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Thornton versus Ricardo

Two Alternative Perspectives on Money and Trade¹

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Abstract

Hicks (1967) identifies Henry Thornton's "An Enquiry into the Nature of the Paper Credit of Great Britain" and David Ricardo's "The High Price of Bullion" as the foundational texts of "two strands of classical economics" (p. 167) with regard to their view on money. This paper aims to build on and transcend beyond Hicks in linking Thornton's and Ricardo's theories of money both to their respective views on the 'natural' state of society and their theories of trade.

Ricardo suggests a natural state of barter where production is supplied for immediate consumption and thereby creates its own demand. Metallic money helps to make exchanges less costly than would have happened anyways. The value of metallic money is equalized internationally by the export of money to those countries where it is relatively dear. Such exports do not imply unfavourable trade. Paper money shall work in the same way as metallic money. This can be guaranteed by convertibility. If, however, more paper money is issued than would have circulated in terms of metallic money it leads to inflation and the result is trade that is in fact unfavourable. Thornton on the other hand envisions the barter economy itself as a monetary economy in the sense that it must already be built on credit relations necessary to facilitate exchange. There can be no commerce without credit relations. There can be no exchange economy without money. Hence, for Thornton money cannot be too scarce or too abundant relative to some objective standard. If trade is imbalanced it is the result of shocks to the real economy and not of monetary policy. Instead, trade imbalances can be overcome by expanding the quantity of money to promote the productive forces of the economy.

In sum, Ricardo lays the foundations for both monetary orthodoxy and orthodox trade theory. As long as banks do not over-issue money, free trade can only be beneficial for any country. Only if banks not bound to the rule of convertibility over-issue money, exchange becomes unfavourable while inflation can only do harm and no good. In contrast, Thornton prefigures countercyclical monetary policy, the rejection of Say's Law and the possibility of persistent unfavourable free trade. A country can engage in unfavourable trade out of necessity. In such a situation, expansionary monetary policy can help to revive the domestic forces of production. If an economy has permanently inferior productive forces, it might engage permanently in unfavourable trade, which must result in high levels of foreign debt, persistent global imbalances and debt crisis. Both Ricardo's and Thornton's views on money and trade are alive in the debate on the present crisis. They still provide us with two alternative strands to think both about the causes as well as the cures of trade imbalances and financial crisis.

1. Introduction

“The High Price of Bullion, A Proof of the Depreciation of Bank Notes” (1810) might be David Ricardo’s most prominent contribution to monetary theory. He wrote the pamphlet during the British war against Napoleon in a period of high War Inflation (Hicks 1967, p. 157; Bordo and White 1990, p. 48). Ricardo’s immediate goal was to propagate the re-establishment of convertibility. However, the importance of his pamphlet in the history of monetary thinking reaches far beyond its direct political impact. Ricardo powerfully restates Hume’s image of self-balancing foreign trade. The international system is harmonious as long as it is not subject to disturbance by banking policy. The economic interest of individuals translates immediately into the interest of the community and the interest of one nation is in accordance with any other nation. These political paradigms of “free trade” and “laissez faire” are underpinned by the “trilogy” of “quantity theory, neutrality and classical dichotomy” (Velupillai, Weber 2014, p. 6). As will be demonstrated, the trilogy is central in Ricardo’s reasoning. These three theoretical notions became the core of monetary orthodoxy codified by Irving Fisher, Milton Friedman and Friedrich Hayek and the foundation of the current newclassical mainstream as propagated by Robert Lucas (ibid.).

Ricardo’s target in terms of theory was Henry Thornton’s (1939 [1802]) “An Enquiry into the Nature of the Paper Credit of Great Britain” (Ricardo 1810, pp. 9-13).³ Thornton’s contribution was later buried under Ricardo’s influence on economic thinking (Hicks 1940, p. 182, Itoh, Lapavistas 1998, p. 23) until the re-publishing of his “Paper Credit” by Friedrich Hayek (sic!) in 1939.⁴ Thornton joined the Bullion Committee later in his career and was henceforth identified as a moderate Bullionist. Hicks (1967a) finds this to account for the “subsequent decline in Thornton’s influence” (p. 183) It would have been “natural

³ Hicks (1967b) refers to Ricardo’s awareness in a strangely indirect manner when he writes in his essay on “Thornton’s Paper Credit” that “Ricardo must certainly have read the ‘Enquiry into the Nature and Effects of the Paper Credit of Great Britain’, by Henry Thornton (1802-six years earlier than any of Ricardo’s writings)” (p. 164). In fact, Ricardo refers explicitly to Thornton (1802) and cites him at length (see for example Ricardo 1810, p. 9).

⁴ Why it was Hayek, a proponent of monetary orthodoxy, who re-published Thornton remains an open question in the limited view of the present author. Might it be that Thornton’s dialectical analysis which frequently provides counterarguments to his own reasoning promised to be interpreted as a refusal of his own arguments? Or was it due to Thornton’s retreat to a Humenian theory for the long run that could be in accordance with Hayek’s notion of forced saving that allows for transitory effects of expansionary monetary policy only to be counterbalanced by the effects of inflation after the initial phase? Or is it Hayek’s scholarly recognition of Thornton’s brilliance that motivated him to initiate the “overturning [of] previous scholarship and recognizing Thornton’s momentous achievements” (Arnon 2011, p. 97)?

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for people to get the impression that Thornton was saying more or less the same thing as Ricardo, and the later authority (who had in mind a later situation) eclipsed the earlier.” (ibid.) The fact that Thornton’s writings were largely overshadowed by Ricardo has been often attributed to the assertion “that his exposition lacks system and in places is even obscure” (Hayek 1939, p. 46). In light of the also commonly acknowledged “acumen and the balance of mind displayed throughout [Thornton’s] exposition” (ibid.), Hicks’ explanation of why Thornton has widely been forgotten seems more convincing. Hicks (1967a) argues that “Thornton emerges as a very consistent thinker. But his consistency depends upon his belief that it is possible to draw a firm line between what is appropriate in short-run temporary emergencies, and what is appropriate for long-run permanent policy. For the short-run, he is Keynesian; far more consistently Keynesian than the muddled Malthus. Yet Keynes could never have taken Thornton for a mascot, as he did Malthus; for when it comes to the long-run, Thornton is the hardest of hard-money men. He is every bit as hard as Ricardo. Like Ricardo he would have fought against devaluation, when the emergency (...) was finally over.” (p. 186)

The focus of this paper shall be on Thornton of the short-run as represented in the first part of “An Enquiry into the Nature of the Paper Credit of Great Britain” since we intend to highlight the difference between Ricardo’s and Thornton’s perspective on monetary theory and the theory of monetary policy. Hicks (1967b) interprets Ricardo’s and Thornton’s theories as “two strands in classical economics” (p. 167) and this difference prevails until the very day.⁵ The Ricardian alternative emphasizes monetary rules. If those rules achieved to make credit money behave like metallic money, the economy would be in a state of harmony and balance. Hayek (1932), Friedman (1968) and Prescott (2004) are being Ricardian, when they promote monetary authorities to design their policies according to static rules. Theorizing in Thornton’s tradition emphasizes the precariousness of money in general and credit money in particular. Money must be managed and policy must be based discretion rather than predefined, mechanic rules. Even though Keynes does not include Thornton in the “brave army of heretics” (p. 371) the following core elements are already present in

⁵ It can be argued that some elements of the controversy between Thornton and Ricardo resembled that between James Stuart and David Hume (Itoh, Lapavistas 1998).

