical theory of free trade, describe a world that has nothing in common with a capitalistic society where competition and rivalry are everyday phenomena. It rather describes a world to which the following description can be applied: 'From everyone according to his faculties, to everyone according to his needs!' The word "everyone" could be substituted by the word "every nation". This was, however, used by Karl Marx to characterise the 'higher phase of communism' and not a capitalistic economy.[411] Therefore, Keynes argues that the harmonious description 'represents the way in which we should like our economy to behave. But to assume that it actually does so is to assume our difficulties away'.[412] Additionally, the assumption of perfect competition, which is central in modern theories, 'is far removed from the world of reality'.[413]

Internationally as well as nationally, competition between firms exists. 'Exports and imports, after all, are undertaken by capitalists for the sake of profit, not gains to the "nation"'.[414] Competition, however, means always a rivalry between firms which can increase their own

407 Skarstein 2007, 352. He comes to this result by arguing that England can produce an additional $^1/_5$ of its original output of cloth and therefore $^1/_{10}$ more than the overall original output of cloth with the 20 workers that England saves as a result of trade. The overall amount of produced wine would rise by 6.25 percent correspondingly.
408 Skarstein 2005, 358.
409 See Williams 1929, 196 and Steedman 1991, 1.
410 Robinson 1973, 14.
411 Marx 1922, 31.
412 Keynes 1936, 34.
413 Nevin 1973, 170.
414 Shaikh 1980, 205.

profits by beating out their rivals.[415] Consumption is not the motivation of production as the barter assumption suggests. Consumption is rather a consequence of production. Dillard illustrates this point by saying that a 'firm that can make more money by producing fewer goods is driven by its pecuniary logic to do so'.[416] A monetary, capitalistic economy can be described with Keynes words: 'The firm is dealing throughout in terms of sums of money. It has no object in the world except to end up with more money than it started with. That is the essential characteristic of an entrepreneur economy'.[417] The success of firms is measured by 'their success in the short run (profits) and the long run (capital accumulation)'.[418] Though we are dealing with international trade and our emphasis is on nations, it should not be forgotten that firms and not nations trade with each other in a free trade system. A nation has other aims than a firm. Ricardo is concerned with the division of income and the different classes. However, in the case of international trade he assumes that the interests of merchants and of consumers do not contradict with the interests of countries. Neoclassical theory neglects different particular interests and is only concerned with the nation as a whole.[419] Obviously, this does not reflect the real world in which firms compete with each other nationally – as well as internationally. They do not build a unified subject when it comes to international trade.[420]

Conclusion

After comparing both theories and scrutinising their assumptions, we have come to the result that the theory of comparative advantage is based on crucial assumptions that are deficient and can be falsified – both on a theoretical as well as on an empirical level. We can conclude with Felipe and Vernengo 'that the principle of comparative advantage is inadequate to explain what we observe in the real world'.[421] Free trade between capitalistic nations does not take place as the theory of comparative advantage suggests. On the contrary, the theory of absolute

415 Competition should not be understood in the neoclassical sense of perfect competition that suggests harmony. Rather, as Morgenstern points out, competition describes rivalry, 'struggle with others, […] fight, […] attempting to get ahead, or at least to hold one's place' (Morgenstern 1972, 1164). The neoclassical term "free" or "perfect" competition is thus 'a complete misnomer' (ibid., 1171).

416 Dillard 1988, 300.

417 Keynes 1979, 89.

418 Dillard 1988, 314.

419 As Shaikh points out, to say 'that trade is beneficial to the nation-as-a-whole is simply to assert that what's good for General Motors is good for the US' (1980, 216).

420 See Girschner 2004, 142.

421 Felipe/Vernengo 2002, 50–51.

advantage has neither theoretical nor practical difficulties in explaining free trade. Therefore, 'absolute advantage, determined ultimately by low costs of production and/or depreciated currencies, seems to be far more important than comparative advantage in the determination of trade patterns'.[422]

Despite its theoretical and empirical problems and misassumptions, the theory of comparative advantage enjoys still a widespread acceptance and is 'one of the most successful theories'[423] in economics. It is not questioned in general. When difficulties arise, mainstream theory responds in two ways. Firstly, these difficulties are explained by short run phenomena that do not affect the long-run predictions of the theory of comparative advantage. Secondly, mainstream economists complement it by modifying its assumption and formulate exemptions – as is done for example by the New Trade Theory.[424] However, what Robinson concluded more than thirty years ago is still true, namely that 'there is no branch of economics in which there is a wider gap between orthodox doctrine and actual problems than in the theory of international trade'.[425]

422 Ibid., 71.

423 Prasch 1995, 427. Krugman even distinguishes between those who understand the theory of comparative advantage and those who don't. The latter are 'unenlightened' (1993, 362). Hence, the former are enlightened economists.

