“Economic Geography: advantages and limits on the basis of the Mercosur integration process”

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Summary: On the basis of the application of the Economic geography approach on the economic integration process of Mercosur, I discuss the advantages and the limits of such a conception, pointing out the absence of certain fundamental variables that are nevertheless worth being considered in the study of the economies of the region. Indeed, the monetary and financial aspects are of dramatic importance in the finance-led accumulation regime that most Latin America countries experience.

Resumen: Sobre la base de la aplicación de esta teoría sobre el proceso de integración econômica del Cono Sur de América Latina (el Mercosur), discutimos las ventajas y los límites de estos modelos insistiendo sobre la ausencia de ciertas variables fundamentales al estudio de las economías de estas regiones. Por cierto, los aspectos monetarios y financieros son esenciales para analizar el régimen de acumulación dominado por la finanza que la mayoría de los países Latino Americano experimentan.

Résumé: A partir de l’application de cette approche sur l’étude du processus d’intégration économique du Cône Sud d’Amérique Latine (le Mercosur), nous discutons les avancées et les limites de tels modèles en soulignant l'absence de variables fondamentales à l'étude des économies de cette région. En effet, les aspects financiers et monétaires sont essentielles à l'analyse du régime d'accumulation à dominante financière qui régit les économies de la plupart des pays latino-américains.

Key words: Economic geography model, Economic integration, Mercosur.
JEL Classification: F12, F15, R11, O54.

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INTRODUCTION

The recent interest in economic integration within the process of globalisation has been one of the paths designed to procure high and sustainable growth. The integration and bloc process are being developed world-wide (European Union, NAFTA, Mercosur, ASEAN, African Union, etc.). Economic geography has been mobilised to analyse and renew the study of economic growth and development in a world economy stressing the importance of regional economic integration. It participates in the debate as to whether regionalism is an obstacle or rather a step towards further and deeper globalisation.

The new international trade theory stresses the possible dynamic effects on trade creation of another type where economic integration (new regionalism) plays a central role through increasing returns, externalities, linkage and agglomeration effects. Indeed, as P. Krugman pointed out, there is a sharp contrast between the creation of such zones and the inability or relative failure to liberalise trade at the global level. Regional negotiation seems more likely to lead somewhere than utopian total free trade².

These analyses have recently been used to study the Latin American integration process. I will present an analytical and formal model based on the P. Krugman and W. Ethier theories. This analysis points out that the Mercosur integration type along with MFN tariff reduction may well lead to a higher equilibrium situation for its member countries as well as for the world economy in general. Indeed the authors point out that “if an additional MFN tariff reduction is completed with the formation of an economic bloc (or if world free trade is achieved), world trade as a whole will be expanded. In other words, consumers in every country can enjoy an increased number of foreign goods” [Estevadeordal and alii, 2000]. In the second Section, various limits and criticism will be pointed out. Indeed, fundamental characteristics of Latin American accumulation regime since the end of the industrialisation by the Imports Substitution development strategy in the late 1970s are neglected in the analysis. This carelessness of such characteristics (such as the real exchange rate parameter or the monetary dimension) is a consequence of the new approach of the new economy geography theory and more broadly of the new international trade theory based on imperfect competition and the Dixit-Stiglitz model.

We conclude by underlying that the conclusions of such an analysis may not be relevant to study the Mercosur integration process.

² “Suppose, states P. Krugman, one takes it as given that for some reason it is possible to negotiate a degree of trade liberalization among subsets of countries that goes beyond that is possible at a world level. The question is then, should trade liberalization be permitted to proceed at two speeds? Or should one try to ban special deals and insist that countries offer to everyone the same terms they offer to anyone?” [Krugman, 1991b, p. 313].
I. The Economic geography applied to Mercosur integration process:

In the first place, at an analytical level, the new economic geography model and approach had been a great step-forward to better represent -in a formal way- the market structure and explain why manufacturing is concentrated in a few regions, leaving others relatively underdeveloped. The conceptual framework of such an approach is far more interesting than the traditional international trade theory based on the perfect competition and concentrated in studying the international trade features and structure of different countries exchanging different goods (inter-branch trade between different countries). On the other hand, the new economic geography concentrates on intra-branch trade and studies the possible agglomeration and centipedes effects of similar and neighbour countries, with similar GDP levels.