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Thornton's writing: the effectiveness of expansionary monetary policy, the monetary determination of interest rates, the importance of liquidity preference and income in economic analysis as well as an implicit rejection of Say's Law.

It is beyond the scope of this essay to trace the connection between the members of these two alternative strands of monetary theory as well as the evolvment of their opposing views. Instead, the task shall be to illustrate Ricardo's and Thornton's theorizing on money as foundational antipodes. The goal of this paper is to present the core elements of their theoretical disagreement which laid the ground for successive monetary controversies. The view on the high price of bullion as either consequence of unbalanced trade (Thornton) or as cause that unbalances trade (Ricardo) shall be at the focus of our analysis for two reasons. This enables us to explore the inherent connection between monetary and trade policy as two defining moments of the two alternative theoretical strands. Ricardo's direct critique of Thornton in his "High Price of Bullion" allows for a close comparison. Contrasting Ricardo's "Proof" with Thornton's arguments is hoped to carve out the main analytical differences. We will first turn to the two alternative "rude and early states" as encapsulation of the axiomatic assumptions in the two theories. The second section will contrast Ricardo's and Thornton's reasoning with regard to the high price of bullion as well as the remedies suggested to cure the evil of unbalanced trade and inflation. A final section summarizes the main points of theoretical disagreement.

2. Two Alternative 'Rude and Early States'

The fundamental difference in Ricardo's and Thornton's reasoning is reflected in their opposing points of departure. Both draft a "rude and early state" in which policy interventions are absent and relate their subsequent analysis to this thought experiment (Gedankenexperiment). A discussion of the main elements of these 'natural' states of affairs shall be subject of this section.

2.1. Ricardo's Harmonious Barter Economy

Ricardo follows Hume (Itoh, Lapavitsas 1998, p. 8) in drawing an image of money as precious metal "circulating the commodities of the world" (Ricardo 1810, p. 1) and flowing between nations such as to seek the same level in all economies. Money would be divided

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“among the different civilized nations of the earth, according to the state of their commerce and wealth, and therefore according to the number and frequency of the payments which they had to perform” (Ricardo 1810, p. 1). This is to say that the quantity of money distributes over the world economy such as to adjust to the national amount of commodities in circulation and to the national velocity of circulation. Consequently the value of money is the same in all countries. The relative price level between two countries will not be affected by the global or national quantity of money beyond some transitory period. If the quantity of money increases in one country, for example due to the discovery of a new gold mine, the value of gold will fall in the domestic economy and will be relatively higher abroad. This induces the exportation of gold by profit seeking merchants up to the point where the domestic and international value will be equalized (Ricardo 1810, pp. 3-4).

We would induce from this reasoning, that the value of gold must be determined by its scarcity alone. However, Itoh and Lapavitsas (1998, p. 12) suggest that Ricardo would have reconciled the intrinsic value of gold determined by its labor content with Hume's value determination by scarcity. In the 'natural' state of pure metallic circulation, Ricardo would argue “the 'necessary' quantity of money is determined by the value of money, the value of commodities and velocity” (ibid.). In contrast with Itoh and Lapavitsas and in accordance with Shaikh's (1980) critique of Ricardo's trade theory, the present author does not find that Ricardo achieves the reconciliation of the determinations of value by scarcity and by labor content in “The High Price of Bullion” but stays within the realm of Hume's quantity theory of money.

First of all, Itoh and Lapavitsas' definition of “intrinsic value” is not in accordance with Ricardo's definition right in the beginning of his pamphlet. In Ricardo's definition the intrinsic value of gold as that of other commodities “is dependent on their scarcity, the quantity of labour bestowed in procuring them, and the value of the capital employed in the mines which produce them.” (1810, pp. 1-2). What Ricardo here refers to as intrinsic value differs from the concept of value defined in terms of embodied labor time which Itoh and Lapavitsas seem to identify with the intrinsic value. The “value of capital employed” could be expressed in terms of labor content by means of Smith's vertical integration and could be added to “the quantity of labour bestowed”. Yet, this would still leave a dual determination of the intrinsic value by both labor content and scarcity. In this interpretation, the intrinsic

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value itself would reconcile the two determining forces.

But Ricardo implicitly departs from such a dual determination of the value of money immediately after defining its intrinsic value in this way. He neglects the labor content and gives primacy to scarcity when he argues explicitly that the value of money is determined by the total quantity. Employing quotes from Adam Smith, Ricardo finds that gold is a “produce of which the value is principally derived from its scarcity” (1810, p. 2). As such its value is “necessarily degraded by its abundance” (ibid.).⁶ If the quantity of money determines the value of money, there is no “necessary quantity of money” in contrast to what Itoh and Lapavistas suggest. In Itoh’s and Lapavistas’ definition of a necessary quantity of money the channel of circulation could overflow. If “the value of money, the value of commodities and velocity” are given and determine the “necessary’ quantity of money” an increase of the quantity of money would result in an overflow. Ricardo states, however, explicitly: “The circulation can never be overfull.” (1810, p. 47) In Ricardo’s view: “The smaller quantity of money would perform the functions of a circulating medium, as well as the larger.” (ibid.)⁷

Ricardo’s “rude and early state” is one in which the quantity theory of money holds internationally. On the global scale, the value of money is determined by the global quantity of money and equalized internationally in relation to the national output and velocity of circulation. If the quantity theory generally suggests neutrality of money, in the sense that money is a ‘veil’ that does not disturb the relative prices which would prevail under pure barter; money is also neutral internationally in Ricardo meaning that money also does not disturb relative prices between countries. The distribution of the total amount of gold as means of circulation over the different countries is independent of its total quantity and purely regulated by the equalization of its value.

⁶ The value determined by labor content and that determined by scarcity might still coincide accidentally. But the determining force remains with the latter. If in this situation of accidental coincidence a new mine was discovered where the production of each unit of gold required the same average amount of labor time as needed before the discovery, the scarcity value must fall since the quantity of gold increases whereas the labor value stays constant. Since scarcity has the primacy over labor content, the value of money would fall.