424 See Shaikh 2007, 55.

425 Robinson 1973, 14.

5 Smith's Theory of Absolute Advantage and Trade between Developed and Underdeveloped Countries

We have concluded in the previous chapter that the theory of comparative advantage is not useful for explaining international trade. Absolute and not comparative production costs determine the direction of international trade. Smith's theory of absolute advantage seems more suitable and realistic in predicting trade patterns. A consequence, however, is that the direction of trade is determined by many uncertainties. Specialisation is 'far less certain, as [it] require[s] a judgemental evaluation of the welfare claims of conflicting sectional interests'.[426] The theory of comparative advantage entails a high degree of certainty about specialisation. The theory of absolute advantage, however, diminishes the level of predictability because trade and specialisation are dynamic processes that cannot be known accurately in advance. Gains depend 'sensitively on the mechanisms that give rise to increasing returns'.[427] Neither increasing returns nor technological development can be predicted exactly.[428]

In Smith's example of a philosopher and a street porter, nobody is able to tell who will pursue which profession in the future because their career is not predetermined by nature. However, Smith states that the future development is not independent of their social environment and is probably determined by 'habit, custom, and education'.[429] Thus, certain tendencies can be derived from the theory of absolute advantage. In this chapter, we will try to derive these tendencies in international trade. This will help us to understand the patterns of trade. The focus will be on trade between poor and rich countries. How does trade between them develop and how do they benefit from international trade? This is especially important, since the theory of absolute advantage as-

426 Pullen 2006, 72.

427 Darity/Davis 2005, 1553.

428 Additionally, economic development of a region or a country depends on future production decisions of firms that cannot be foreseen. When a firm wants to expand inside a country, for example by building a new factory at a new location, the decision where – in which city or region – it will invest depends on a lot of factors. It cannot be predicted with certainty if a factory is build, for example, in Munich or Hamburg. Equally, the decision where a firm builds a new factory internationally depends on many factors, which may also change over time (see Jung 2009, 61–82). Since capital is mobile and can be created, firms can decide in which country they want to produce. The decision is not only based on economic factors but also on political and legal factors as well as future expectations (see Kinkel 2009).

429 Smith 1993, 8.

sumes that free trade is rather characterised by competitive struggle than by harmony. Moreover, it is one of the central claims of mainstream economists that poor countries do always benefit from free trade and that it provides them with an opportunity for development. It is even argued that they can catch-up with rich countries as a consequence of trade, as discussed above. We will examine if this is true. Additionally, we will briefly discuss trade between equally developed countries.

First, we will look at Ricardo's England-Portugal example, again because this is the founding and a much discussed example of the theory of comparative advantage. It was developed by Ricardo to show that international trade is beneficial to all participating countries even if they have an absolute disadvantage in the production of every good. Afterwards, we will generalise with the help of Smith's theory how free trade between poor and rich countries develops. As we have seen, Smith's theory of trade is not separable from his theory of development. He rather has a 'trade-cum-development approach'[430] as Myint says. He combines his analysis of trade with a dynamic development analysis. Therefore, we will not just look at the pattern of trade once free trade between nations began, but also at the dynamic development of the trading nations.

5.1 The England-Portugal Example Re-Examined

In his example Ricardo uses two countries – England and Portugal – that both produce wine and cloth in autarky. Portugal can produce both commodities with less labour and thus cheaper than England. Ricardo uses this example to illustrate his theory of comparative advantage, especially the normative part, namely that trade is beneficial to both countries even though England has an absolute cost disadvantage in the production of both goods. However, we falsified Ricardo's underlying assumptions in the previous chapter. We will now re-examine this example with the assumption that absolute production advantages determine international trade according to Smith's theory.

In the initial situation, Portugal has an absolute advantage in the production of both goods. After free trade between Portugal and England began, Portuguese cloth and wine are sold for a lower money price in both countries[431] Tand most consumers will buy these goods

430 Myint 1977, 231.

431 The price of Portuguese goods might not be the same in both countries as a result of transportation and other transaction costs (e.g., storage and risk insurance). The assumption here is that Portuguese cloth and wine can be sold cheaper in both countries than English cloth and wine considering these costs.

from Portuguese producers.[432] The demand for Portuguese products is rising and Portugal will increase its production in both goods. This can be done by using idle resources,[433] which decreases unemployment, and by creating new resources. The latter can be done by building more production locations and machinery, by training workers, and by using additional land for viticulture that was formerly not used or was covered, for example, by forest. The opposite effect occurs in England. Demand diminishes and the production in England will decrease. People will become unemployed, factories and land will be made redundant. A net money flow from England to Portugal will take place, which can also be understood as a transfer of wealth from England to Portugal.[434] Since Smith's theory does not contain an automatic adjustment mechanism, we can assume that neither prices nor the exchange rate of both currencies change. Portuguese producers 'are able to undersell their English competition'.[435] The market is widened through the opening of trade which leads to an extension of the division of labour. In this case, however, only Portugal can benefit. Her production increases and the division of labour is enhanced. It benefits from economies of scale, an increase in the dexterity, productivity growth and technological change. England, on the other hand, might even lose some of the advantages of the division of labour that she formerly possessed. Since demand for English goods decreases the market for its production is reduced and her division of labour must also scale down. Though not all advantages of an enhanced division of labour are reversible, some are. England will keep her technological knowledge but loses some of her economies of scale and might forfeit some dexterity. Therefore, the productivity level in England is likely to decrease. Portugal will be able to improve her infrastructure, for example her means of transportation and communication because of technological progress and thus, widens her market and enhances her trade even more. The division of labour is a self-enforcing mechanism, as we have noticed above. Portugal's benefits from trade are not a once-and-for-all effect, but she will enhance her gains in the future. Portugal will experience productivity and technological growth and will benefit from the cycle of dynamic gains. Since labour and capital are internationally