The most important part of application of gravitation models deal with developed or highly developed country-regions. Indeed, the application of these models is focused on states of the United States of Americas or on the European Union economic integration process. The applications of this new regionalism concept to Mercosur are not too numerous. See for example: [Piani G. and Kume H., 2000], [Terra M.-I. and Gigliotti A. 1995] or [Darrigues F. and Montaud J-M., 2001].

I.2. Application to the Mercosur:

The economic integration process of Mercosur -initiated in 1986 by the Economic Integration agreements signed by Argentina and Brazil- rapidly widened to Uruguay and Paraguay. In 1991, the Asuncion Treaty, founding act of Mercosur, sets January 1st 1995 to be the official birthday of this incomplete tariffs union. During the 1990s, a period which was conventionally described as the Latin American miracle with high levels of growth rates and capital inflows -higher than in Asia in the last years of the 1990s- the market structure changed dramatically (liberalisation, trade openness, privatisation, withdrawal of the State etc.). Furthermore, intra-Mercosur trade that amounted to only 8 to 10% in the early 1990s reached 25% in 1997 and 1998 (see ANNEX A).

Mercosur was thus a unique case of fast positive and intra-trade evolution. The liberalisation programmes prior and during the integration process have made the concept of New regionalism and Open regionalism very relevant in this case 3.

As the authors clearly point out: “Our analysis will be fairly straightforward once we realise the key feature of Mercosur: a simultaneous lowering of external and internal tariffs” [Estevadeordal and alii, 2000, p. 23]. It contributes to the debate on whether the creation of Mercosur is an obstacle or a step towards multilateral free trade. Following the arguments given by W. Ethier, 1998, the new regionalism reflects the success of the multilateral trading system, not its failure. Using a Krugman trade model with tariff distortions, this analysis shows that regionalism can play a key role in expanding and preserving the liberal trade order. This second wave of regionalism has happened in a very different international economic environment.

3 For further details on Mercosur integration process and basic figures cf. [Intal, 2001].
I.2.1. The analytical framework and the characterisation of "New regionalism":

First, the article by [Ethier W., 1998] shows through the analysis of stylised facts that Mercosur is indeed a New Regionalism process type:

- One core country is larger than the others
- Small countries have made significant unilateral reforms
- Degree of liberalisation is modest
- Agreements are one-sided: an asymmetry between small and large countries
- Deep integration (reduction of trade barriers but also harmonisation and adjustments of other economic policies
- Regional aspect: region's members are neighbours (not really a new feature compared to the Old Regionalism)

The author adds three hypotheses related to regionalisation and its relation to liberalisation:
1. Liberalisation promotes regionalisation (based on the results of the gravitation equation models)
2. The fewer the number of participants in trade negotiation, the easier it is to reach agreement.
3. The fewer the number of participants in trade negotiation, the larger the number of issues on which it is possible to reach agreement

The result is that “the success of multilateral liberalisation induces a switch to regionalism and this switch sustains the pace of liberalisation above what multilateral negotiation could deliver.” [Ethier, 1998, p. 1154].

Second, using a Krugman economic geography model, the model purpose is to “analyse the likely welfare and trade pattern effects of a Mercosur-type trading arrangement on members and non-members vis-à-vis other forms of free-trade area formation.” [Estevadeordal and alii, 2000].

