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The Malthus *versus* Ricardo 1815 Corn Laws Controversy: An appraisal

*Neri Salvadori and Rodolfo Signorino*¹

Abstract: The paper proposes a rational reconstruction of the arguments developed by Malthus and Ricardo in their 1815 essays, *Grounds of an Opinion* and *An Essay on Profits*, to repudiate and endorse a policy of free corn trade, respectively. Malthus envisaged defence and opulence as two mutually alternative options and, if required to make a choice, he had no doubt in choosing the former. By contrast, Ricardo excluded any alternative between defence and opulence: trade does not give a sustainable weapon to potential enemies of Great Britain whereas trade-driven opulence may give Great Britain greater means to wage a war.

Keywords: Malthus, Ricardo, Corn Laws, Coordination Games

JEL Classification: B12, B31

1. Introduction

As is well-known, Thomas Robert Malthus and David Ricardo stood on opposite sides in the lively political debate which led to the enactment of the 1815 Corn Laws.² In *The Grounds of an Opinion on the Policy of Restricting the Importation of Foreign Corn: intended as an Appendix to "Observations on the Corn Laws"* (1815, hereafter *Grounds*) Malthus repudiated the policy of free

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² The Corn Laws of 1804 imposed a high import duty of 30 shillings and 3¾ pence when the British market price of corn fell below of 63 shillings per quarter while the Corn Laws of 1815 ruled absolute foreign corn import prohibition for a British market price of corn below 80 shillings and free importation above: see Hollander (1997, Appendix B, pp. 869 – 870). As noted by Hilton (1977), “[the Corn Laws of 1804] had inaugurated a golden decade for most agriculturists. Though that law never operated, inflation having immediately dwarfed the prices at which it had imposed effective import duties, the wartime commercial blockade bestowed a natural protection on British and Irish corn” Hilton (1977, p. 4). Following the findings of the Parliamentary Select Committees appointed in 1813 and 1814 to report on the corn question, the fall in domestic corn price ensuing the bumper harvest of 1813 and, finally, the abrupt end of the Napoleonic Wars in April 1814, the issue of foreign corn trade took the center stage in British political debate in the late 1814 - early 1815 (see *Works* IV, p. 3). Fay (1932) is a classic study in the historiography of the British Corn Laws. Schonhardt-Bailey (2006) provides an extensive assessment of the complex issues underlying their 1846 repeal under the Tory Government of Robert Peel.

corn trade which he had considered favorably in his *Observations on the Effects of the Corn Laws, and of a Rise or Fall in the Price of Corn on the Agriculture and General Wealth of the Country* (1st ed. 1814, 3rd ed. 1815, hereafter *Observations*).³ By contrast, in *An Essay on the Influence of a low Price of Corn on the Profits of Stock* (1815, hereafter *Essay*) Ricardo explicitly endorsed the “policy of leaving the importation of corn unrestricted by law” (*Works* IV, p. 9).

Differences of emphasis apart, historians of economic analysis basically agree that the *Essay* is a crucial stepping stone in the evolution of Ricardo’s thought towards the work of the maturity, the *Principles of Political Economy and Taxation* (1817). In particular, three issues have extensively been investigated. First, since Piero Sraffa’s 1951 Introduction to the *Works and Correspondence of David Ricardo* a major bone of contention has been the so-called ‘corn-model’ as the implicit foundation for the famous ‘Table, shewing the Progress of Rent and Profit under an assumed Augmentation of Capital’ and the privileged role assigned by Ricardo to the agricultural profit rate (Bharadwaj 1983, De Vivo 1985, Eatwell 1975, Garegnani 1982 and 1983, Hollander 1973, 1979 Chapter 4 and 1983, Peach 1984; more recently, see Kurz 2011). Second, a few scholars have checked the compatibility between the dynamic and the static features of Ricardo’s theory of international trade as developed in the *Essay* and in Chapter VII, ‘On Foreign Trade’, of the *Principles*, respectively (Burgstaller 1986, Findlay 1974, Maneschi 1983 and 1992).⁴ Finally, Blaug (1956, p. 41) has claimed that “the body of doctrine which Ricardo bequeathed to his followers rested on a series of definite predictions about the course of economic events which were subject to empirical verification, in the strictest sense of the term” whereas Hollander (1977 and 1979 Chap. 11) has maintained that Ricardo did not make any definite prediction as to the tendency of the British economy towards the stationary state in the foreseeable future: technical progress, *inter alia*, would have counterbalanced the fall of the rate of profits due to diminishing returns in agriculture.⁵

³ Hollander (1992) claims that, as early as the mid-1820s, Malthus changed his mind as to the expediency of the policy of food autarky and resolutely turned towards the Ricardian position of unbalanced, industry-based, growth. Unfortunately, death prevented him from incorporating this new view into the revised 1836 version of his *Principles of Political Economy*. Hollander’s thesis is controversial: see Pullen (1995) and Hollander’s (1995) reply. See also Hollander (1997, Chap. 17).

⁴ Note that Ricardo’s 1815 endorsement of a free-trade policy owes nothing to the principle of comparative advantage which is conspicuous for its absence in the *Essay* (see Chipman 1965, p. 481). According to Ruffin (2002, p. 735) Ricardo discovered the principle of comparative advantage sometime between March and October 1816.