432 There will always be some loyal customers who prefer English wine and cloth for patriotic or other reasons (see Shaikh 1980, 226).

433 Idle resources are not only unemployed people and capital but also underemployed workers and capital that can be activated, for example, by prolonging the working day from seven to eight hours.

434 See Shaikh 1980, 225.

435 Ibid.

mobile to a certain degree, it can be expected that some workers (and their families) will move from England to Portugal. Rich and better educated workers are most likely to move because it is easier for them to find a job and they are able financially to move to a new country.[436] This in turn will lead to a so-called brain drain from England and worsens England's situation even more. Labour migration is, in general, beneficial for the migrating worker but harmful for his/her country of origin because those who migrate are better educated than the average.[437] England will not only keep her disadvantage in the production of both goods, but her disadvantages will even increase. Money will continue to flow out of England. The consequence is that hoards and bank reserves decrease. This will probably lead to a rise in the rate of interest and the opposite effect will take place in Portugal.[438] England will have a chronic trade deficit while Portugal will enjoy a chronic trade surplus.[439] Portugal will benefit from her trade surplus because 'the availability of credit would cheapen the costs of borrowing, thus stimulating further investment'.[440] In England the costs of borrowing will increase and undermine further investment.[441]

The gap between England and Portugal will, therefore, widen. Portugal will not only keep her initial advantages over England, but she will extend her leading position. Portugal enjoys economic growth while England is likely to suffer from economic decline. Additionally, wealth is continuously transferred from England to Portugal. However, this process is not a straight one and there are also counteracting forces. As Smith points out, technology transfer is a major source of gains from international trade. Technological knowledge might be transferred from Portugal to England. English companies might be able to learn from the more advanced Portuguese production techniques and copy it. This process benefits England. She might be able to catch up with Portugal in technological knowledge. Furthermore, a reverse brain drain might occur. English workers, who were edu-

436 Stalker points out that neither the poorest nor the richest workers are likely to migrate: 'The very poorest, struggling to cover subsistence needs, may wish to migrate but are unlikely to have the money to travel internationally […] As incomes rise further, however, the need for migration decreases and the economic and social costs of migration rise, making it more attractive to stay at home' (Stalker 2000, 23–24).

437 See Pasinetti 1988, 143.

438 See Shaikh 1980, 225–26.

439 See ibid., 226.

440 Kiely 2007, 19.

441 'As the quantity of stock to be lent at interest increases, the interest, or the price which must be paid for the use of that stock, necessarily diminishes […] There arises in consequence a competition between different capitals' (Smith 1993, 172).

cated in Portugal, might return to England and enrich the country with their knowledge.[442] Additionally, English labourers who work in Portugal might send remittances back to their families. In this way, wealth in the form of money is transferred from Portugal to England which could stimulate the English economic development.[443] Another counteracting force is that high interest rates in England might attract financial investments from Portugal.[444]

On the other hand, it is even possible, as Skarstein points out, that both countries can lose. The effective demand for Portuguese products increases and Portugal enjoys a trade surplus at first. However, lower employment and income in England leads to a contraction of the effective demand of English consumers. This will affect output and therewith the level of employment and income in Portugal negatively.[445]

In this model, the economic (and social) development depends on many factors as we have seen. The outcome is far from certain. As mentioned above, the theory of absolute advantage does not promise the same level of certainty as the theory of comparative advantage. But it is possible to reveal some tendencies.

5.2 Effects of Free Trade on Rich and on Poor Countries

Though the theory of absolute advantage does not offer the level of predictability as the theory of comparative advantage and consists of dynamic developments, we are able to identify broad tendencies of the pattern of international trade. In this chapter, we want to discuss the general tendencies that are inherent in Smith's theory. The emphasis should be on the analysis of the development of free trade between rich and poor countries. Additionally, we will briefly examine trade between equally developed countries.