The authors point out the four essential factors affecting trade flows:
1) Sharp decrease in trade barriers between Mercosur member countries and the rest of the world
2) Liberalisation had happened prior to 1991 - Asuncion Treaty
3) Asymmetry within Mercosur. The Argentine-Brazil couple determines mostly the export and import changes in Mercosur. Paraguay and Uruguay continue to contribute very few of the total amount - volume of trade of the trading block.
4) Last but not least, real exchange rates affect intra and extra-trade

1.2.2. Application of the model to Mercosur: Method and assumptions:

Three trade regimes will then be compared through a comparative static analysis:

Country 1 and 2: Countries, which in regimes B and C will join a common trading bloc. ("Core" countries)
Country 3: outside or rest of the world ("Periphery" country).
In order to keep the formal analysis manageable, two simplifying assumptions are added:

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4 I will come back to this point in the second part of this article.
• Three identical countries (symmetrical assumption)
• Identical and all-or-nothing tariff level: the tariff levels are either \( t \) or 0. Thus, there is no gradual process of trade tariffs reduction. The switch between Regime A and both Regime B and C is instantaneous.

How it works\(^5\):

The regime A will be the comparison basis. Indeed, through comparison of the values of the endogenous variable of the model\(^6\) in regime A with Regime B and C. Thus, the impact of Mercosur and MFN tariff reductions on member countries ("Core") and the outside country ("Periphery") will be analysed. The comparative static analysis will thus give some results regarding the effects of Mercosur-type agreements.

• **Regime A** (Pre-integration): Original situation where there is no trading blocks in the world.

Tariff rate \( t \) is applied to all trade between 1, 2 and 3.

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• **Regime B** (Traditional FTA): 1 and 2 integrated in a free trade area (no tariff rate). 3 is not in the trading bloc and trade between 3 and both 1 and 2 are subject to tariff rate. (case of Old regionalism or in-ward free trade agreement during the Industrialisation by Imports substitution)

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**Propositions to reflect the aftermath of traditional FTA:**

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\(^5\) The basic model and fundamental equations are presented in the Appendix section.

\(^6\) Social Utility function of the consumers \( U \), prices of home goods, prices of foreign goods, consumption of home goods, consumption of foreign goods, national income, number of types of differentiated products potentially available to consumers, wage rate in each country, the demand for labour input.
Result # 1: When country 1 and Country 2 form a free trade area (FTA), the trade volume among them increases while the trade volume between FTA members and the outside country (County 3) decreases (a typical case of trade diversion).

Result # 2: When country 1 and Country 2 form a free trade area (FTA), the terms of trade of member countries against the rest of the world improve.

Result # 3: When country 1 and Country 2 form a free trade area (FTA), the economic welfare of member countries improves while that of the outside country worsens (beggar by neighbour)

\[
U \text{ member countries (Regime B)} > U \text{ countries 1, 2 (Regime A)} \quad \text{and} \quad U \text{ non member country (Regime B)} < U \text{ non member country (Regime A)}
\]

- **Regime C** (Mercosur-Type FTA with MFN tariff reduction):

\[
\text{ no tariff rate }
\]

Results of a Mercosur-type FTA (open regionalism or New regionalism):

Result # 4: When country 1 and Country 2 reduce their MFN tariffs to zero with the formation of an economic bloc and when there is a matching reduction of MFN tariffs by Country 3, world trade as a whole will expand.

Result # 5: When Country 1 and Country 2 reduce their MFN tariffs to zero with the formation of an economic bloc, and there is a matching reduction of MFN tariffs by Country 3, the economic welfare of every country improves.

\[
U \text{ all countries (Regime C)} > U \text{ all countries (Regime A)}
\]

1.2.3. **Main conclusions of this model:**

The model stresses the drawbacks of inward-turning free-trade areas as Regime B shows that in the case of Old regionalism, the economic welfare of the member countries increases while that of the outside country actually declines (Results # 1, 2 and 3). On the contrary, Open or New regionalism integration contributes to expand and preserve a liberal free trade regime. In Regime C (New regionalism), a country's welfare can be achieved without harming
others. Thus, this analysis suggests that the open regionalism type of the regional integration of Mercosur (with decreasing MFN tariffs) is likely to contribute not only to the improvement of their own economic welfare but also to everyone else’s welfare (Results # 4 and 5).

