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# Manoilescu's Approach of "Losses of Trade": a Ricardian Interpretation

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## Summary

This paper contributes to a testament of the conclusions of Manoilescu, the validity of which we test analytically. We develop a model proving that the Manoilescu assumption can be integrated into a Ricardian setting. We find that in some cases, traditional domestic sectors should be protected, even if the law of comparative advantages suggests another solution.

**Keywords:** theory of protectionism, gains from trade, economic though, Mihail Manoilescu

**JEL Classification:** B22, B26, E42

## 1. Introduction

Manoilescu's writings on protectionism comprise repeated attacks against the Ricardian theory of external trade. They present a way to develop and launch an original, albeit not perfectly rigorous critique against the classical theory of the advantages of trade, as much as to make a systematic overview of own views. The latter are based on different assumptions about labor productivity, which lacks in Ricardo's approach as presented in Chapter 7 of the *Principles*. It is difficult to completely subscribe to Manoilescu in this assessment of whether there is an underlying assumption of equal productivity of labor in Ricardo's theory.

Ever since Ricardo's conception saw a revival in the second half of the 20th century, after the publication of his complete works by Piero Sraffa, it has been generally challenged. It would be more precise to claim that Ricardo in *The Principles of Political Economy* and in his previous or later writings, assumes that there is a uniform rate of profit in the economy. The third paragraph of the Chapter 7, *On Foreign Trade* begins indeed with the following statement: "The profits of different employments have a tendency to conform to one another: to advance and recede together". In this book, the uniform "rate of profit", cannot be interpreted as a simple index of the productivity of agricultural goods in the *Essays on Profits* where input and output are ontologically homogeneous. In the text of *Principles*, the uniform "rate of profit" is generally defined, in the Smithsonian tradition, as the result of competition among producers[1].

In the works of Sraffa (1960), this uniform rate of profit is expressed by the conditions of production of the so-called "basic commodities". In the Ricardian approach - then legitimated by subsequent progresses of linear algebra - a distinction is indeed introduced between basic and non-basic

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[1] This interpretation of the rate of profit uniformity has been the origin during the eighties of the so called "gravitation theory" literature, see for instance, Arena, Froeschlé and Torre (1990).

commodities. Commodities are labeled as "basic" when they contribute directly or indirectly to the production of other commodities. Accordingly, they are labeled non-basic goods in the opposite case. When wages are advanced to workers (and not paid on surplus), workers consumptions can be substituted to wages in the expression of inputs: consumption goods are then by nature basic goods as they contribute directly to the production of other goods. The production system presented by Ricardo in the *Essays on Profits* is then a particular case of an economy where basic goods themselves contribute to determining the "rate of profit", a concept generally interpreted in contemporary literature as a "rate of return" rather than as a rate of profit in the strict meaning of the word.

Our first assumption is the existence of the elementary economy where the rate of return is determined by the conditions of production of basic commodities to prove that, within this context, Ricardo's conclusions on the advantages of trade are valid. Next we introduced the assumption made by Manoilescu on the differentiation of labor productivity - which we reconceptualized as the differentiation of the "rate of return" among industries. We then prove that, under specific conditions that we clarify, Manoilescu's assertion can be rationalized. Hence this paper is a follow-up on our previous exploration of Manoilescu's protectionist theory, given that in a previous paper we presented a Marxian reconstruction of his theory (Nenovsky and Torre, 2015).

## 2. The limited validity of the classical assumption on the gain of external trade when the rate of return is uniform

A starting point for our analysis is the assumption a country enjoys a "gain of external trade" provided that two following conditions are met and hold true:

1. International trade does not decrease the rate of return of the countries participating in external exchange
2. International trade does not decrease the amount of the surplus of goods available in the countries participating in external exchange

In the context of Ricardo's theory, we present the Ricardian assumption in the following way: *A given country gains from trading with another country, as long as the two countries have different relative efficiencies in producing two goods.*