442 See Stalker 2000, 111.
443 See ibid., 79–82.
444 See Kiely 2007, 19.
445 See Skarstein 2007, 351. As seen in this example, international trade might not be beneficial to both countries. This contradicts Smith's notion that international trade benefits a country. However, this has less to do with Smith's theory of absolute advantage itself, but with his optimism about economic development, which we discussed above. Smith's main aim was to attack mercantilism and to defend a liberalised economy. Since his economic writings are primarily a polemic against mercantilist thinking, he does not discuss such undesirable outcomes. Moreover, Smith is only concerned with England's well-being and since England was the leading economic power of his time, he is not concerned with the problems of underdeveloped countries as discussed in this chapter. We can conclude that the outcomes of this re-examination are not incompatible with Smith theory but rather a consequence of it.

Do all Countries have an Absolute Advantage?

Smith does not consider the question if every country has an absolute advantage in the production of some goods.[446] From a theoretical point of view, it could be possible that a country has no absolute production advantages or might lose them over time. Smith's theory suggests that absolute advantages develop as a consequence of trade and hence, trade might be the incentive that leads to the creation of absolute advantages. However, nowadays, international trade is widely spread and the countries do not start equally. Rather, some countries are less productive and poorer. They might have an absolute advantage in those goods which only they are able to produce because of natural conditions. But those goods constitute only a small fraction of all traded goods. Smith gives another possibility for less productive countries to have an absolute advantage. He argues that poor countries might be able to compete in the agricultural sector with rich, more productive countries. Smith's reaches this conclusion by arguing that the division of labour does not equally increase in all sectors of production and that wage levels differ internationally.

International Differences in Wage Levels

In Smith theory, the wage level inside a country depends on its overall level of development and even more important on the increase of national wealth: 'It is not […] in the richest countries, but in the most thriving, or in those which are growing rich the fastest, that the wages of labour are highest'.[447] Smith says, similar to Ricardo, that the wages depend on 'the subsistence of the labourer'.[448] However, the level of subsistence depends on the living standard in Smith theory, which differs from country to country. More developed countries have a higher living standard and consequently a higher wage level.[449] This means, that workers there are able to buy more and better goods. Smith even states that the living standard of a European peasant 'exceeds that

446 This is probably explained by the fact that Smith is mainly concerned with England. As a leading economic and manufacturing nation of his time, it was out of the question if England has absolute production advantages. The focus of Smith's and other classical theories is the welfare and the problems of the Western countries because they 'have been laid by economists who lived in the economically advanced countries' (Pasinetti 1981, 250). As a result, little attention is paid to underdeveloped countries.

447 Smith 1993, 34.

448 Ibid., 171.

449 See ibid., 30–42, 244.

of […] an African king'.[450] Elmslie, therefore, states that Smith has 'a sociological, rather than a pure biological, subsistence in mind when considering subsistence wages'.[451] Poor countries have a lower living standard and hence a lower wage level.

Division of Labour in Manufacturing and in Agriculture

Another crucial point in Smith's argumentation is that he differentiated between the division of labour in manufacturing and in agriculture. The division of labour is not uniform inside a country but differs between the sectors of production (and even inside the sectors). Smith states that the production of manufacturing is capable of a more extensive division of labour than the production of agricultural goods:

> 'The nature of agriculture, indeed, does not admit of so many subdivisions of labour, nor of so complete a separation of one business from another, as manufactures. It is impossible to separate so entirely the business of the grazier from that of the corn-farmer as the trade of the carpenter is commonly separated from that of the smith.'[452]

Therefore, the productivity growth in agriculture is slower than in manufacturing. As a result 'the industrial sector is the dynamic centre of technical change and productivity growth'[453] in any economy.

This means that the difference in productivity between rich, developed countries and poor, less developed countries is greater in manufacturing than in agriculture.

We can now combine this insight with the finding that wage levels depend on the living standard. Wages in different sectors of production are not independent. They tend to increase equally in all production sectors of a country, depending on its overall economic growth. However, in manufacturing the productivity growth is faster than the growth of wages. Therefore, productive and industrial countries always have an

450 Ibid., 7. This is another of Smith's exaggerations, but his point is clear.
451 Elmslie 1994, 267.
452 Smith 1993, 4.
453 Skarstein 2007, 353. This is confirmed by Verdoorn's and Kaldor's growth laws which have wide empirical support. These three laws state that there are strong positive correlations (a) 'between the growth of labour productivity and the volume of industrial production'. (Verdoorn 2002, 28.); (b) between growth of manufacturing and growth of the productivity outside manufacturing; (c) between the growth of manufacturing output and economic growth (see Kaldor 1967). See also McCombie/Pugno/Soro 2002 and Scott 1989, 340–59.

advantage in manufacturing over poor and less productive countries. But because productivity growth is limited in agriculture, the wage level in rich countries grows faster than the productivity in agriculture. Thus, in rich countries, wages in the agricultural sector increase faster than productivity. Wages in poor countries are lower because of the lower living standard but their lag in productivity of agricultural goods is relatively smaller. Hence, poor countries might be able to offset the low productivity in agriculture with a lower wage level. They can than compete with and undersell rich countries in agricultural goods:

> 'The most opulent nations, indeed, generally excel all their neighbours in agriculture as well as in manufactures; but they are commonly more distinguished by their superiority in the latter than in the former. Their lands are in general better cultivated, and having more labour and expense bestowed upon them, produce more in proportion to the extent and natural fertility of the ground. But this superiority of produce is seldom much more than in proportion to the superiority of labour and expense. In agriculture, the labour of the rich country is not always much more productive than that of the poor; or, at least, it is never so much more productive as it commonly is in manufactures. The corn of the rich country, therefore, will not always, in the same degree of goodness, come cheaper to market than that of the poor.'[454]

The subsistence level, thus, compensates the lower level of productivity in poor countries – but only in the agricultural production, not in manufacturing.[455] However, it should be emphasised again that this is only a possible, not a necessary outcome. Rich countries might also have an absolute advantage in agriculture if the division of labour leads to the development of more effective machinery for example. In fact, historical data shows that around 1950 underdeveloped countries in general had an absolute advantage in agricultural production. In 1990 this had changed and developed countries had an absolute advantage in agricultural production.[456]

454 Smith 1993, 4. This point should not be confused with Ricardo's or the neoclassical theory of comparative advantage. Though it is a reason why even countries which lag in productivity can still be competitive, it has nothing in common with the static equilibrium analysis of the theory of comparative advantage that was outlined above. In the case which Smith describes the underdeveloped country has an absolute production cost advantage.

455 See Elmslie 1994, 255.

456 See Skarstein 2007, 360–61. He uses the wage level divided by productivity as measurement.

Smith's Example of England, France and Poland

Smith illustrates his point with an example in which he compares Poland, France and England:

> 'The corn of Poland, in the same degree of goodness, is as cheap as that of France, notwithstanding the superior opulence and improvement of the latter country. The corn of France is, in the corn provinces, fully as good, and in most years nearly about the same price with the corn of England, though, in opulence and improvement, France is perhaps inferior to England. The corn-lands of England, however, are better cultivated than those of France, and the corn-lands of France are said to be much better cultivated than those of Poland. But though the poor country, notwithstanding the inferiority of its cultivation, can, in some measure, rival the rich in the cheapness and goodness of its corn, it can pretend to no such competition in its manufactures; at least if those manufactures suit the soil, climate, and situation of the rich country […] [T]he hardware and the coarse woollens of England are beyond all comparison superior to those of France, and much cheaper too in the same degree of goodness. In Poland there are said to be scarce any manufactures of any kind, a few of those coarser household manufactures excepted, without which no country can well subsist.'[457]

The advantage of England in manufacturing and the advantage of Poland in agricultural production are not due to different resources or endowments but are the result of exchange and the division of labour itself.[458] Though Poland has a lower productivity in agriculture, she offsets her disadvantage by low wages.

Consequences of Specialisation in Different Sectors of Production

As a result of the preceding considerations, rich countries will specialise in the production of manufactured goods and poor countries might only be able to specialise in agricultural goods if free trade is intro-

457 Smith 1993, 4–5.

458 See Elmslie 1994, 255–56. Some writers use this example to show that Smith had a rudiment of the theory of comparative advantage (see, e.g., Bloomfield 1975, 457). But this is a false interpretation because this example is not the same as Ricardo's static example but emphasises the dynamic approach of Smith.

duced. We do not consider the reasons why a country is rich or poor when it enters free trade. We take it for granted that countries differ in the first place as a result of the historical situation – or of 'historical accident'[459] as Milberg and Elmslie call it. The wealth of a nation depends on the degree of the division of labour. Consequently, nations that specialise in manufacturing benefit to a greater degree from free trade because productivity in this sector can be increased fastest and furthest. Their economies as a whole will grow faster because these nations are able to extent their division of labour more rapidly. Contrary, a country that specialises in agriculture is not able to extent its division of labour to the same degree and will have a slower productivity and economic growth. Its wealth will increase slower than in those countries that have specialised in manufacturing. Even if in an initial situation countries are nearly equal, the differences between more and less developed countries will be amplified once international trade begins. Richer countries are able to increase or at least maintain their productivity lead over poor countries, both in manufacturing and in agriculture.[460] However, poor countries might keep an absolute production advantage in agricultural goods. 'This pattern, once begun, is self-perpetuating'.[461] Rich countries invest in and expand their manufacturing sector which will yield technical growth, productivity growth, and a faster accumulation of capital.[462] Though investment in agriculture does also yield technical and productivity growth it does so on a smaller scale. Hence, poor countries will not be able to catch up with rich once through free trade. Rather, they suffer from continued underdevelopment.[463] This does not mean that poor countries cannot increase their living standard – Smith has a very optimistic view of free trade – but it means that the gap between rich and poor countries does widen over time and the underdevelopment of poor countries increases in relative, albeit not in absolute, terms.[464] If two countries begin to trade with each other, the country

459 Milberg/Elmslie 1993, 41. From Smith's point of view, countries that had bigger and more dense populations and better infrastructure (e.g. access to waterways) were able to extent their division of labour fastest and had, thus, a head start when they entered free trade.