Last but not least, this analysis is also dedicated to study the eventual results and advantages of the launching of the Free Trade Agreements of the Americas (FTAA). Indeed, as the authors of the model suggest FTAA could represent the largest experiment in the New Regionalism approach to economic integration. The results given for the case of Mercosur could therefore constitute the basis for an analysis of the advantages of the New Regionalism of the Americas "from Canada to Tierra del Fuego (Argentina’s southern point)".

II. A sceptical view of this economic geography model application for the Mercosur case

In the following section I will point out some limits in the application of the economic geography model on its assumptions (II.1.) which do not seem appropriate for the study the accumulation regime in Latin America (II.2.).

II.1. Internal limits of the model applied to Mercosur.

II.1.1. Three identical countries (symmetrical assumption)

The authors assume that the three countries are identical in all aspects (tastes preferences, technologies, factor endowments). This assumption is logical if we consider the ultimate goal of this type of models. Indeed, this analysis seeks to explain how economic activities locate in space and if the initial conditions are non-symmetrical, thus, the endogenous forces that lead to a certain location of activities in space will be less "neat". Although this assumption simplifies greatly the presentation and formal resolution, it seems to be neither relevant nor appropriate. First, the notion of region and nation is ambiguous and leads to defining a region or a country only on the basis of "good" economic reasons. Indeed, [Krugman P., 1991b, p.320] "A trading bloc is envisaged as consisting of a large number of small geographic units ("provinces"), each specialised in the export of a different good. Countries, who presumably themselves consist of one or more provinces, play no explicit role in the analysis". Nevertheless, he also points out that “Nations matter -they exist in a modelling sense- because they have governments whose policies affect the movements of goods and factors” [Krugman P., 1991c, p.71-72], letting this fundamental question unsolved. Second, trade relations of Mercosur member countries have long been determined by the Core economies. “In general, all trade factors and variables [of Latin American underdeveloped countries] have been developing mostly in relation with the "Core-economies"7. Trade with underdeveloped economies of the Latin American region has thus always been insignificant or little developed.” [Ffrench-Davis 1999, p. 169]. During the Industrialisation by Imports substitution until the late 1960s, the two larger countries of Mercosur were developing a "back to back trade relation". Indeed, the bilateral trade ratio was incredibly low and “desarrollo espalda a espalda” was the situation where trade flows were more clearly orientated with the United States, Soviet Union or Europe. The borders between Brazil and Argentina had not changed enough to explain such a switch in their trade relation. Historical,

7 “Core economies” refers to the Dependence theory (and not to the concept of Core in Krugman's Core-Periphery model)
political and sociological aspects could give a more precise explanation of this trade configuration.

Concerning the symmetric tastes between the countries composing the world economy of the model, authors like C. Furtado have explained and pointed out the consumption habits in underdeveloped countries imported by their national "elite" from the dominating Core-economies. A high preference for goods diversity\(^8\) -the core of the imperfect competition and economic geography models - may not be relevant for economic integration process between developing countries in a liberalisation and openness context. Indeed, the consequences in the productive structure are worth being considered. Furthermore, the Dixit-Stiglitz model have other theoretical drawbacks as pointed out by [Combes P.-P., 2002]:

- There is only one parameter for both product differentiation and increasing returns to scale;
- There are no strategic interactions and thus no effect of the competition framework for firms. The institutional and market structure do not really influence the strategies of the economic agents. This may be true in a stable and unchanged economic and institutional framework but is rather difficult to apply to Mercosur countries as they experienced a fundamental switch since the structural reforms of the late 1970s.
- The labour perfect mobility assumption may be relevant for small geographic scale or for the US, but much less for Europe or large geographic scale: This is all the more true for Mercosur countries.
- As we will point out in the next section: there is no real dynamic location or agglomeration process as it is a dynamic interpretation of a static model.

As for technologies (which play an essential role in development in the endogenous growth theories), they have different consequences according to whether applied to developed countries or to underdeveloped countries. Indeed, because of the configuration of the world economy and their respective "dominated" position as well as their different socio-economic structures, the aftermath cannot be assumed the same. As [Salama, 1999] points out “The technologies used, the skill level and the working conditions are different [in developed and underdeveloped economies] but the freedom grade in the technology choices and the required skill type is weak as they are still determined by the developed countries according to their interest.”