Without loss of generality, we represent the economy before external exchange by a two sectors model with one single basic good - the good 1. The basic good is a good of first necessity / a wage-good assimilated to an agricultural good. This good provides an expression of wages costs under their real form, *i.e.* by the way of the amount of basic good their make the consumption possible by wage-earners. We also suppose one single non-basic good - the good 2 which could be assimilated to an industrial good. We suppose full employment, *i.e.* that the unit production of good 1 is necessary and sufficient to feed all employed workers given the current level of wages. Last, we take by convention the level of output of each good as the unit of measure of quantities. The unit matrix figures the matrix of outputs (goods in columns, industries in line) and the matrix, the matrix of inputs, with:

$$\boldsymbol{Y} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}, \qquad \boldsymbol{X} = \begin{pmatrix} x_{11} & 0 \\ x_{21} & x_{22} \end{pmatrix}$$

where the generic element $x_{ij}$ represents the amount of input $j$ necessary to produce the unit quantity of good $i$. The vector $p=(p_1,p_2)$ represents the relative prices and the scalar $r$ the uniform rate of return of the economy. The net quantity of goods available after production is given by the vector of "surplus" $s$, with

$s=(1\text{-}x_{11}\text{-}x_{21}=0,1\text{-}x_{22})$. It corresponds to the consumption of profit-earners.

All components of Y and X being given, p and r are solutions of the system (1):

$$\mathbf{Xp}(1+r)=\mathbf{Yp}$$

This system solves in the general case using the Perron-Froebenius theorem. In our simple bi-sectorial case, the solution is trivial: given the decomposability of the matrix X, the rate of return r is obtained as the rate of return of the production of the basic good (here the good one) with:

$$r=(1-x_{11})/x_{11}$$

and the relative price $p_{12}=p_2/p_1$ in autarky can be easily expressed as

$$p_{12}=\frac{x_{21}}{x_{11}-x_{22}}$$

Now assume that international prices are given by $p^i_{12}=p^i_2/p^i_1$. Two cases are then possible that express the difference of productive efficiency of the two goods:

$$\text{case 1:}\quad p^i_{12}<p_{12}$$

$$\text{case 2:}\quad p^i_{12}>p_{12}$$

Consider first the case 2, $p^i_{12}>p_{12}$. Here, the difference of the international and domestic prices of the two commodities encourages the domestic country to import good 1 in exchange for the export of an increased production of good 2. Proposition 1 determines the conditions of validity of this result.

**Proposition 1.** *When the return is uniform among industries and when the price of the non-basic good is comparatively higher internationally, there is always a gain of trade for the domestic country to specialize in the production of the non-basic good.*

Proof: Given the comparison of $p^i_{12}$ and $p_{12}$ and considering that $p_{12}$ is obtained by the equation $(x_{21}\text{-}x_{22}\ p_{12})(1\text{-}r)=p_{12}$ with $r=(1\text{-}x_{11})/x_{11}$, it is easy to verify that, applying the international prices to the equation of production of the good 2 increases the domestic rate of profit from its initial amount $r=((p_{12}\text{-}x_{21})/x_{22}p_{12})\text{-}1$ to its new level $r'=((p^i_{12}\text{-}x_{21})/x_{22}p^i_{12})\text{-}1$ higher than r. The first condition of the gain is then always satisfied. To verify the second one, we calculate the amount of good 2 which can be produced under the conditions of production typical of the domestic country. If we consider that all workers are employed in the production of the non-basic good, its production is increased to at a level $1+(1/x_{21})$ units. This quantity must cover the input of non-basic good necessary to produce it $x_{22}+x_{22}x_{11}/x_{21}$, the previous surplus in good 2, $(1\text{-}x_{22})$, and allow to buy internationally one unit of good 1, necessary to produce this output and to maintain full employment. Evidence that the quantity of good 2 available for international exchange is then $x_{11}(1\text{-}x_{22})/x_{21}$. Given the relative values of $p^i_{12}$ and $p_{12}$, a sufficient condition for the possibility to buy more than one unit of good 1 on the international market, is then $x_{11}(1\text{-}x_{22})/(x_{11}\text{-}x_{22})>1$, which is always verified given the definition of $x_{11}$ and $x_{22}$ □

Consider now the case 1, $p^i_{12}>p_{12}$. Here, the difference of the international and domestic prices of the two commodities encourages the domestic country to import the good 2 in exchange for the export of an increased production of good 1. Proposition 2 defines the conditions of validity of this result.