⁵ Accordingly, as concerns the Corn Laws issue, Hollander maintains: “[Ricardo’s] major point is simply that the rate of growth is likely to be higher in a free system than in a protected system” (1977, p. 13, and 1979, p. 609,

Until now, less exegetical care has been lavished on studying the logic underlying the specific arguments employed by Ricardo in the *Essay* to counteract Malthus's endorsement of a protectionist food policy in *Grounds*. We first point out that Malthus, both in *Observations* and in *Grounds*, furthers the thesis that, from a strictly theoretical point of view, all trading countries gain from the improved international division of labor engendered by free trade. Yet, (i) political reasons, (ii) an optimistic view of technological progress in British agriculture and (iii) his belief that Great Britain and Ireland still have a backlog of under-cultivated fertile lands induce Malthus in *Grounds* to champion a policy of food autarky.⁶ According to Malthus, such a policy would have sheltered Great Britain from the threat of too heavy a dependence from foreign corn imports.

Then we show how, in the *Essay*, Ricardo addresses the national security issue raised by Malthus in *Grounds*. Ricardo claims that Great Britain would become by far the largest net corn-importing **economy** in the world, as soon as it had abandoned a policy of food self-sufficiency. Provided that Great Britain credibly adopted a free-trade policy, the corn-producing foreign countries would have found it convenient to invest additional resources into their agricultural sectors so as to increase their production of a corn surplus suitable to meet British increased demand. Once these investments are carried out, Ricardo's argument goes on, foreign countries would suffer substantial economic losses if they had enacted restrictive legislation as to their corn export: a refusal to export their corn surplus towards Great Britain would entail a glut in their domestic corn markets and a severe depression of their agricultural sectors.

Finally, we provide an assessment of the debate. We first relate Malthus's and Ricardo's different trade-policy proposals to their different interpretations of the contemporary European situation and we investigate them also by making use of the language of modern game theory.

The structure of the paper is as follows. Sections 2 and 3 analyze Malthus's *volte-face* from the role of impartial examiner of the pros and cons of alternative corn-trade policy options in *Observations* to the role of staunch advocate of food protectionism in *Grounds*. Sections 4 focuses

Hollander's emphasis). *Contra* Hollander's interpretation as to Ricardo's growth optimism and Ricardo's views of the drawbacks entailed by the Corn Laws see O'Brien (1981, pp. 359 – 361 and 375 – 381).

⁶ Pullen (1995, p. 525) claims that Malthus's 1815 attitude towards foreign corn trade perfectly fits with Malthus's *forma mentis*: Malthus was always keen to distinguish between abstract theoretical principles and the practical application of those principles to specific issues. Malthus himself in *Grounds* writes: "I protest most entirely against the doctrine, that we are to pursue our general principles without ever looking to see if they are applicable to the case before us" (Malthus 1815 [1986], p. 158).

on the arguments employed by Ricardo in the *Essay* to counteract Malthus's concern about the political threat involved by too heavy a dependence on foreign corn. Section 5 develops our assessment of the Malthus-Ricardo debate while Section 6 concludes.

2. Malthus as an impartial examiner: *Observations* (1814)

Malthus describes his *Observations* as a detached attempt to evaluate “with the strictest impartiality” (Malthus 1814 [1986], p. 88) the pros and cons of the two policy options under scrutiny: free *versus* restricted importation of foreign corn. Though he claims that his goal is simply to afford “the materials for a just and enlightened decision; and, whatever that decision may be, to prevent disappointment, in the event of the effects of the measure not being such as were previously contemplated” (*ibidem*), it is fair to say that, on balance, Malthus's analysis ends up from the side of free trade (for a similar appraisal see Hollander 1997, pp. 820 – 824). For Malthus if a country where manufactures are highly developed and all fertile lands are already fully cultivated might establish a trade relationship with another country where opposite economic conditions hold, it would not grow an independent supply of corn, *granted an universal freedom of trade*:

there is every reason to suppose, that even a large landed nation, abounding in a manufacturing population, and having cultivated all its good soil, might find it cheaper to purchase a considerable part of its corn in other countries, where the supply, compared with the demand, was more abundant. *If the intercourse between the different parts of Europe were perfectly easy and perfectly free*, it would be by no means natural that one country should be employing a great capital in the cultivation of poor lands, while at no great distance, lands comparatively rich were lying very ill cultivated, from the want of an effectual demand. (Malthus 1814 [1986], p. 95, emphasis added)

It is worth stressing that Malthus qualifies his statement that international trade between manufacturing and agricultural countries is mutually beneficial with the proviso “If the intercourse between the different parts of Europe were perfectly easy and perfectly free”. As we show in the next section, what in the 1814 essay is a simple *caveat*, in the 1815 essay becomes the crucial argument used by Malthus to repudiate his 1814 neutrality and to stand unreservedly for corn import restrictions. It is no coincidence that Ricardo in the *Essay* focuses just on the national security issue to show the inexpediency of a protectionist food policy for Great Britain.