\(^{8}\) See in Appendix section equations (1), (5) and (5').
service sectors in these economies and the consequences on nature and depth of the dynamic economic integration process.\footnote{The Mercosur is an incomplete Customs Union. However, the difference between an Economic Union, a complete Customs Union or a Monetary union is not clearly discussed in this model and analysis.}

Furthermore, even though the economic geography approach is supposed to focus on the dynamic effects (as opposed to the static effects of trade diversion) of regionalism, the application only analyses Mercosur FTA-Type advantages through comparative static analysis and instantaneous economic integration.

This criticism regarding the two assumptions of the model developed to analyse the impact of the preferential trade tariff reduction along with unilateral MFN tariff reductions in the Mercosur integration process, lead to a more fundamental analytical question about the application of this economic geography approach to the Mercosur case.

\textit{II.2. The monetary aspect: accumulation regime in Latin America countries:}

As I have already suggested in Section I.2.1., [Estevadeordal and ali, 2000] recognise the dramatic importance of real exchange rates and the consequences on trade preferences and relative change in intra-regional competitiveness, “The behaviour of extra and intra-regional trade is affected by the real exchange rates of each country, both bilaterally with other Mercosur members and with the rest of the world. This is an issue that has rarely been systematically analysed in the case of Mercosur. Future research should address the combined effect of trade preferences and relative changes in competitiveness on intra-regional trade. [The authors add that: ] This is potentially very important in the case of Mercosur because the two largest partners, Argentina and Brazil, went through hyperinflationary episodes and more than one attempt at stabilisation in the 1985-1995 period that led to large fluctuations in real exchange rates.” [Estevadeordal and ali, 2000, p. 15]

However, the authors leave this consideration to further research and continue their analysis. I do not think that this position is appropriate. Indeed, through this variable this article aims at pointing out a significant limitation of such an application. Indeed, it is now clear that [Estevadeordal and ali, 2000] completely undermine, in this analysis of Mercosur economic integration process, the exchange rate in their final consideration and all through the formalised development.\footnote{We do not mean that this element has not been studied and analysed by economists. On the contrary, exchange rate theory is one of the larger and more relevant economic investigation areas from the pioneer works by D. Ricardo to R.Harrod (1939), B. Balassa (1964), P. Samuelson (1964), I. Kravis and R. Lipsey (1978, 1983) and more recently by R. Mc Kinnon, R. Dornbusch and P. Krugman (1995).}

The monetary aspect, the real exchange rates, interest rates and the finance sector are completely absent from the analysis in term of New regionalism and economic geography models. To explain this essential aspect of the Southern Cone economies, I will stress the specific configuration of the accumulation regime\footnote{According [Boyer R., 1986], an accumulation regime refers to: -the type of the organisational evolution of production and the relation of workers to the means of production;} in Latin America from the 1980s up to present day and the consequences on growth, trade and the integration process.
The accumulation regime in Latin America since the late 1970s

The finance-led accumulation regime characteristics are:

- Reconstitution of great power to concentrated finance during the period of emergence and consolidation of this accumulation regime;
- The concentrated financial resources mainly remained in the finance sector, the subsequent financial markets able to cope with liquidity.

Latin American countries have been experiencing the "financiarisation" of their economies i.e. industrial firms have focused a growing part of their resources to finance reducing in consequence their main activity. The interest rate levels are much higher in the national economy than those in the international markets (around 3%) focusing on the financiarisation of the economy and its Rentist type (see ANNEX B). The accumulation regime is thus of casino economy type. Indeed, the current account balance deficit is so high that one cannot imagine that exports might rebalance this account. Thus, the only possible solution seems to transform these economies into casino-economies through liberalisation and finance deregulation.

We will see that the combination of greater openness and financiarised economies urges economists and analysts to reconsider the conclusions and policy advice.