⁷ The interpretation that the value of money is determined by scarcity only is in accordance with Ricardo’s later reasoning in “On the Principles of Political Economy and Taxation” (2001 [1817]) where he suggests that the value of a commodity is *either* determined by scarcity *or* by the “comparative quantity of labour expanded” (p. 11), but not by both at the same time.

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The metaphor of the barter economy is transcended to the global level. This is also reflected in Ricardo's argument that gold would be a commodity without any particular monetary characteristic, which implies that the exchange of any commodity against gold comes to the same effect as a barter exchange, i.e. purchase and sale coincide – always. Buying a commodity by gold is selling gold for this commodity. This means that Say's Law must hold always and on a global scale. Aggregate demand must necessarily be equal to aggregate supply and we are confined to the realm of equilibrium analysis. By the same token, on the international level, if we consider the export of gold as the export of a commodity, trade must always be balanced as a matter of accounting. If we collapse the current account and the capital account into the balance of payment, they must always add to zero. Therefore, Ricardo (1810, p. 10) argues, that there is no such thing as unfavorable exchange. If gold is exported it is profitable and "it is our choice and not our necessity, that sends it abroad; and that it is highly beneficial to us to exchange that commodity which is superfluous, for others which may be made productive." (Ricardo 1810, p. 5)

Ricardo builds his analysis on an internationalized version of what Foley (2006) called Adam's Fallacy and which can be interpreted as the opposite of the fallacy of composition. Adam's Fallacy is defined as "the idea that it is possible to separate an economic sphere of life, in which the pursuit of self-interest is guided by objective laws to a socially beneficent outcome, from the rest of social life, in which the pursuit of self-interest is morally problematic and has to be weighed against other ends." (Foley 2006, p. xiii) In Ricardo's view, not only can exchange never become unfavorable, which comes to say that trade must be beneficial for all trading partners at all times. In addition, self-interest always coincides with the interest of the community: "The exportation of the specie may at all times be safely left to the discretion of individuals, it will not be exported more than any other commodity, unless its exportation should be advantageous to the country. (...) Happily in this case, as well as in most others in commerce where there is free competition, the interests of the individual and that of the community are never at variance." (Ricardo 1810, pp. 5-6) In analogy to Foley, we can summarize "Ricardo's Fallacy" to be that the pursuit of individual self-interest in international trade is guided by objective laws to a socially beneficent outcome for the domestic national community as well as the national community of the trading partner. Unlike the rest of international relations, where the pursuit of national self-

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interest is morally problematic and often results in war and the oppression of one nation by another, in international trade the national interest of one country must always coincide with that of the other country since trade is conducted by choice and not by necessity.

2.2. Thornton's No Commerce Without Credit

Thornton explicitly starts from a rude and early state of a barter economy: "Society in its rudest state, carries on its trade by the means only of barter. When most advanced, it still conducts its commerce on the same principle; for gold and silver coin, bankers' notes, and bills of exchange, may be considered merely as instruments employed for the purpose of facilitating the barter." (Thornton 1939, p. 81) This statement can easily be mistaken as reducing any form of money to pure means of circulation in the way Ricardo treats the precious metals as universal representatives of money.

In the "Principles" Ricardo asserts with explicit reference to J.B. Say that "demand is only limited by production" because no one would produce without the *immediate* wish to consume one's own product or another product obtained in exchange for one's produce (2001, p. 209-210). Money only facilitates this exchange and ultimately "Productions are always bought by productions" (ibid.). It is precisely this *immediacy* of the wish to consume when one produces that Thornton (1939) implicitly and intuitively debunks in the first pages of his "Paper Credit": "[I]t must happen even in the infancy of society, that one man will deliver property to his neighbor without receiving, on the spot, the equivalent which is agreed to be given in return. It will occasionally be the interest of the party thus to wait the other's convenience: for he that reposes the confidence will receive in the price an adequate compensation for the disadvantages incurred by the risk and the delay." (pp. 75-76) Hence, people regularly produce and supply with *no immediate* wish to consume either their own product or that they obtain in exchange but in order to derive assets in a monetary form of some sort. This implies that they supply without immediately demanding. Consequently, supply must *not* create its own demand. Say's Law must not hold. Thornton enters the realm of disequilibrium analysis.

Thornton (1939) elaborates further that if there be commerce, commercial credit "defined to be that confidence which subsists among commercial men in respect to their mercantile

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affairs” will subsist “[e]ven in that early and rude state of society, in which neither bills nor money are as yet known” (p. 75). Hence, even in the rude and early state of barter, disequilibria occur. This is illuminating with respect to the controversial topic of the origin of money. In Thornton’s view, credit arises from exchange and precedes the use of any form of commodity money. This is why Arnon (2011) sees Thornton’s work as “an early expression of what Schumpeter called ‘credit theories of money’” (p. 104). But it also implies that monetary relations in the form of credit exist even in a barter economy. Thornton does not use the term barter in the usual way to describe an economy in which exchange only occurs if one useful product is directly given for another one. Barter in Thornton’s analysis represents the exchange of commodities in its most general form without any restrictions on its immediacy. The classical dichotomy collapses in Thornton’s analysis. Money is not neutral. Instead, without money in the form of credit there would be no commerce, no barter, no general exchange. Money is not a veil over a real barter economy that works in the same way, just more efficiently as compared to an economy without money. Instead, even the barter economy must to some extent be monetary and gives rise to credit.

In contrast with Hume and Ricardo who “posited an undifferentiated mass of commodities confronting an equally undifferentiated mass of money” (Itoh, Lapavistas 1998, p.11) and in accordance with James Steuart, Thornton distinguishes among the domestic circulation of coin and the domestic circulation of paper money of different forms. “Paper credit”, grows out of the rudimentary commercial credit and serves “to express that confidence which is in the mind, and to reduce to writing those engagements to pay, which might otherwise be merely verbal.” (Thornton 1939, p. 76) Paper credit has the capacity to “spare the use of the expensive article of gold” (ibid.). But at the same time it may precede the use of precious metal as means of circulation. Paper credit can take different forms such as promissory notes or bills of exchange. The different forms of money correspond to different uses which reflect what Keynes later came to call liquidity. Keeping great amounts of “ready money” (ibid.), i.e. cash that immediately cancels payment obligations and is highly liquid, comes at a cost, the loss of interest. This can be interpreted as a roundabout formulation of a liquidity preference determination of the rate of interest as it was formulated by Keynes (1997 [1936], 1937a, 1937b). Keynes defines liquidity preference as a “psychological time-preference” which guides “in *what form* he will hold the command over future consumption which he has

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reserved, whether out of his current income or from previous savings” (Keynes 1936, p. 166). The rate of interest in Keynes definition is then “the ‘price’ which equilibrates the desire to hold wealth *in the form of cash* with the available quantity of cash” (Keynes 1997 [1936], p. 167, italics added), i.e. the rate of interest is “the reward for not-hoarding”, for parting with liquidity (Keynes 1997, p. 174). This idea is already present in Thornton’s formulation that the cost of holding cash would be the interest rate.