According to Malthus (1814), the free importation of foreign corn would have benefited the British manufacturing sectors from an increase in foreign demand for British manufactured commodities – “as all trade is ultimately a trade of barter, and the power of purchasing cannot be permanently extended without an extension of the power of selling, the foreign countries which

supplied us with corn would evidently have their power of purchasing our commodities increased, and would thus contribute more effectually to our commercial and manufacturing prosperity” (Malthus 1814 [1986], p. 99) – and would have secured a downward stabilization of domestic corn market price: “It must be allowed, that a free trade in corn would in all ordinary cases not only secure a cheaper, but a more steady, supply of grain” (Malthus 1814 [1986], p. 100). Though in Malthus’s view the price of corn does not uniquely and immediately determine money wages, yet he maintains that it exerts a strong influence on wages dynamics. Therefore, Malthus ends up that the free importation of foreign corn would result in a sharp reduction of British money wages and, consequently, production costs for British manufactures. By squeezing the wage gap between Great Britain and the other trading countries the free-trade induced downward stabilization of domestic corn market price would have benefited British manufactures (see Malthus 1814 [1986], p. 98).

According to Malthus the drawbacks engendered by restrictions to free corn imports may be listed as (i) an inefficient allocation of British capital between the agricultural and the manufacturing sector of the British economy, (ii) an increase in production costs with the consequent loss of international competitiveness for British manufactures, (iii) a slowdown in population growth due to the high price of corn and the reduced demand for labor by the manufacturing sector, and (iv) the need for a repeated legislative intervention to match the ongoing evolution of the international corn market (see Malthus 1814 [1986], pp. 104 – 105). Malthus goes so far as to claim that peacetime restrictions to the free importation of foreign corn, engineered to keep British market price of corn at its war-time level, would ultimately harm not only British manufactures but also British agriculture, *i.e.* the very sector they were intended to support (see Malthus 1814 [1986], pp. 105 – 106).

Yet, Malthus’s objectivity leads him to maintain that free corn trade and the ensuing downward stabilization of the British market price of corn is far from being “an unmixed good” (Malthus 1814 [1986], p. 105). For Malthus, in fact, without tariff protection British agricultural sector would inevitably and substantially shrink, both in relative and absolute terms, and Great Britain would have to face the evils of an unbalanced economic growth.⁷ First, an increasing share of British workers would be exposed to the ups and down of domestic and international business cycle, given the much higher variability of the demand for manufactures than the demand for food (see Malthus 1814 [1986], p. 101). But, cyclical fluctuations apart, Malthus is ready to acknowledge that the

⁷ Malthus’s agricultural bias fully reveals the Physiocratic dimension of his thought in the early 1810s: see Hollander (1997, Chap. 8).

development of manufactures entails significant long-run beneficial welfare effects for society as a whole:

Yet though the condition of the individual employed in common manufacturing labour is not by any means desirable, most of the effects of manufactures and commerce on the general state of society are in the highest degree beneficial. They infuse fresh life and activity into all classes of the state, afford opportunities for the inferior orders to rise by personal merit and exertion, and stimulate the higher orders to depend for distinction upon other grounds than mere rank and riches. They excite invention, encourage science and the useful arts, spread intelligence and spirit, inspire a taste for conveniences and comforts among the labouring classes; and, above all, give a new and happier structure to society, by increasing the proportion of the middle classes, that body on which the liberty, public spirit, and good government of every country must mainly depend. (Malthus 1814 [1986], pp. 101 – 102)

Second, and foremost, Malthus highlights a political risk. Great Britain would become a country heavily dependent on foreign corn importation to match its food requirements. Malthus, echoing Smith (*WN* IV.ii.30), warns his readers that such a structural dependence from abroad for food supply may turn out to be a fearsome weapon of blackmail in the hands of foreign countries, especially in times of war:

It is alleged, first, that security is of still more importance than wealth, and that a great country likely to excite the jealousy of others, if it become dependent for the support of any considerable portion of people upon foreign corn, exposes itself to the risk of having its most essential supplies suddenly fail at the time of its greatest need. (Malthus 1814 [1986], p. 100)

Yet, Malthus concedes that foreign countries will have few economic incentives to reduce their corn exports to Great Britain because such a choice would result into the loss of a significant source of income:

That such a risk is not very great will be readily allowed. It would be as much against the interest of those nations which raised the superabundant supply as against the one which wanted it, that the intercourse should at any time be interrupted; and a rich country, which could afford to pay high for its corn, would not be likely to starve, while there was any to be purchased in the market of the commercial world. (*ibidem*)

Malthus, in fact, argues that the expectation by foreign corn-producing countries of a steadfast adoption of a free-trade policy by Great Britain would have provided strong incentives to the former to increase their corn production to meet the increased British corn demand:

there can be little doubt, that if the corn growers in the neighbourhood of the Baltic could look forward to a permanently open market in the British ports, they would raise corn expressly for the purpose. The same observation is applicable to America; and under such circumstances it would answer to both countries, for many years to come, to afford us supplies of corn, in much larger quantities than we have ever yet received from them. (Malthus 1814 [1986], pp. 95 - 96)

Malthus concludes his ‘objective’ analysis of the pros and cons of alternative corn trade policies in *Observations* with an invitation to the British Parliament to postpone a final decision regarding the issue of foreign corn trade. In the alternative, Malthus proposes to give “to the restrictions the form of a constant duty upon foreign corn, not to act as a prohibition, but as a protecting, and at the same time, profitable tax” (Malthus 1814 [1986], p. 109).