460 See Elmslie 1994, 258.

461 Milberg/Elmslie 1993, 41.

462 See Robinson 1979, 134–35.

463 See Elmslie 1994, 259.

464 See Darity/Davis 2005, 143. It should be noticed here that Smith draws this conclusion in accordance to his view of domestic trade. The level of development between town and countryside differs because the extents of the division of labour are uneven – the market of a town is bigger because it has a higher population and better means of transportation and communication (see, e.g., Smith 1993, 11). Hence, towns are not only more productive and more developed than the countryside, but this difference will be amplified over time (see Darity/Davis 2005, 146–47).

that has initially a lower degree of division of labour – hence, the less developed country – 'will be compelled to specialise in agricultural products'.[465] A country that has a head start at the time trade starts will specialise in industrial goods. Contrary, initial lower productivity forces countries out of manufacturing. This can even have negative effects on a country, though Smith himself did not draw this conclusion.[466] We have to notice that, contrary to the theory of comparative advantage, free trade does not always represent 'a straightforward opportunity'.[467]

As a consequence, it is important in which production a country specialises according to Smith's theory.[468] The theory of comparative advantage states that it does not matter whether a country specialises 'in apples or Apple computers'.[469] Contrary, the theory of absolute advantage argues that this does matter.

Another corollary is what Kaldor calls 'polarisation process'.[470] As we have seen, the initially more developed country will enhance its advantage continuously once free trade is introduced and the gap between rich and poor countries widens due to the extension of the division of labour and increasing returns, which are greater in manufacturing than in agriculture. Thus, 'success breeds further success and failure begets more failure'.[471] This leads to a polarisation because the production of manufacturing goods will be concentrated in certain countries, or at least in certain regions of a country. The polarisation effect 'is nothing else than the inhibiting effect of superior competitive power of industrially more efficient and dynamic countries, as compared to others'.[472] This effect takes place internationally as well as domestically: 'free trade is as much a mechanism for the concentration and centralization of international capital as free exchange within a capitalist nation is for the concentration and centralization of domestic capital'.[473] Therefore, it should be noted that some regions and some countries benefit more from free trade while others benefit less or might even suffer, depending on their level of development, or

465 Skarstein 2007, 354.
466 See Milberg/Elmslie 1993, 41.
467 Kiely 2007, 19.
468 Skarstein 2007, 354.
469 Çağatay 1994, 241. Following the theory of comparative advantage, it is widely suggested that underdeveloped countries should specialise in the production of agricultural goods because they have a comparative advantage in it and they will than benefit from specialisation and free trade (see, e.g., The Economist 2009b).
470 Kaldor 1981, 596.
471 Ibid.
472 Ibid., 597.
473 Shaikh 1980, 227.

in other words their level of division of labour.[474] Kaldor concludes: 'under more realistic assumptions unrestricted trade is likely to lead to a loss of welfare to particular regions or countries'.[475]

As a result, free trade will not eliminate or reduce the gap between rich and poor countries. Rather, existing inequalities will even be deepened. Shaikh concludes that free trade 'will ensure that the advanced capitalist countries will dominate international exchange, and that the less developed nations will end up chronically in deficit and chronically in debt'.[476] As the re-examination of Ricardo's England-Portugal example has shown, the underdeveloped country will have a trade deficit and the developed country a trade surplus. Costs of borrowing become cheaper in the developed country which leads to further investment. We can also generalise the other finding of this re-examination. Free trade tends to have negative effects on the employment level of poor countries and positive effects on the employment level of rich countries. Migration will take place from underdeveloped to developed countries, causing a brain drain which affects the economy of the former countries negatively. However, the England-Portugal example has also shown that there are counteracting effects, namely technology transfer, which is one of the major gains from international trade in Smith's theory. International learning is an important source of productivity growth.[477] Additionally, a reverse brain drain has positive effects on poor countries.

The exact effects of these counteracting forces are uncertain. International learning loses much of its importance if we compare developed and underdeveloped countries, because its usefulness will be reduced if countries have a different level of development.[478] Additionally, countries might lose industrial and technological knowledge as a result of free trade. If a country is not competitive in manufacture when it starts free trade, than its manufacturing sector might be forced out of the market and the country has to specialise in agricul-

474 Kaldor illustrates the polarisation effect with an example of North and South Italy. Before the economic unification, i.e. before free trade between them was introduced, the industry of the North was slightly more developed than that of the South. However, the little lead 'was quite sufficient for the free and guaranteed access of Northern industries to the Southern markets to inhibit the development of the latter at the same time as it accelerated the industrial development of the North' (Kaldor 1981, 597). Since domestic and international trade follow basically the same rules, we can replace the two regions in this example with two countries.