**Proposition 2.** *When the return is uniform among industries and when the non-basic good is comparatively more efficiently produced internationally, there is not always a gain of trade for the domestic country to specialize in the production of the basic good.*

*Proof*: Given the comparison of $p^i_{12}$ and $p_{12}$, the relevant specialization to test in the domestic country is in the production and export of the good 1, against the import of the

good 2. The workers previously employed the production of the good 2 are now redirected to the production of the basic good. This additional production which uses the quantity $x_{21}$ of good 1, corresponds to the quantity of $x_{21}/x_{11}$ good 1. Given the international price, this amount of good 1 is exchanged internationally against $x_{21}/x_{11}p^i_{12}$ units of the good 2. This quantity has to be compared with the initial surplus in good 2 is $(1-x_{22})$. This quantity of good 2 can be obtained by trade only if $p^i_{12}<x_{21}/x_{11}(1-x_{22})$. Given the definition intervals of $x_{11}$ and $x_{22}$, one verify that $\{p^i_{12}<p_{12}\}\Rightarrow\{p^i_{12}<x_{21}/x_{11}(1-x_{22})\}\square$

The gain from trade obtained by the specialization of the domestic country in the production of the basic good is then conditional. The comparison of the two conditions on the value of $p^i_{12}$ exhibits that bigger is $x_{22}$, larger is the spread between the values of $p^i_{12}$ fulfilling both conditions. Figure 2 summarizes these observations: if the abscissa measures $x_{22}$ and the ordinate $p^i_{12}$, the dashed portion of the map represents, for a given $x_{11}$ the values of $x_{22}$ and $p^i_{12}$ such that the two conditions of specialization are not validated despite $p^i_{12}<p_{12}$. In this case, the production of the (non-fundamental) good 2 must be protected.

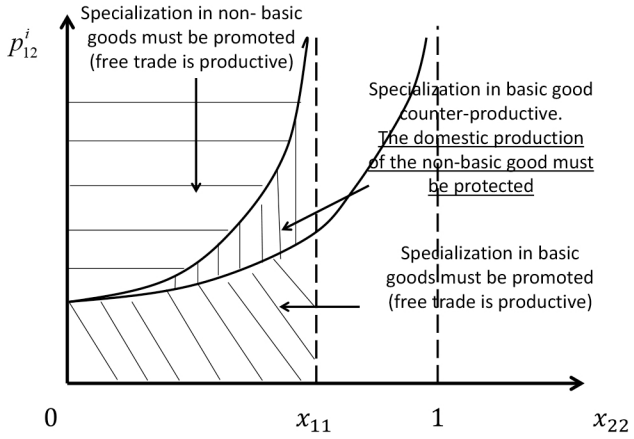


**Figure 1.** *International specialization with an rest of free trade. ontiers ety to provide a modern interpretation to the uniform rate of profit*

In conclusion, the protectionist attitude is justified when $x_{21}/x_{11}(1-x_{22})<p^i_{12}<x_{21}/(x_{11}-x_{22})$. In this case, the international prices encourage the domestic country to specialize in the production of the good 1 since external trade then increases the productivity of the non-basic good, and accordingly the domestic profit. Yet this specialization would not allow the domestic country to buy the same quantity of good 2 like the one available in the surplus product in autarky. Given the possibility that the population of workers and the quantity of inputs of good 1 may increase, it would have been possible to produce a sufficient quantity of good 1 and to exchange it against the required quantity of non-basic good. With the full employment of resources, the basic good production is not sufficient to obtain via external trade an increase of the non-basic good in the new surplus after trade.

### 3. The validity of the Manoilescu assertion on the gain from protectionism when the rates of return are differentiated

Under this hypothesis, we assume that there is a differentiation of the industrial return. While the factor of return of the basic good is now given by $(1+r)$, the return of the non-basic good is given by $\lambda(1+r)$ with $\lambda>0$. When $\lambda<1$, the rate of profit in the production of the non-basic good is lower than the one in the production of the basic good, while the opposite is true when $\lambda>1$. The first case can correspond to a situation such that the return of the non-basic good is so weak that it has a negative influence on the rate of profit.

The analysis of these two cases provides the following results.

**Proposition 3.** *When $\lambda>1$, i.e. when the rate of profit is larger in the production of the non-basic good than in the production of the basic good, propositions 1 and 2 still hold.*

*Proof:* We renew the intermediate steps of the proof of propositions (1) and (2): we obtain the same results, except that the domestic price $p_{12}$ expresses now as $p_{12}=(\lambda x_{21})/(x_{11}-\lambda x_{22})$ □

Figure 2 represents the different cases of gain of trade and of autarky in this case.