3. Malthus as a committed protectionist: *Grounds* (1815)

Differently from *Observations*, in *Grounds* Malthus boldly declares his “deliberate, yet decided, opinion in favour of some restrictions on the importation of foreign corn” (Malthus 1815 [1986], p. 151). Indeed, what Malthus presents at the outset of his 1815 essay as “some restrictions”, becomes in the course of the same essay a policy of food self-sufficiency, purposely engineered to make Great Britain dependent from corn imports only in the years of very poor domestic harvests:

I have fully made up my mind as to the side on which the balance lies; and am decidedly of opinion, that a system of restrictions so calculated as to keep us, in average years, nearly independent of foreign supplies of corn, will more effectually conduce to the wealth and prosperity of the country, and of by far the greatest mass of the inhabitants, than the opening of our ports for the free admission of foreign corn, *in the actual state of Europe*. [...] I firmly believe that, *in the actual state of Europe*, and under the *actual circumstances of our present situation*, it is our wisest policy to grow our own average supply of corn; and, in so doing, I feel persuaded that the country has ample resources for a great and continued increase of population, of power, of wealth, and of happiness. (Malthus 1815 [1986], p. 160 and p. 174, emphasis added)

The recurring clause “in the actual state of Europe” and the use of similar clauses like “under the actual circumstances of our present situation” in the above passages emphasize the fact that Malthus’s *volte-face* from detached impartiality to active partisanship on the issue of foreign corn trade does not arise from a change in the theory adopted by him.⁸ Malthus, in fact, insists that he still adheres to the weighing of free *versus* restricted corn trade alternatives provided in *Observations*. Malthus’s new view rather depends on his observation of what he defines as some new facts:

The grounds on which the opinion so formed [in favour of some restrictions on the importation of foreign corn] rests, are partly those which were stated in the *Observations*, and partly, and indeed *mainly*, some facts which have

⁸ As we show in the following Section, in the *Essay* Ricardo criticized Malthus for his taking as given “the actual state of Europe”, thus downplaying the possibility that such a state could change as a response to the adoption of a free-trade policy by Great Britain.

occurred during the last year, and which have given, as I think, a decisive weight to the side of restrictions. (Malthus 1815 [1986], p. 152, emphasis added; see also p. 156)

The new fact Malthus refers to is that France (which Malthus considered by far the main source of foreign corn supply, should Great Britain adopt a policy of free corn trade: see Hollander 1997, p. 829 fn. 30) has enacted a restrictive legislation on its corn export.⁹ The crux of Malthus's argument is that the abolition of trade restrictions, if adopted unilaterally by a single country, flies in the face of the economic interests of that country:

There is no person in the least acquainted with political economy, but must be aware that the advantages resulting from the division of labour, as applicable to nations as well as individuals, depend solely and entirely on the power of exchanging subsequently the products of labour. And *no one can hesitate to allow, that it is completely in the power of others to prevent such exchanges, and to destroy entirely the advantages which would otherwise result from the application of individual or national industry, to peculiar and appropriate products.* (Malthus 1815 [1986], pp. 158 – 159, emphasis added)

The convenience for Great Britain to adopt a policy of food self-sufficiency in an international setting in which corn-producing countries may, at any time, introduce restrictive legislation on corn exports stems from the fact that, according to Malthus, the high, war-time, British market price of corn has encouraged “a great increase of capital laid out upon the land, and a great consequent extension of cultivation and improvement” (Malthus 1815 [1986], p. 152). By contrast, the free importation of cheap foreign corn would inevitably involve a drastic and permanent fall in British market price of corn and the consequent establishment of deflationary expectations therein, the abandonment of cultivation of marginal British lands and a slowdown of technological progress in agriculture. In such a scenario, Great Britain would become structurally dependent on foreign corn imports since average corn production on British fertile lands would not be sufficient to match domestic consumption needs and marginal, less-fertile, lands, once abandoned, would require time and considerable capital investment to be put back in a producing state:

the fall of prices, which had lately taken place, and the alarm of a still further fall, from continued importation, had not only checked all progress of improvement, but had already occasioned a considerable loss of agricultural advances; and that a continuation of low prices would, in spite of a diminution of rents, unquestionably destroy a

⁹ As noted by Hollander (1997), for Malthus (1815) “the issue was not free trade versus protection [...] The true choice was between a bogus ‘free trade’ subject to French export control precluding an inflow from the Continent during ‘scarce years’ and a restrictive system designed to render Britain ‘in average years, nearly independent of foreign supplies’”(Hollander 1997, pp. 828 and 829). For Hollander, Malthus opted for the latter arrangement because he thought it to be that most likely to be conducive to British prosperity *and* security.

great mass of farming capital all over the country, and essentially diminish its cultivation and produce. (Malthus 1815 [1986], p. 153)

Malthus's turn towards food autarky in *Grounds* is reinforced by Malthus's beliefs that (i) the extension of British and Irish territory is such as to push the threat of diminishing returns in agriculture to a far distant future and (ii) the high domestic market price of corn under autarky would keep on stimulating technological progress in agriculture and provide sufficient incentives to spread the best agricultural techniques throughout the country:¹⁰

if merely the best modes of cultivation, now in use in some parts of Great Britain, were generally extended, and the whole country was brought to a level, in proportion to its natural advantages of soil and situation, by the further accumulation and more equable distribution of capital and skill; the quantity of additional produce would be immense, and would afford the means of subsistence to a very great increase of population. [...] It is quite evident that ... *the united empire [Great Britain and Ireland] has ample means of increasing in wealth, population, and power, for a very long course of years, without being habitually dependent upon foreign supplies for the means of supporting its inhabitants.* (Malthus 1815 [1986], p. 161, emphasis added)