The end of hyperinflation experiences in Argentina and Brazil in the late 1980 and early 1990s, the expectation regarding the positive effects of trade and financial liberalisation, and the nominal anchor of the exchange rate to the U.S. dollar (1991 in Argentina and 1994 in Brazil), led to the massive inflows of capital. The abundance of capital inflows (because of privatisation programmes, creation of the Mercosur, flexible guarantees to capital mobility, recession or slow growth perspective in developed countries) motivated speculation. A vicious cycle began as an increase in interest rates slowed direct investment, attracted new inflows of capital and led to stabilisation -or even an increase- of interest rates. This inflow implied an appreciation of the local currencies in real terms compared with the dollar. Thus, as the unit value of imported equipment goods decreased sharply, export competitiveness decreased leading to a dramatic trade deficit.

There are various advantages of exchange rate appreciation such as the reduction of inflation rate through the unit value of import goods; the reduction of the unit value of intermediary goods; a decrease the weight of the debt and the reimbursement value for foreign loans in national currency; or an incentive to the multinational firms to invest in the country (as the benefits and dividends, once sent back to the mother firms, would be also appreciated). Nevertheless, other effects of exchange rate appreciation are worth taking into account.

Indeed, exports decrease (even further without industrial policy), entire industrial sectors

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12 A casino economy is extremely volatile and unstable. The accumulation of financial assets has a rather a fictive-type. According to [J. M. Keynes, 1936, Book IV, Chap. 12, Section VI “ When a country’s development /accumulation of capital becomes the consequence of the activity of a casino, it may generate deficient effects. If we consider that the social role of the stock-exchange is to be a channel for new investment in the best projects, the success in Wall-Street cannot represent a triumph of the capitalist laissez-faire”.
13 The regionalisation process has taken place during unilateral openness policies cf. [Piani G. and Kume H. 2000].
14 Moreover, the dollar depreciated compared to the other key currencies of Europe and the Yen
15 See [Salama, 1996, p.240]
disappear that leads to an increase in the unemployment rate, the entry of export multinational firms is slowed down, outward transfers in dollars lead to higher levels of subsequent loans (thus increasing the external debt).

Unable to receive currencies through the exports channel, the country becomes more and more dependant and vulnerable to foreign finance. It is the whole system that becomes unstable as in the case of Argentina after the Mexican crisis of 1994 (Tequila effect).

In this finance led accumulation regime, interest rates have an essential role in the investment decisions and thus growth. The standard neo-classical theory favours -along with a complete liberalisation- an elevation in interest rates to better allocate resources. In this approach, high interest rates enable the selection of the best projects with the highest return rate. In order that the credit selection would result from the confrontation of yield and interest rates (without State intervention or capital restriction), finance deregulation and liberalisation are compulsory. However, as other analysts stress, higher interest rates in Latin America (compared with the United-States) are essential conditions for capital inflows (preventing the exchange rate from devaluing despite the huge deficits in current accounts).

Thus, the financiarisation can continue, giving the illusion that the finance sector is autonomous from the productive sector.

In the Southern Cone countries the exchange rate is of great importance. The devaluation of its currency (Real) in early 1999 by 40% had a dramatic effect on the intra-Mercosur trade (see ANNEX A and C). Moreover, the decision of Argentina not to devalue and to continue with the currency board introduced by the Convertibility Plan in April 1991, greatly destabilised economic integration. The fact that Brazil, and not Argentina, had a flexible exchange rate since 1999, has led to various trade disputes and a decrease in intra-trade (from 25% in 1998 to 20.4% in 2000). Such a variable has thus a key role in the eventual deepening of the economic integration process but is nevertheless left aside the analysis by the authors.

Last but not least, this analysis neglects the fact that the trade configuration of such southern cone countries has been modelled by its relation with the Core-through the presence of Multinational firms in each country. The economic geography model analysis does not point out the diversity of the firm organisation and mixes the firms, societies, plants, R&D institute, subsidies, mother company, headquarters and decision centres. The firm is conceived as a compact bloc, which relocates all at once. The Krugman model does not differentiate between the various qualitative levels of the firm (plant, R&D department, Head Quarters, etc.) and thus supposes that it is the same for a country to receive the location of the headquarters (with administrative staff and decision makers), plants (workers, etc.) or R&D department (Investigators, research staff, etc.). Furthermore, in order to cope with the transaction risk, multinational firms are used to modifying their trade transactions payments.