Thornton’s perspective on interest as a cost of holding ready money is intertwined with his sophisticated account of velocities of circulation. Due to the cost of keeping ready money the less frequent purchase of larger quantities of money will be facilitated by credit, i.e. paper money of some kind. Whereas smaller, frequent purchases are conducted by ready money. Therefore, the different uses also correspond to different velocities of different forms of money. In addition, the velocity of circulation also varies in relation to the “degree of confidence between man and man existing at the several seasons” (Thornton 1939, p. 155) across countries and within one country across time. His liquidity oriented analysis of different forms of money leads him to acknowledge the difference between bullion and coins: “The precious metals, when uncoined (or in the state of bullion) are themselves commodities; but when converted into money they are to be considered merely as a measure of the value of other articles.” (p. 81)

Itoh and Lapavistas (1998) acknowledge Thornton’s recognition of the variability of the velocity of money but criticize him for “refuting the very existence of a *necessary* amount of circulating money” which would have caused his analysis of Hume’s price-level-specie-flow mechanism to be logically less coherent than that of Ricardo (p. 21, emphasize added). In the opinion of the present author this is mistaken in two dimensions. Firstly, it has been argued above that Ricardo himself gives up on Smith’s notion of a necessary amount of circulating money. Secondly, Thornton is consistent in not supposing a necessary quantity of money. If the velocity of circulation varies depending on the state of confidence, which ultimately affects the liquidity preference of the public, there is no fixed, necessary quantity of circulation. Thornton’s realization of the variability of the quantity of money in circulation is an expression of his supreme intuition which enabled him to prefigure some of Keynes’

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insights in the General Theory and lead him to refuse Hume's balancing mechanism for the short run as will be demonstrated in the subsequent section.

Finally, let us consider the question of what determines the value of money. Thornton argues both concerning bills of exchange as well as gold that their value is determined by supply and demand (p. 145, 146). At the first glance, this appears similar to Ricardo's determination by scarcity where a given quantity of money determines the value in relation to the velocity and amount of circulation. A closer examination shows, however, that the two represent fundamentally different notions. In Ricardo, purely real entities determine the value of money in a mechanical, objective way. In contrast, in Thornton's view, the supply and demand for money relates to the development of commerce as well as to the general state of confidence and expectations over speculative profits, i.e. liquidity preference. Hence, the value of money is genuinely monetary and money far more than a veil.

3. The High Price of Bullion and Imbalanced Trade

Thornton and Ricardo are writing in subsequent periods of high inflation, gold fleeing the country and unfavorable trade during Britain's war with Napoleon. Thornton characterizes the context of his theorizing as follows: "The law which authorized the suspension of the cash payments of the bank having been re-enacted; the high price of provisions having given occasion to much speculation on the subject of paper credit; the course of exchange having again turned greatly against the country; and gold having to a material degree disappeared, its place being occupied by small paper notes; it is not surprising that suspicious of the necessity of an alteration in the system of our paper credit should have become prevalent." (1939, p. 141) After a brief period of relative stability Britain finds itself again facing a high price of bullion and a trade deficit in 1809. What later came to be called the bullion controversy flared up in this context and spurred Ricardo to write his pamphlet (Itoh, Lapavistas 1998, p. 23).

Both Thornton and Ricardo agree that international trade balances in the long run as a result of the normal workings of the market. However, they have an opposed outlook on the balancing mechanism and the causes and policy cures of imbalances. This shall be the subject of the following two sections.

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3.1. Ricardo: The High Price of Bullion as Sole Cause of Imbalanced Trade and Convertibility as Only Remedy

Ricardo's argument on self-balancing trade follows immediately from his stance on the value of money and his view that money is a commodity as any other commodity.

In the 'natural' state of affairs, exports and imports of goods will on the whole be equal: "England might possibly import more goods from, than she would export to France, but she would in consequence export more to some other country, and France would import more from that country; so that the exports and imports of all countries would balance each other; bills of exchange could make the necessary payments, *but no money would pass, because it would have the same value in all countries.*" (Ricardo 1810, p. 3, emphasis added)

If, however, a country would export money, which implies a net import of non-monetary commodities, this can only be due to the domestic value of money being lower than its international value: "for if gold be dearer in France than in England, goods must be cheaper; we should not therefore send them from the dear to the cheap market, but, on the contrary from the cheap to the dear market, and goods would be exchanged for our gold." (Ricardo 1810, p. 7) Ricardo frames what is commonly referred to as trade deficit as "consent to give coin in exchange for goods" and this "must be from choice, not necessity" (1810, p. 12). The export of money will only be chosen if it is favorable, "specie will be sent abroad to discharge a debt only when it is superabundant; only when it is the cheapest exportable commodity" (Ricardo 1810, p. 14). Therefore, in Ricardo's view, the causality always runs from the value of money to the balance of trade: "The exportation of coin is caused by its cheapness, and is not the effect, but the cause of an unfavourable balance" (1810, p. 12).

Since Ricardo assumes that in the 'natural' state of affairs money is proportionately distributed over the economies of the world, money can only become "superabundant" if for some reasons the domestic quantity of money increases more than the global quantity. Given that the value of money is determined by its scarcity, the increased abundance of money in the domestic economy will decrease its value relative to abroad. Therefore it will be lucrative to export money to generate profit from the difference in value.

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The export of money will last as long as such a difference in value prevails. Money in Ricardo's conception is a "circulating medium" (1810, p. 4) composed of coins, bullion and paper money. The increase in the domestic quantity of money could result either from the discovery of a new mine adding to the stock of precious metal or from an increase in the issuing of paper money by the bank. The earlier kind of increase will last "as long as the mine should prove productive" (Ricardo 1810, p. 4), as long as the domestic economy produces more gold in relation to the size of its economy and velocity than the global average. The country will be a producer and exporter of gold. Ricardo finds this to be even more advantageous than producing and exporting commodities that are of productive use. On these grounds Ricardo attacks the concept of "unfavourable exchange" as mistaken: "In return for the gold exported, commodities would be imported; and though what is usually termed the balance of trade would be against the country exporting money or bullion, it would be evident that she was carrying on a most advantageous trade, exporting that which was no way useful to her for commodities which might be employed in the extension of her manufactures, and the increase of her wealth." (ibid.)