4. Ricardo's critique of "arguments almost unanswerable respecting the danger of dependence on foreign countries": the *Essay* (1815)

Ricardo's *Essay* belongs to the rich pamphlet literature which blossomed "in anticipation of the debates in the House of Commons on the question of the Corn Laws" (*Works* IV, p. 4) and has aptly been described as "an essay in persuasion" (Hollander 1979, p. 118). Its title *in extenso* reads: *An Essay on the Influence of a low Price of Corn on the Profits of Stock; shewing the Inexpediency of Restrictions on Importation: With Remarks on Mr. Malthus's Two Last Publications: "An Inquiry into the Nature and Progress of Rent" and "The Grounds on the Policy of Restricting the Importation of Foreign Corn"*. Malthus's two contributions mentioned by Ricardo were published

¹⁰ Malthus's views on the role of Ireland as the British granary, the existence of as yet unexploited efficiency gains by implementing agricultural best-practices throughout British farms and the severe capital and corn production losses deriving from British marginal lands being put out of tillage were widely shared in the 1814 – early 1815: see Hilton (1977, p. 23). See also the summary of the report of the 1814 Grain Committee provided by Smart: "The sudden removal of these [war-time] impediments [to foreign corn importation] might prevent the enclosure and cultivation of great tracts of land still lying waste and unproductive, counteract the spirit of improvement in other quarters, and check its progress upon lands already under tillage. [...] If [cold clay or waste and inferior lands] were withdrawn from tillage, they would for many years be of very little use as pasture, and the loss from such a change, as well to the occupiers as to the general stock of national subsistence, would be very great" (Smart 1910 - 1917, I, pp. 415 – 416, quoted in Hollander (1997, p. 740 fn 1).

on February 3 and 10, respectively; while Ricardo's *Essay* was published on February 24, 1815 (*Works* IV, p. 5). After reading the *Rent* essay, in a letter to Malthus, dated February 6, 1815 Ricardo expresses his warm admiration to his friend:

I have now read with very great attention your essay on the rise and progress of rent [Ricardo refers to *An Inquiry into the Nature and Progress of Rent*] with a view of selecting every passage which might afford us subject for future discussion. *It is no praise to say that all the leading principles in it meet with my perfect assent*, and that I consider it as containing many original views, which are not only important as connected with rent, but with many other difficult points, such as taxation &c^a. &c^a. (*Works* VI, p. 172, emphasis added)

But just a week later, after reading Malthus's protectionist essay, Ricardo exposes what in his view appears to be a chasm between Malthus as the pure theorist of *An Inquiry into the Nature and Progress of Rent* and Malthus as a supporter of a protectionist policy in *Grounds*:

I have read the Appendix [Ricardo refers to *Grounds*] also with great attention and cannot help thinking that you have quite thrown off the character of impartiality to which in the observations [Ricardo refers to *Observations*] I thought you fairly entitled. You are avowedly for restrictions on importation; of that I do not complain. It is not easy to estimate justly the dangers to which we may be exposed.— Those who are for an open trade in corn may underrate them, and it is possible that you may overrate them. It is a most difficult point to calculate these dangers at their fair value, — but in an economical view, altho' you have here and there allowed that we might be benefited by importing cheap, rather than by growing dear—you point out many inconveniences which we should suffer from the loss of agricultural capital, and from other causes; which would make it appear as if even economically you thought we ought [not] to import corn,—such is the approbation with which you quote from Adam Smith of the benefits of agriculture over commerce in increasing production, and which *I cannot help thinking is at variance with all your general doctrines* (*Works* VI, pp. 177-8, emphasis added)

The critical strategy adopted by Ricardo in the *Essay* consists in making use of the analytical results obtained by Malthus in the *Rent* essay concerning the relationship between rent and profits and a few arguments taken from Malthus's 'objective' essay, *Observations*, to counter the arguments used by Malthus to support protectionism in the 'committed' essay, *Grounds*. As concerns rent theory and its logical implications, Ricardo stresses

(i) the inverse relationship between rent and profits, given real wages and agricultural technology:

by bringing successively land of a worse quality, or less favourably situated into cultivation, rent would rise on the land previously cultivated, and precisely in the same degree would profits fall; and if the smallness of profits do not check accumulation, there are hardly any limits to the rise of rent, and the fall of profit. (*Works* IV, p. 14)

(ii) the nature of rent as a transfer payment so that whatever cause reduces aggregate rent increases aggregate profits *pari passu*, such a redistribution of purchasing power from landlords to farmers leaving unscathed aggregate expenditure:

The general profits of stock depend wholly on the profits of the last portion of capital employed on the land; if, therefore, landlords were to relinquish the whole of their rents, they would neither raise the general profits of stock, nor lower the price of corn to the consumer. It would have no other effect, as Mr. Malthus has observed, than to enable those farmers, whose lands now pay a rent, to live like gentlemen, and they would have to expend that portion of the general revenue, which now falls to the share of the landlord. (*Works IV*, pp. 21-22)