475 Ibid., 593.

476 Shaikh 1980, 211.

477 See Skarstein 2007, 364–65.

478 See Pasinetti 1981, 250–53. Since developed and underdeveloped countries specialise in the production of different goods as a result of trade, free trade tends to decrease the chance of international learning (see Skarstein 2007, 365).

tural goods. This deindustrialisation did take place in many underdeveloped African countries.[479] As we have seen, specialisation that follows free trade is not easily reversible as the theory of comparative advantage assumes. This can lead to a situation where countries are dependent on other countries.[480] This is especially important in the consideration of developed and underdeveloped countries. A country that has specialised in the production of agricultural goods like coffee cannot just opt out of free trade and go back to self-sufficiency. The entrance of free trade might have been the free choice of a country, but contrary to the mainstream approach a country might be forced to continue trade in order to prevent being worse off. Hence, free trade might result in coercion.[481]

Trade between Developed Countries

We will briefly examine trade between developed countries, meaning between countries that have an equally high level of development. Unlike the theory of comparative advantage, which is complemented by intra-industry trade theory, Smith's theory of absolute advantage can also help to understand trade between developed countries. Firms in developed countries produce similar industrial products and compete over profits and market shares. Trade and success is determined by absolute production advantages which means that 'art and skill'[482] (technology and education of the workers) play a significant role. Since this competition exists domestically there is no reason why this kind of competition should not exist internationally; especially because Smith's theory does not have a basic difference between domestic and international trade.[483] An additional gain is technology transfer or international learning. Developed countries benefit from it to a greater extent than underdeveloped countries since they are able to make use of technological developments.[484] This can explain, for example, why the technological level of Europe and North America has converged

479 See Bullard/Chanyapate 2005, 29.
480 See Williams 1929, 204.
481 See Lutz/Lux 1988, 25–27 and Prasch 1996, 40.
482 Smith 1993, 328.
483 Therefore, intra-industry trade is not determined by comparative advantages as some suggests. Countries do not specialise in different segments of manufacturing, but firms from different countries compete in the production of similar or even equal goods (see Girschner 2004, 140). Neither is intra-industry trade determined by exceptional circumstances nor by imperfect circumstances. The reason why intra-industry trade produces difficulties for the theory of comparative advantage is self-generated by its unrealistic assumption (see Darity/Davis 2005, 142).
484 See Elmslie 1994, 263–65.

in the last fifty years.[485] As a result, a rich country benefits more from trade with another rich country than from trade with an underdeveloped country.[486]

Conclusion

We can summarise that free trade is more beneficial for developed and rich countries than for underdeveloped and poor countries. Hence, 'trade liberalization will principally benefit the firms the developed countries, because they are the most technologically advanced.'[487] Though underdeveloped countries might increase their absolute level of (economic) welfare the gap between developed and underdeveloped countries increases. Hence, international differences do not exist despite free trade but they are rather supported by it. Gualerzie, therefore, notes that 'free trade does what it is supposed to do – it benefits the most advanced countries and firms'.[488] As a conclusion of this chapter we can say that 'Smith foresaw prospects for economic progress for all nations, there is nothing in his theory that propels the world towards a uniform standard of living'.[489] Rather, international inequalities are inherent in Smith's theory of absolute advantage.

485 See Stalker 2000, 66–67.

486 Smith 1982b, 578. For this reason, Smith argues that it is more beneficial for a nation if it is surrounded by other developed countries: 'A nation that would enrich itself by foreign trade is certainly most likely to do so when its neighbours are all rich, industrious, and commercial nations. A great nation surrounded on all sides by wandering savages and poor barbarians might, no doubt, acquire riches by the cultivation of its own lands, and by its own interior commerce, but not by foreign trade' (Smith 1993, 328).

487 Shaikh 2007, 58.

488 Gualerzi 2005, 326.

489 Darity/Davis 2005, 149.

6 Concluding Remarks

The aim of this thesis was to analyse two major theories of international trade, namely Smith's theory of absolute advantage and the theory of comparative advantage, in both its classical and its modern formulation. The latter is currently the dominating approach in the theory of international trade. After giving a short introduction to both theories, we compared them on the basis of the crucial assumption of the theory of comparative advantage. As a result of this comparison, we concluded that they are opposing theories rather than complementary approaches, as some suggest. As a next step we examined which theory is better or more realistic to explain international free trade. After a short review of the assumptions of the theory of comparative advantage, we rejected this theory because it is based on unrealistic or wrong assumptions. Instead, Smith's theory of absolute advantage is more useful in explaining international free trade. However, it should be repeated here, that Smith's theory of absolute advantage is not – as modern textbooks suggest – a theory that compares two static situations as the theory of comparative advantage does. Rather, Smith's theory of international trade is a dynamic theory that is interwoven with his theory of development. It takes into account not only trade but also development. Again, it should be emphasised, that this thesis is not intended to argue in favour of or against free trade. We examined how free international trade develops. Thereby, we mainly criticised and rejected the mechanisms and assumptions that underlie the mainstream theory of international trade. The proposal here is that it is necessary to turn away from the theory of comparative advantage, which is still 'hardly questioned by economists,'[490] in order to get a better and sounder understanding of free trade. This thesis neither rejects nor endorses free trade. Rather, it rejects the current understanding of free trade and the theories that underlie it. Neither were the historical reasons why some countries are more developed than others analysed,[491] but this thesis tries to give a better understanding of the way free trade develops. One way to improve this understanding is to look at the insights of Smith's theory of absolute advantage and to eliminate 'the narrow channel […]