If a bank, "with the power of issuing its notes for a circulating medium" (ibid.), such as the Bank of England, adds to the sum of the circulating medium, the effect would be the same as in the case of the discovery of a mine. The increase in the circulating medium would decrease its value. Paper notes are a domestic medium of circulation. At the time of Ricardo's writing it was prohibited to export coins. Therefore bullion would be exported to restore the value of the domestic currency to the global level. This would be even more advantageous than the exportation resulting from the discovery of a mine argues Ricardo, building on an earlier observation by Thornton (see previous section): "The bank substitutes a currency of no value for one most costly, and enables us to turn the precious metals (which, though a very necessary part of our capital yield no revenue) into a capital which will yield one." (Ricardo 1810, p. 5).

However, there is a crucial restriction in Ricardo's view to the enjoyment of these benefits, it is conditioned on the convertibility of bank notes into specie: "The Bank might continue to issue their notes, and the specie be exported with advantage to the country, *while their notes were payable in specie on demand*, because they could never issue more notes than the value of the coin which would have circulated had there been no bank." (1810, p. 7, emphasis added)

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The automatic mechanism of reflux under convertibility prevents the overissuing of notes by the banks. As we noted before notes and coins cannot be exported. Before the bank has been established all domestic circulation was facilitated by coins. Once the bank is established and attains the right to issue notes, coins will be withdrawn from circulation and notes circulate on their behalf. If the quantity of notes will exceed the value of coins that would have circulated in the absence of notes, the quantity of circulating medium will have increased. This will decrease the value of coins. The price of bullion is determined on the international market and therefore represents the international value of money. A decrease of the value of coins will result in a rise in the price of bullion in terms of domestic coins. Since both coin and bullion are made of the same material their weights can be immediately compared. A high price of bullion means that a larger weight of coins exchanges against a smaller weight of bullion. Hence it is profitable to melt coins into bullion.

Therefore, if the price of bullion becomes high measured in coins due to over issuance of notes, the notes would be immediately returned to the bank and exchanged against coins to be melted and exported as bullion. This will automatically reduce the number of notes in circulation and equalize the price of bullion with that of coins. But if the bank “continued to re-issue the returned notes, the stimulus which a redundant currency first gave to the exportation of the coin would be again renewed with similar effects.” (Ricardo 1810, p. 8) If the bank persisted to re-issue, eventually all its gold reserves will be handed out in return for notes and exported as bullion.

If in an attempt to counteract the outflow of its gold reserves, the bank decided to purchase gold bullion to have it coined this would not adjust the high price of bullion and stop the demand for coins. The only effect would be, that coins melted into bullion would not be exported but instead sold to the bank. Thornton had described this mechanism before. Ricardo agrees with Thornton that the bank enters an “unequal war” (1810, p. 9) against the melters which she can only lose. Ricardo draws the following conclusion from this observation: “The bank *would be obliged* therefore ultimately to adopt the *only remedy* in their power to put a stop to the demand for guineas. They would withdraw part of their notes from circulation, till they should have increased the value of the remainder to that of gold bullion, and consequently to the value of the currencies of the other countries.” (1810, pp. 9-10) For the sake of the stability and security of the institution the bank will be forced under a

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regime of convertibility to adjust the quantity of its notes such as to equalize the price of bullion and coins.

If, however, notes were not convertible into coins, there would be no mechanism that would adjust the quantity of notes to the requirements of the domestic circulation and preserve its value argues Ricardo. This is precisely the policy enacted at Ricardo's time which constitutes his target of criticism. Ricardo blames the parliament to have enabled the bank "to increase or decrease at pleasure the quantity and amount of their notes" by restricting it from paying in specie (1810, p. 27). This would have removed the "previously existing checks against an over-issue" and the bank would have "acquired the power of increasing or decreasing the value of the paper currency" (ibid.). Since the bank had no longer to change notes against coins, the bank can freely increase the notes without facing any automatic reflux. Since the bank did not have to back its notes by specie the overissuance would not endanger the stability of the institution, "they are no longer bound by *'fears for the safety of their establishment,'* to limit the quantity of their notes to that sum which shall keep them of the same value as the coin which they represent" (Ricardo 1810, pp. 30-31). Ricardo concludes that the "depreciation in the actual value of bank-notes has been caused by the too abundant quantity which the Bank has sent into circulation" (1810, p. 31). This depreciation would be without limit and had no way of being relieved by exportation since notes are not exportable. The increase in notes "will diffuse itself only in the country where it is issued (Ricardo 1810, p. 47). Consequently, "[i]ts effects on prices will then be only local and nominal, as a compensation by means of the exchange will be made to foreign purchasers." (ibid) The value of the notes could only be re-established if the bank reduced the notes in circulation to the quantity of coins it would be representing (Ricardo 1810, p. 35).

Such a nominal increase in the domestic price level, i.e. inflation, in Ricardo's view can only do harm and no benefit to the domestic economy. As we have seen, the positive effects from replacing precious metals as domestic means of circulation with worthless paper money enabling the import of productive capital is conditioned on convertibility which prevents a depreciation of bank notes.

Ricardo also attacks the idea that the increase in the domestic quantity of money might lower interest rates and thereby profits: "To suppose that any increased issues of the Bank can

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have the effect of permanently lowering the rate of interest, (...), or that a productive gold or silver mine can have such an effect, is to attribute a power to the circulating medium which it can never possess. *Banks would, if this were possible, become powerful engines indeed.*" (Ricardo 1810, p. 47) Ricardo does not dispute that an increase of the domestic quantity of money offered as loan due to either of the two causes "would for a time affect the rate of interest" (1810, p. 46). But the borrowed money "would be sent into every market, and would every where raise the prices of commodities till they were absorbed in the general circulation." (Ricardo 1810, pp. 46-47) It would be "only during the interval of the issues of the Bank and their effect on prices, that we should be sensible of an abundance of money"; and only during that interval interest would be "under its natural level" (Ricardo 1810, p. 47).

Ricardo assumes that interest and profits must be equal. Profits are determined "by a competition of capitals not consisting of circulating medium" (Ricardo 1810, p. 48), i.e. by the return on productive capital, and profits on the employment of such capital dictate the natural rate of interest (Ricardo 1810, p. 44). But as "the increase of Bank-notes does not add to this species of capital, as it neither increases our exportable commodities, our machinery, or our raw materials, it cannot add to our profits nor lower interest" (ibid.).

Money is neutral, a mere veil that reduces transaction costs the more the lower the value of the medium of circulation itself. The low value of the notes is the only advantage of paper money as long as its quantity is regulated by convertibility. But the "capital actually employed in the country is necessarily limited to the amount of the 'materials, provisions, etc.' and might be made equally productive, though not with equal facility, if trade were carried on wholly by barter." (Ricardo 1810, p. 49) Expansionary monetary policy has no expansionary effect other than through the trade of money against productive capital from abroad, which is conditioned on convertibility.