Rent theory and its logical implications are the bedrock on which Ricardo anchors his endorsement of a free-trade policy: “The consideration of those principles [which regulate the rise and fall of rent], together with those which regulate the profit of stock, have convinced me of the policy of leaving the importation of corn unrestricted by law” (*Works IV*, p. 9). Accordingly, Ricardo’s challenge in the *Essay* is to demonstrate that Malthus’s 1815 endorsement of protectionism derives *uniquely* from his overvaluation of the political risks arising from foreign corn dependence in times of war or poor harvest abroad:

From the general principle set forth in all Mr. Malthus’s publications, I am persuaded that he holds the same opinion as far as profit and wealth are concerned with the question; but, viewing, as he does, the danger as formidable of depending on foreign supply for a large portion of our food, he considers it wise, on the whole, to restrict importation. Not participating with him in those fears, and perhaps estimating the advantages of a cheap price of corn at a higher value, I have come to a different conclusion. Some of the objections urged in his last publication, “Grounds of an Opinion” &c. I have endeavoured to answer; they appear to me unconnected with the political danger he apprehends, and to be inconsistent with the general doctrines of the advantages of a free trade, which he has himself, by his writings, so ably contributed to establish. [...] *It is, then, the dangers of dependence on foreign supply for any considerable quantity of our food, which can alone be opposed to the many advantages which, circumstanced as we are, would attend the importation of corn.* These dangers do not admit of being very correctly estimated, they are in some degree, matters of opinion and cannot like the advantages on the other side, be reduced to accurate calculation. (*Works IV*, p. 9 and p. 27, emphasis added)

Ricardo’s counter-argument develops through the following chain of reasoning. Malthus assumed that France, Britain’s traditional enemy, would become by far the largest corn supplier to Great Britain, once the latter would have allowed the free import of cheap foreign corn. By contrast, for Ricardo, Great Britain could avail itself of a plurality of trading partners, besides France. Implicit in Ricardo’s argument is the assumption that many corn-producing countries have at present few incentives to cultivate intensively the whole of their fertile lands and no incentive to invest additional capital into their agricultural sectors. The main culprit for such a lack of incentives

are just the British Corn Laws since they make British demand for foreign corn almost unpredictable and thus discourage corn-producing countries from investing additional resources into their agricultural sectors. Conversely, should Great Britain enact a legislation which allows the free importation of foreign corn whenever its domestic market price exceeds the international market price and not only in times of poor domestic harvest and abnormally high domestic market prices, Great Britain would certainly become a net corn-importing country:

If we became a regularly importing country, and foreigners could confidently rely on the demand of our market, *much more land would be cultivated in the corn countries with a view to exportation*. [...] In contemplating a trade in corn, unshackled by restrictions on importation, and a consequent supply from France, and other countries, where it can be brought to market, at a price not much above half that at which we can ourselves produce it on some of our poorer lands, *Mr Malthus does not sufficiently allow for the greater quantity of corn, which would be grown abroad, if importation was to become the settled policy of this country*. There cannot be the least doubt that if the corn countries could depend on the markets of England for a regular demand, if they could be perfectly secure that our laws, respecting the corn trade, would not be repeatedly vacillating between bounties, restrictions, and prohibitions, a much larger supply would be grown, and the danger of a greatly diminished exportation, in consequence of bad seasons, would be less likely to occur. *Countries which have never yet supplied us, might, if our policy was fixed, afford us a considerable quantity*. (*Works IV*, pp. 27 – 28 and 30, emphasis added)

The increase in the number of British trading partners and, therefore, the diversification of its sources of corn supply would drastically reduce the likelihood of an international production of corn insufficient to match British food requirements since, for Ricardo, the worldwide variance of corn harvests is a decreasing function of the number of corn-producing countries tied by trade relations (see *Works IV*, p. 31).

Then Ricardo turns to the analysis of the political danger of too heavy a dependence on foreign corn supply, raised by Malthus in the protectionist essay. Ricardo's argument to downplay Malthus's natural security issue is based on the following three assumptions. First, agricultural investment is largely a sunk cost. Second, Great Britain would become a quasi-monopsonist in the international corn market, should it adopt a free trade policy. Third, in every country, the domestic market price of corn is highly sensitive with respect to (positive or negative) market excess demand. A small excess (deficiency) in the quantity produced causes a sharp fall (rise) in the market price of corn.¹¹

¹¹ In the *Essay* Ricardo writes: "the effects of plenty or scarcity, in the price of corn, are incalculably greater than in proportion to the increase or deficiency of quantity [...] the exchangeable value of corn does not rise in proportion only to the deficiency of supply, but two, three, four, times as much, according to the amount of the deficiency"

When we consider the value of even a few weeks consumption of corn in England, no interruption could be given to the export trade, if the continent supplied us with any considerable quantity of corn, without the most extensively ruinous commercial distress -distress which no sovereign, or combination of sovereigns, would be willing to inflict on their people; and, if willing, it would be a measure to which probably no people would submit. It was the endeavour of Bonaparte to prevent the exportation of the raw produce of Russia, more than [any] other cause which produced the astonishing efforts of the people of that country against the most powerful force perhaps ever assembled to subjugate a nation. *The immense capital which would be employed on the land, could not be withdrawn suddenly, and under such circumstances, without immense loss; besides which, the glut of corn in their markets, which would affect their whole supply, and lower its value beyond calculation;* the failure of those returns, which are essential in all commercial adventures, would occasion a scene of wide spreading ruin, which if a country would patiently endure, would render it unfit to wage war with any prospect of success. (*Works IV*, p. 28, emphasis added)