490 Gualerzi 2005, 324.

491 Such an analysis of the historical reasons has to include the analysis of political, economic and military power as well as colonialism and wars (see Nayyar 2007, 73–74 and Felipe/Vernengo 2002, 58).

of the principle of comparative advantage'.[492] Rejecting the theory of comparative advantage and endorsing Smith's theory of absolute advantage leads to the main results:

(a) that international trade is determined basically by the same rules as domestic trade;
(b) that the pattern of free trade is determined by absolute and not by comparative production cost advantages;
(c) that there are no adjustment mechanisms that offset trade imbalances and make each country competitive in the production of some goods; rather trade imbalances occur and competitiveness of a country is not guaranteed by free trade;
(d) that competition between firms from different countries means a competitive struggle about market shares and profits which yields winners as well as loser;
(e) that the development of international trade cannot easily be predicted but depends on many future developments and is, therefore, uncertain; the high predictability that the theory of comparative advantage suggests is rejected by Smith's theory of absolute advantage;
(f) that differences between countries are not exogenously given or dependent on natural endowments, but are the results of trade itself; trade leads to specialisation and to differences and not the other way round;
(g) that technology transfer and international learning is an important gain from international trade that is neglected or ignored by the theory of comparative advantage because it would raise serious theoretical difficulties to it.

It should shortly be mentioned that we only considered commodity trade in this thesis. However, these insights can be applied to trade in services as well, which has become more important in the last decades.

These findings were used to examine tendencies in the development of free trade which the theory of absolute advantage suggested. We came to the conclusion that free trade will not benefit all countries equally and that underdeveloped countries will not close the gap to developed countries because of free trade as the theory of comparative advantage suggests. Rather, the difference between rich and poor countries will increase as a result of free trade. This, however, does

492 Robinson 1979, 130.

not mean that poor countries are worse off in absolute terms. Smith's optimistic approach suggests that they will increase their economic wealth and their welfare.

The consequence of Smith's theory is best summarised by two quotes from Smith himself:

> 'When a rich man and a poor man deal with one another, both of them will encrease their riches, if they deal prudently, but the rich man's stock will encrease in a greater proportion than the poor man's. In like manner, when a rich and a poor nation engage in trade the rich nation will have the greatest advantage, and therefore the prohibition of this commerce is most hurtfull to it of the two.'[493]

> 'Where no error of this kind has been committed, as among individuals a rich merchant can always undersell and a rich manufacturer underwork a poor one, so among great societies a rich nation must always in every competition of commerce and manufactures have an equal or superior advantage over a poor one.'[494]

However, absolute production advantages should not be overvalued in explaining international trade. They are only one reason why a country or region might lag behind. Smith gives further reasons. Some are briefly mentioned in this thesis, namely the density of population, the access to markets and the geographic location of a country. One important reason has not been mentioned so far which is also emphasised by Smith, namely the conditions of national institutions and the policies of a state. This is known today as good governance. A country that is badly governed and lacks institutions that accomplish civil and economic laws is likely to lose absolute production advantages.[495] Darity and Davis argue that besides a lack of absolute production advantages, countries or regions might also be 'victims of geography, policy or demography'.[496] Thus, while the theory of absolute advantage explains the pattern of free international trade and gives reasons why some countries are doing better than others that are endogenous to trade, there are other important explanations for development and underdevelopment that are, non-economical.

493 Smith 1982a, 512.
494 Smith 1982b, 567.
495 See, e.g., Smith 1993, 136–37, 216–26.
496 Darity/Davis 2005, 147.

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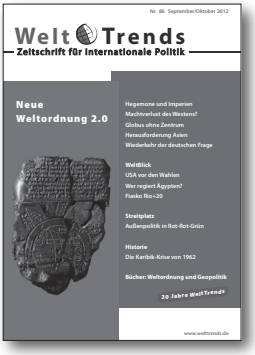

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This thesis deals with two theories of international trade: the theory of comparative advantage, which is connected to the name David Ricardo and is dominating current trade theory, and Adam Smith's theory of absolute advantage. Both theories are compared and their assumptions are scrutinised. The former theory is rejected on theoretical and empirical grounds in favour of the latter. On the basis of the theory of absolute advantage, developments of free international trade are examined, whereby the focus is on trade between industrial and underdeveloped countries. The main conclusions are that trade patterns are determined by absolute production cost advantages and that the gap between developed and poor countries is not reduced but rather increased by free trade.

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