Inflation in the form of the depreciation of bank notes, in Ricardo's conception, not only has no positive effects but also is most harmful to a just distribution within the economy. Inflation would make the holding of "property consisting of money" (Ricardo 1810, p. 52) most insecure. Citing Ricardo claims that inflation would occasion "a general, and most pernicious subversion of the fortunes of private people; enriching in most cases the idle and profuse debtor at the expense of the industrious and frugal creditor, and transporting a great

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part of the national capital from the hands which are likely to increase and improve it, to those which are likely to dissipate and destroy it.” (Smith as in Ricardo 1810, pp. 53-54)

Ricardo's whole argument is targeted at the following conclusion: “all the evils of a depreciated, and perpetually varying currency” (Ricardo 1810, p. 51) are due to the bankers not having acted upon the one and crucial *rule*, the principle “to limit their notes to that amount which should prevent the excess of the market above the mint price of gold” (ibid.). Accordingly, the *remedy* that Ricardo proposes for all the evils is that “the Bank should gradually decrease the amount of their notes in circulation until they shall have rendered the remainder of equal value with the coins which they represent, or, in other words, till the prices of gold and silver bullions shall be brought down to their mint price.” (1810, p. 50) The only way to ensure that the one and crucial rule will be implemented once the equality of the price of bullion and the mint price is re-established, the “only legitimate security which the public can possess against the *indiscretion* of the Bank is to oblige them to pay their notes on demand in specie” (Ricardo 1810, p. 56, emphasis added), i.e. to guarantee convertibility.

3.2. Thornton: Of Imbalanced Trade as One Cause of the High Price of Bullion and the Necessity for Discretionary Monetary Policy

Thornton like Ricardo starts his analysis from a notion of naturally balancing trade. But whereas Ricardo suggests a *state of balanced trade* in which “exports and imports of all countries would balance each other” (1810, p. 3), Thornton refers to a *tendency towards balance*, which may never actually settle in a state of balance. Thornton describes it “as a general truth, that the commercial exports and imports of a state (...) naturally proportion themselves in some degree to each other; and that the balance of trade, therefore (by which is meant the difference between these commercial exports and imports), cannot continue for a very long time to be either highly favourable or highly unfavourable to a country.” (1939, p. 141)

The balancing mechanism in Thornton's perspective is not Ricardo's global version of the quantity theory of money, which suggests that the value of money must be equal in all countries. Instead the level of debt and the accumulation of bullion that results from

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unbalanced trade set a limit to “highly favourable or highly unfavourable” (ibid.) trade. The balance of trade must be paid in bullion or constitute a debt. Thornton argues that both, payments in bullion and the accumulation of debt, cannot be sustained over many subsequent years: “To suppose a very great balance to be paid, year after year, in bullion, is to assume such a diminution of bullion in one country, and such an accumulation of it in another, as are not easy to be imagined (...). To suppose large and successive balances to be formed into a debt, is to assume an accumulation of debt, which is almost equally incredible.” (1939, p. 142)

In Thornton's view, both the nation that enjoys highly favorable trade as well as the one that suffers from unfavorable trade would intend to limit the accumulation of debt or bullion. The accumulation of debt as well as of gold would constitute the accumulation of unproductive capital for the rich nation (Thornton 1939, pp. 79-80, p. 153). However, a “prospering nation” enjoying favorable trade would commonly aim to employ its growing wealth in the enlargement of its productive capital at home, in improvements that become the source of increasing income (Thornton 1939, p. 142). Individual exporters, too, would attempt not to commit “too great a portion of his property into the hands of those who are not subject to the same laws with himself” (ibid.) and adhere to a customary length of credit to foreign trading partners. At the same time, the “equalization of the commercial exports and imports” in Thornton's perspective, “is promoted not only by the unwillingness of the richer state to lend to an unlimited extent, but also by a disinclination to borrow in the poorer” (ibid.). Thornton observes a disposition of all people to adapt their expenditures to their incomes. Poorer countries who face unfavorable trade would generally tend to import for consumption. But the ability of the individuals to pay for consumption goods is limited by their income. Unless they manage to increase their income by exporting more of their produce, importation must cease eventually and the “equality between private expenditures and private incomes tends ultimately to produce equality between the commercial exports and imports.” (Thornton 1939, p. 143)

So in contrast to Ricardo, Thornton acknowledges structural differences in the favorability of trade – or what we might call differences in real competitiveness – between rich and poor countries. However, he believes that in the long run these differences will not result in high and persistent trade imbalances and a massive accumulation of debt but that the

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undesirability of debt would counterbalance the structural inequality in competitiveness and set a limit to the degree of trade imbalances.

However, Thornton notes that despite this general tendency towards balanced trade, occasional demand shocks can bring about a high trade imbalance temporarily: “though the value of the commercial exports and imports of a country will have this general tendency to proportion themselves to each other,” he says, “there will not fail occasionally to arise a very great inequality between them.” (Thornton 1939, p. 143) He sees in particular “a good or a bad harvest” to be a cause that would produce such temporary difference (*ibid.*). This temporary unbalance, in Thornton’s view, is *not the result of choice but of necessity*. The importation of corn is necessary to feed the population and guarantee subsistence. It is not as in Ricardo’s theory the result of an increase in the domestic medium of circulation, which would lower the value of money and cause its exportation. Instead, money is exported in lack of another good that would be in demand in the country from which corn is imported. In contrast to Ricardo, it is not money that flows to equalize its value and is responded by a flow of goods. Instead, the money flow follows the flow of goods, which are demanded due to necessity. Individuals in the poor country will be willing to excess their income and go into debt in order to secure their subsistence. Traders in the richer, corn-exporting country, on the other hand, might not necessarily find it attractive to hold a substantial part of their property in foreign debt. In such a situation it is up to the banks in the country that is suffering from a bad harvest and provide the required means of payment. As a result, the trade imbalance is temporarily not limited since the usual limits to the willingness of accumulating debt are undermined.

Similar to Ricardo, Thornton does not perceive a trade imbalance to be necessarily harmful. But he adds important qualifications to his judgment: “when the main sources of a country’s wealth are unimpaired; when its population, its industry, its manufacturing and trading capital, its general commerce, its credit, its colonial possessions, its political strength and independence, its laws and constitution remain; and when, moreover, its paper is confined within its accustomed bounds; the absence of its gold, more especially if it be the obvious consequence of one or more unfavourable seasons, is an evil which is likely neither to be durable, nor in any respect very important.” (Thornton 1939, p. 159) This is to say that Thornton refers to a trade imbalance that does not result from structural shortcomings in

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the competitiveness of a nation but from an exogenous real shock in demand. It is exogenous in the sense that it is due to temporary weather conditions. It is real in the sense that it results from consumption demands and not from monetary policy or the discovery of a mine. Such a shock will cause a trade imbalance that might be high but not of durable harm to any of the economies involved.