And again: even “Bonaparte, when he was most hostile to us, permitted the exportation of corn to England by licenses, when our prices were high from a bad harvest, even when all other commerce was prohibited” (*Works IV*, p. 29). Hence, Ricardo’s chain of reasoning implies that it is very unlikely that foreign corn-producing countries, once they have increased their corn producing capacity to match British demand for corn, will reduce or even suspend their corn export towards Great Britain in case of a war or to make up a deficient domestic harvest. Ricardo’s appeal to the British Parliament not to enact a protectionist legislation derives from his reasoned guess on the equilibrium trade strategy of foreign corn-producing countries: “Would it be wise then to legislate with the view of preventing an evil which might never occur; and to ward off a *most improbable* danger, sacrifice annually a revenue of some millions?” (*Works IV*, pp. 29-30, emphasis added).

While Ricardo disagreed with Malthus on the likelihood of the adoption of corn export restrictions by foreign countries, he concurred with him that a sudden abolition of the Corn Laws would have led to the financial bankruptcy of those British farmers who, by growing corn on marginal, less fertile, lands, could not stand the competition with cheap foreign corn producers and proposed a temporary tariff protection to withdraw as soon as existing agricultural lease contracts

(*Works IV*, pp. 28 - 29 and p. 30). Ricardo devotes the whole Section IV, ‘On the Effect of Abundant Crops on the Price of Corn’, of his 1822 essay, *On Protection to Agriculture*, to the issue of the sensitiveness of the market price of corn: “When the quantity of corn at market, from a succession of good crops, is abundant, it falls in price, not in the same proportion as the quantity exceeds the ordinary demand, but very considerably more [...] No principle can be better established, than that a small excess of quantity operates very powerfully on price. This is true of all commodities; but of none can it be so certainly asserted as of corn, which forms the principal article of the food of the people” (*Works IV*, p. 134).

expire (*Works IV*, p. 33). But he ridiculed any attempt to ground a protectionist argument on the bankruptcy of those British farmers:¹²

[Malthus] dwells with much stress on the losses of agricultural capital, which the country would sustain, by allowing an unrestricted importation. He laments the loss of that which by the course of events has become of no use to us, and by the employment of which we actually lose. We might just as fairly have been told, when the steam-engine, or Mr. Arkwright's cotton-machine, was brought to perfection, that it would be wrong to adopt the use of them, because the value of the old clumsy machinery would be lost to us. (*Works IV*, p. 33)

5. An assessment of the debate

As the previous sections have clarified, from a strictly theoretical point of view, Malthus and Ricardo were both supporters of a free trade policy. The roots of the difference between them may be traced back to their different views on the political situation of the post-Napoleonic Europe. Two historical facts are strikingly relevant to comprehend Malthus's position. One is the large-scale embargo against British trade, known as the Continental Blockade, which Napoleon imposed to the allied and **conquered countries** since 1806. Though this embargo ended with Napoleon's first abdication, France enacted a restrictive legislation on its corn export. And this was the second fact,

¹² The same argument is restated by Ricardo right at the conclusion of the *Essay*: "I shall only further observe, that I shall greatly regret that considerations for any particular class, are allowed to check the progress of the wealth and population of the country. If the interests of the landlord be of sufficient consequence, to determine us not to avail ourselves of all the benefits which would follow from importing corn at a cheap price, they should also influence us in rejecting all improvements in agriculture, and in the implements of husbandry; for it is as certain that corn is rendered cheap, rents are lowered, and the ability of the landlord to pay taxes, is for a time, at least, as much impaired by such improvements, as by the importation of corn. To be consistent then, let us by the same act arrest improvement, and prohibit importation" (*Works IV*, p. 41). In the same vein, in Chapter XIX of his *Principles*, 'On Sudden Changes in the Channels of Trade', Ricardo writes: "a man [...] has erected machinery in his manufactory at a great expense, machinery which is afterwards so much improved upon by more modern inventions, that the commodities manufactured by him very much sink in value. It would be entirely a matter of calculation with him whether he should abandon the old machinery, and erect the more perfect, losing all the value of the old, or continue to avail himself of its comparatively feeble powers. Who, under such circumstances, would exhort him to forego the use of the better machinery, because it would deteriorate or annihilate the value of the old? Yet this is the argument of those who would wish us to prohibit the importation of corn, because it will deteriorate or annihilate that part of the capital of the farmer which is for ever sunk in land. [...] To be consistent, they should endeavour to arrest all improvements in agriculture and manufactures, and all inventions of machinery; for though these contribute to general abundance [...] they never fail, at the moment of their introduction, to deteriorate or annihilate the value of a part of the existing capital of farmers and manufacturers" (*Works I*, p. 271).

explicitly mentioned by Malthus. These two facts, in Malthus's view, provide a decisive weight to Smith's dictum concerning the wisdom of the Navigation Act: "defence ... is of much more importance than opulence" (*WN* IV.ii.30).