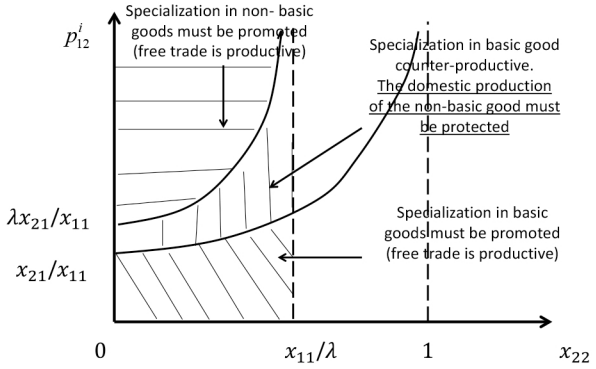


**Figure 2.** *International specialization with a higher rate of profit in the production of the non-basic good*

We then consider the case where $\lambda<1$, *i.e.* the case where the rate of profit is smaller in the production of the non-basic good than in the production of the basic good. In this case, Proposition 1 no longer holds and we obtain Proposition 4:

**Proposition 4.** *When the rate of profit is smaller in the production of the non-basic good than in the production of the basic good, and when the basic good is comparatively more efficiently produced internationally, there is not always a gain of trade for the domestic country to specialize in the production of the non-basic good.*

*Proof:* We renew the intermediate steps of the proof of proposition (1) and following. We then observe than the equations $p_{12}=(\lambda x_{21})/(x_{11}-\lambda x_{22})$ and $p_{12}=x_{21}/(x_{11}(1-x_{22}))$ intersect in the semi-positive orthant, determining four possible zones. One of them is such that $p^i_{12}>p_{12}$ and $p^i_{12}<x_{21}/(x_{11}(1-x_{22}))$: it corresponds to pairs $\{x_{22},p^i_{12}\}$ such that the production of the basic good must be protected despite it is relatively expensive domestically. Figure 3 summarizes the situation when $\lambda<1$ □

Those two propositions do not strictly correspond to the cases developed by Manoilescu but they show that when the return is differentiated among sectors, there is a new case where protectionism can be encouraged. Proposition 4 is particularly counter-intuitive as it encourages protectionism in the production of the non-basic good in a case where the

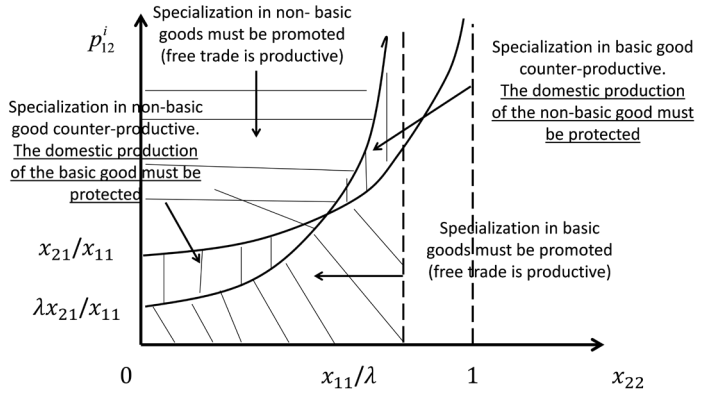


**Figure 3.** International specialization with a lower rate of profit in the production of the non-basic good

international price of this good is lower and when its domestic return is weak. This case is very close to the Manoilescu proposition.

## 4. Conclusion

Our interpretation of Manoilescu theory is based on a Rricardian setting. Commodities are produced by commodities; wages paid in advance to workers then take the form of wage goods or fundamental goods in the production of each commodity. In this context, we have limited the analysis to a bi-sectorial setting with one single fundamental good (which could be assimilated to agricultural good) and a single non-fundamental good (which could be assimilated to industry or services). We assume that there is full employment and that only non-basic commodities make a surplus product. We determine the production prices and profit of a domestic economy, first in autarky, then in the case where the comparative advantages principle is applied to determine international specialization. We examine the consequences of foreign trade on both the domestic rate of profit and the available surplus.

When the rate of profit is uniform among sectors (which could be analyzed as the result of free competition), the consequences of opening the economy are asymmetric. When there is a competitive advantage for the production of industrial goods, no protection must be built around the domestic agricultural sector. In the opposite case and according the productivity of industry and the level of international prices, the industrial sector should or not be protected. These results were confirmed in a different setting Manoilescu's prediction. We expand the model by including differential rates of profit. We then find that in some circumstances, the opposite scenario is also a possible option. This case could be interpreted with a consideration to more contemporaneous contexts: in some cases, traditional domestic sectors should then be protected even if the law for comparative advantages suggests another solution.

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