Ricardo observes, “the unfavourable balance of trade, is stated [by Thornton] to be the *cause* of the excess of the market above the mint price of gold, but to me [Ricardo] it appears to be the *effect* of such excess.” (1810, p. 16) In the previous section we have established how Ricardo makes his argument for unfavorable trade to be the effect of the excess of the price of bullion above the mint price. After having introduced Thornton’s reasoning on why trade may be temporarily unbalanced trade, let us now analyze how in his view such an unfavorable balance of trade becomes the cause of an excess of the price of bullion above the mint price.

Thornton first introduces the general payment procedure of his time in international trade by referring to Hamburg and London as the two exemplary trading spots. When goods are sold for export for example to an English trader in Hamburg, a bill of exchange is issued on London as payment. This bill is sold in the place where it is issued, here Hamburg, against the local means of payment, i.e. coins, bank paper or credit with a local bank. An export of goods from Hamburg to London then gives occasion to supply bills on London, whereas an import from London would create demand for bills on London.

Now, what would be the effect if under this system a demand shock for corn from Hamburg occurs due to a bad harvest in London? “The persons in Hamburg having occasion to buy bills are fewer, in such a case, than those who want to sell them;” says Thornton “and the price of the bill, like that of any other article fluctuates according to the proportions subsisting between the supply and demand. This disproportion, then, between the number of those persons at Hamburg who want to sell London bills for Hamburg coin, and the number of those who want to sell Hamburg coin for London bills, causes the price of London bills to fall, and of Hamburg coin to rise. Thus gold is said to rise at Hamburg; and the exchange between London and Hamburg becomes unfavourable to London.” (Thornton 1939, p. 145)

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As we have noted before, Thornton suggests that gold can be considered as both an “article by which a balance of trade is discharged, and not as itself constituting a commodity” and “in the same light with all other commodities; for it is an article of intrinsic value: its price, like that of other commodities, rises and falls according to the proportion between the supply and the demand” (1939, p. 145). The latter perspective is that which Ricardo purely focuses on. It is also this same perspective that Thornton deems appropriate when analyzing the export and import of gold. Gold like any other commodity “naturally seeks (...) that country in which it is the dearest; and it is, in point of fact, like them, exported by our merchants accordingly as the export or import is likely to yield a profit.” (ibid.) Hence, Thornton in the very same way as Ricardo adheres to the profit motive of individual merchants that would drive the export of gold.

It is the cause for the high price of bullion which gives occasion to profits from arbitrage that sets the two authors apart. In Thornton's view, it is the unfavorable trade that lowers the price of London bills and by the same token raises the price of gold in Hamburg. In Ricardo's view, the causality is exactly reversed. The price of bullion is high because the price of the local coin is low due to the discovery of a mine or the expansion of notes in circulation. The high price of bullion is the cause and not the effect of unfavorable trade. Both agree, however, on the process of exportation of gold that results from the high price of bullion: coins are illegally melted into bullion for export if it was sufficiently profitable and the bank engages in an “unequal war” when trying to maintain its stocks of guinea under conditions of convertibility while the price of bullion remains high.

Both Ricardo and Thornton also agree that if the circulating medium consists of coins as well as of paper the price of the two will tend to be equal. “If, then this paper is by any means rendered cheap,” writes Thornton “and if the paper (...) is currently interchanged for one sort of gold, namely, for gold which has been coined, then the coined gold will partake in the cheapness of the paper; that is, it will buy, when in the shape of coin, a smaller quantity of goods than it will purchase when in the form of bullion.” (1939, p. 149)

But again, Ricardo and Thornton are opposed in their causal reasoning. While Ricardo finds an excessive issuance of notes as cause of an unfavorable exchange it is a consequence in Thornton's approach. But even though the excess is a consequence of unfavorable trade it

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might in theory help to reduce its very cause argues Thornton: “this excess, if it arises on the occasion of an unfavourable balance of trade, and at a time when there has been no extraordinary emission of notes, may fairly be considered as an excess created by that unfavourable balance, though it is one which a reduction of notes tends to cure.” (Thornton 1939, p. 151) However, since the issuing of notes is not the cause of the unfavorable balance of trade it would not be enough to just stop augmenting the amount of notes in circulation in order to bring the outflow of gold to a halt. Instead, in order “to induce the country having the favourable balance to take all its payment in goods, and no part of it in gold, it would be requisite not only to prevent goods from being very dear, but even to render them excessively cheap.” (ibid.) It would be therefore necessary that the bank very greatly diminish its notes to prevent gold from going out to pay for the import of goods.

Thornton does acknowledge the abstract possibility of such a contractionary monetary policy as one path of adjusting the balance of trade. However, since for him, money is not a veil and the phase of transitions matters he finds such a policy too harmful to the productive forces as to benefit the economy. Thornton argues instead that a policy of reducing the amount of notes to achieve balanced trade – the policy which Ricardo deems the one and only remedy for all evils in currency – works to undermine its very purpose: “whether the bank, in the attempt to produce this very low price, may not (...) so exceedingly distress trade and discourage manufactures as to impair (...) those sources of our returning wealth to which we must chiefly trust for the restoration of our balance of trade, and for bringing back the tide of gold into Great Britain. It is also necessary to notice in this place, that the favourable effect which a limitation of bank paper produces on the exchange is certainly *not instantaneous*, and may, probably, only be experienced after some considerable interval of time; it may therefore (...) be expected that the exchange will rectify itself before the reduction of bank paper can have any operation.” (Thornton 1939, p. 152, emphasis added)

In opposition to Ricardo, Thornton advocates a discretionary banking policy. A monetary economy does not work like a barter economy in Ricardo's sense of the term, where goods must be immediately exchanged against goods, nor would it be desirable to imitate a barter economy. If there was a sudden need for importation due to a bad harvest this need could under a system of barter if at all be only met at extreme cost. If imports would have to be paid in kind immediately, but the corn exporting country did not have sufficient demand for

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goods from the importing country, the country in need of corn would either have to face a famine or sell its goods at a loss convincing traders to buy by charging extremely low prices. Both would be very harmful to the economy. Instead of imitating a barter economy, it is the role of economic policy to accommodate real shocks such as a sudden demand for corn importation. Thornton describes this with the following words: “If the harvest fails, and imports are necessary, in order to supply the deficiency, payment for those imports is almost immediately required: but the means of payment are to be supplied more gradually through the limitation of private expenditure, or the increase of individual industry. Hence a temporary pressure arises at the time of any very unfavourable balance. *To understand how to provide against this pressure, and how to encounter it, is a great part of the wisdom of a commercial state.*” (1939, p. 143)