Making use of a game-theoretic terminology, it is possible to claim that, in Malthus's view, international corn trade between a manufacturing country and an agricultural one may be classified as a coordination game characterized by the presence of two pure-strategy Nash equilibria: free-trade and autarky. The former Nash equilibrium has a higher payoff in terms of profits and capital accumulation, but a lower payoff in terms of security (and rents) than the latter. Malthus (1815) endorses food autarky for the manufacturing country since otherwise the agricultural country might adopt a restrictive corn export policy in case of war or poor domestic harvest. In his view it is safer for the manufacturing country to keep on growing its own corn to match its average food requirements.

Ricardo adopted a more comprehensive perspective. As a matter of fact, the Continental Blockade was not sustainable. Ricardo mentions explicitly the fact that Napoleon himself permitted the exportation of corn to England by licenses (*Works* IV, p. 29). Moreover, it was a well-known fact that Russia initially participated to the embargo; but, its participation turning out to be too costly, it reopened trade with Great Britain in 1810. The enforcement of the embargo triggered the French invasion of Russia in 1812, which dramatically undermined French hegemony in Europe. Accordingly, even if corn-export restrictions can be enacted by a country, such a restrictive policy cannot be sustained in equilibrium, particularly if trade-expectations have induced large agricultural investments which cannot easily be recouped. For Ricardo, once British Parliament has abolished restrictive legislation on foreign corn importation and foreign countries have heavily invested into their agricultural sectors to match British demand for corn, their potential threat to curtail their corn exports in times of war or poor domestic harvests turns out to be a non-credible one: agricultural investments lock foreign countries into their trade relationship with Great Britain, given the sunk cost nature of agricultural investment and the role of quasi-monopsonist which for Ricardo, Great Britain would have played in the international corn market.

Ricardo's argument may be rationally reconstructed by means of game-theoretic concepts. For Ricardo as well the strategic interaction between Great Britain and foreign corn-producing countries is a coordination game with two pure-strategy Nash equilibria: autarky and free-trade. The difference between Malthus and Ricardo is that, in Ricardo's setting, the international trade game has a distinctive sequential nature: should British Parliament abolish (enact) restrictive legislation

on foreign corn imports, foreign countries would be encouraged to (discouraged from) investing into their corn production capacity. Hence, even if two pure-strategy Nash equilibria exist, only one of them is a perfect sub-game equilibrium. Thus, Ricardo's argument implies that it is up to the British Parliament to bring about whether the world-economy should keep on being trapped into the autarky Nash-equilibrium, or whether it may switch into the superior free-trade Nash-equilibrium. In the former scenario, Great Britain keeps on growing its own average food supply, that is, keeps on cultivating its marginal lands, while foreign corn-producing countries keep on under-investing into their agricultural sectors. In the latter scenario, Great Britain sharply reduces its corn-production capacity by giving up cultivation of its marginal lands and, as a consequence, becomes permanently a net corn-importing country while foreign corn-producing countries invest additional resources into their agricultural sectors to match British increased demand for corn.

Games which exhibit multiple pure-strategy Nash equilibria raise the problem of equilibrium selection, that is, "finding rational criteria for choosing *one* particular Nash equilibrium as the solution of the game from the set of all such equilibria" (Harsanyi 1995, p. 92, Harsanyi's emphasis). One of the simplest refinements of the Nash equilibrium concept is Reinhard Selten's sub-game perfection which narrows the set of plausible solutions of the game by excluding all Nash-equilibria based on non-credible threats. More than one century before Nash and Selten, Ricardo criticized Malthus's endorsement of a protectionist food policy by arguing that the national security issue raised by him is based on a non-credible threat: unlike Malthus, Ricardo claimed that foreign corn-producing countries have no incentive to and, as a consequence, will not actually curtail or even halt their corn exports towards Great Britain in case of war or poor domestic harvests.

6. Final remarks

In their 1815 essays, *Grounds* and *Essay*, both Malthus and Ricardo envisaged two possible equilibria within the trade relationship between Great Britain and foreign corn-producing countries: free-trade and autarky. Moreover, both Malthus's and Ricardo's arguments imply that Great Britain and foreign corn-producing countries are better off if they both adopt a free-trade policy. Yet, Malthus is strongly concerned about the prospect of agricultural countries adopting a restrictive export policy in times of war or poor domestic harvest. Hence, Malthus maintains that it is safer for Great Britain to keep on growing its own corn supply to match its average food requirements. By contrast, Ricardo argues that, once Great Britain has adopted a free-trade policy, foreign agricultural

countries would have found it convenient to increase their corn production capacity to match British increased demand for corn. Once these agricultural investments are carried out, the potential threat to curtail their corn exports in times of war or poor domestic harvests is a non-credible one: foreign agricultural countries are locked into their trade relationship with Great Britain, given the sunk cost nature of agricultural investments and the role of quasi-monopsonist which for Ricardo, Great Britain would have played in the international corn market. Accordingly, within the theoretical world of Ricardo's *Essay*, free-trade is the only equilibrium which, more than 150 years later, Selten would christen as sub-game perfect.

Malthus envisaged defence and opulence as two mutually alternative options and, if required to make a choice, he had no doubt in choosing the former. In this, he was a good pupil of Adam Smith. By contrast, Ricardo excluded any alternative between defence and opulence: trade does not give a sustainable weapon to potential enemies of Great Britain whereas trade-driven opulence may give Great Britain greater means to wage a war.

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