No matter whether we are dealing with a system of convertibility or of inconvertibility, the provision of liquidity to serve as means of payment is crucial. This provision can be achieved more easily if the bank did not have to maintain convertibility. If it had to operate under convertibility, the bank would have to have sufficient gold reserves to sustain the “unequal war” against those who melt guineas and sell them at a profit as bullion as long as the high price of bullion prevails. Since the high price of bullion is a result of unfavorable trade, this means that the bank needs to be capable of accommodating the drain on its reserves resulting from imports until the domestic economy is recovered and the need for importation has ceased. Convertibility would in Thornton’s perspective – in sharp contrast to Ricardo – not prevent a high price of bullion, but would instead severely add to the challenge of accommodating such a high price of bullion that results from unfavorable trade. “Under such circumstances,” says Thornton referring to unfavorable trade, “to alter materially the old and accustomed system of paper credit, and, in particular, to restrain in any very extraordinary degree the issues of paper of more responsible banks, is to *deprive a country of those means of recovering itself which it naturally possesses.*” (1939, p. 159)

Instead the right policy in Thornton’s opinion is to improve the balance of trade by fostering the productive powers of the country: “The return of gold is to be promoted not so much by any legislative measure directed to that immediate object, as by cherish the general industry” (ibid.). This would include “attending to the higher and more lending interest of the community” (ibid.). Thornton, attributes a positive effect to an expansionary loan policy.

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The transitory effect of an expansion of the domestic quantity of money by granting loans that Ricardo describes as the borrowed money being sent into every market, would in Thornton's way of thinking not primarily raise prices but would provide the needed liquidity to maintain the domestic commerce despite the gold drain. The bank notes do not immediately add to the stock of productive capital, but their provision creates the conditions needed to distribute and expand this capital.

4. Conclusion

Thornton and Ricardo depart from different imaginations of a "rude and early state" and arrive at opposed outlooks on the causes and cures of trade imbalances as well as the effectiveness of monetary policy.

Setting the stage for later "classical economists" (Keynes 1997, p. 3), Ricardo suggests a natural state of barter where production is supplied for immediate consumption and thereby "creates its own demand" (Keynes 1997, p. 18). Money helps to smoothen exchange but leaves the working of the economy unaffected. Metallic money is a commodity like any other commodity while it also functions as a medium of exchange. Ricardo transcends the quantity theory of money to the global level. The value of money is determined by the global quantity of money and equalized internationally in relation to the national output and velocity of circulation. The distribution of the total amount of gold as means of circulation over the different countries is independent of its total quantity and purely regulated by the equalization of its value. In Ricardo's view there is no such thing as unfavorable exchange. If gold is exported it is profitable, "it is our choice and not our necessity" (Ricardo 1810, p. 5). In addition, "Ricardo's Fallacy" suggests that self-interest always coincides with the interest of the community. Hence, there is no difference in interest, neither between individual members of the national community nor between trading nations.

Thornton, in contrast, envisions the barter economy itself as a monetary economy in the sense that it is built on credit relations necessary to facilitate exchange. There can be no commerce, i.e. no production for exchange, without credit relations. For exchange to generalize it cannot be restrained by the immediacy of exchange of one concrete good against another. If there was no credit the problem which Menger (2009 [1892]) takes as

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starting point in his “On the Origin of Money” and which is commonly referred to as the problem of the “double coincidence of wants” would prevent the rise of a commercial society. Hence, in Thornton’s view, money as an advanced form of credit is not neutral but enables exchange that would not otherwise take place.

Similarly, in the international arena, credit relations are vital for patterns of trade in Thornton’s perspective. The willingness to take on debt on the side of the individuals in the net importing country and the willingness to give credit to foreign traders in the net exporting country generally limits the degree to which trade can be imbalanced. If, however, temporarily necessity for a greater importation of goods without a respective rise in exportation occurs in one country, for example due to a bad harvest, it “is a great part of the wisdom of a commercial state” (Thornton 1939, p. 143) to design banking policy such as to provide for the required means of payment. A high price of bullion is caused by the unusual need for importation of goods. The right policy to bring the price of bullion into balance with the price of coin and to re-balance trade is that policy which promotes the industrial forces of the country. Contractionary monetary policy might eventually lead to balance but only at the cost of severely harming the sources of wealth.

In sharp contrast to Thornton’s analysis, Ricardo only knows one cause and one remedy for imbalanced trade. If trade in goods other than money is not in balance it must be because money was exported. Money would only be exported if it is cheap in one country and dear in another. The cheapness of money is the only cause of trade imbalances. Since the value of money is determined by its scarcity, the cheapness must be due to the discovery of a mine or the overissuing of notes. In the first case, the country is producing gold for export. This does not cause any trouble. Trouble arises if banking policy results in a quantity of money above the natural level that would circulate if there were no banking. The resulting nominal increase in the domestic price level, i.e. inflation, in Ricardo’s view can only do harm and no benefit to the domestic economy. Consequently, the remedy that Ricardo proposes against all evils is a gradual decrease of the amount of notes in circulation until their value will again be equal with the coins that they represent. The one and only way to maintain this equality is to establish convertibility as a rule.

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At the heart of monetary orthodoxy is the neutral money doctrine already present in Ricardo's writings. "Underlying the whole concept of Neutral Money, there is to be found a *great abhorrence for any active, exogenous policy* – a philosophy of *defeatism* and *nihilism*, the mental configuration of a terrified Alice in Wonderland" writes Adarkar (1937, p. 268) in his critique of Hayek. Hicks (1967b) summarizes Ricardo as follows: "If only the secondary money would behave like primary money, there would be no trouble! So let us try to make it behave like primary money." (p. 159) Ricardo paints an image of a harmonious "rude and early state" where paper money is absent. To benefit from the savings thanks to paper being a cheaper medium of circulation than the precious metals but to maintain the state of harmony at the same time, convertibility has to be established as a rule. If this rule is not implemented the harmony will be disturbed by a depreciated and varying currency.

Hicks' (1967b) critical perspective on Ricardo focuses on the difference between a system of metallic and a system of credit money. He writes "[i]n a world of banks and insurance companies, money markets and stock exchanges, money is quite a different thing from what it was before these institutions came into being." (p. 158) So it appears as if the problem with Ricardo's theory is that it does not acknowledge this difference but aims to impose the rules of a past system of metallic money to regulate modern banking. Thornton starts from the very beginning from a different understanding of money. Money is already credit in the "rude and early state". In Thornton, there is no pure metallic system of immediate barter where Say's Law holds. Thornton's conception of money as breaking up the immediacy of exchange leads him to prefigure Keynes' notions of the effectiveness of expansionary monetary policy, the monetary determination of interest rates and the importance of liquidity preference. Thornton's framework lies the foundations for a monetary theory and theory of monetary policy alternative to monetary orthodoxy.

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