16 As the theory of Rosenstein-Rodan (Big-Push) or Hirschman's unbalanced growth approach have pointed out, State intervention plays a positive role in investing in certain low-returns essential sectors that would not interest the market.
17 I.e. "Fetishisation" of the finance sector: Money seems to generate money without the need to participate to the production sector.
18 In January 2002, the Argentine Currency-board was abandoned. Brazil and Argentina both with flexible exchange rates are now analysing the possibility of creating a common currency for Mercosur.
19 See [Chamboux-Leroux J.-Y., 2000]
They can, thus, eliminate the exchange risk and even take benefit from it (modifying the currencies invoicing, the date of currency purchase, or through common cover behaviours). In Latin America and particularly in Argentina, and Brazil, through the privatisation and liberalisation process of the economies, multinational firms and banks have increased sharply the benefits and utilities exports to their mother-company abroad taking advantage of the convertibility and parity between these currencies and the U.S. dollars until recently. The changes in the institutional framework after the structural reforms and the economic openness are worth being studied in the case of Mercosur countries as they can, to a large extent, explain the evolution and eventually the destruction of entire parts of the industrial productive sectors such as in Argentina or Brazil.\(^{20}\)

**CONCLUSION**

The reflections regarding international trade and economic optimum situation have been greatly influenced by the new international trade theory. The maximisation of consumption at an international level seems to have refocused the analysis perspectives on standard arguments i.e. consumption maximisation as an indicator of optimum situation. It is true that the new monopoly framework allows to leave aside the too heavy assumptions of perfect competition and to consider through formalised models some innovating results (agglomeration effects, relocation, linkage effects...). However, formalisation and conceptualisation efforts are not for free. Of course, this type of model is useful to point out the potential advantages in terms of growth and development at the regional level by analysing the bilateral trade flows and their composition in terms of level of technological composition. It develops the regional level as a relevant level of analysis whereas the standard H.O.S. and Vinerian theory underlined the pre-eminence of the multilateral level on any kind of other analysis level which would be considered as sub-optimal and generating trade diversion and losses of potential growth and trade. I do also consider the regions or economic trading blocs as pertinent actors of the modern international trade configuration. However, the costs of neo-classical assumptions are difficult to sustain in the new finance-led accumulation regime. This is all the more true if applied to Latin America and Mercosur. Indeed, the financialisation of the economies of Mercosur and the monetary instability make it compulsory to include -as the neostructuralist or the neoinstitutionalist approaches do\(^{21}\)- the integration process and the monetary dimension in the analysis.

Thus, the authors focus on the positive aspects of regional trade agreements as a mean to reach the multilateral trade tariffs reduction. It could achieve more slowly but nevertheless steadily, what multilateral liberalisation could not achieve directly: liberalisation and worldwide free trade. The solution in term of economic politics of such analyses is therefore clearly in favour of free trade, and total openness oriented policies. However, the current alarming economic, social and political situation of Mercosur should also urge analyses to reconsider the relation between openness and growth and to include some other essential aspects.

\(^{20}\) See [Katz, 2001] and the neo-schumpeterian, institutionalist and evolutionist approach the author develops.

\(^{21}\) See [Salama P. and Valier J., 1994] or [Ffrench-Davis R., 1999] and [Katz J., 2001]
Appendix 22

The world consists of $M$ countries where each country ($k=1,2,3,...,M$) produces a large number of differentiated products a fraction of which is consumed domestically and the rest exported to other countries (paying international tariffs excepted in case of FTA among countries).

Considering $C_{ik}$ as the amount of consumption of the $i$-th differentiated product in country $k$, and $N$ the number of types of differentiated products potentially available to consumers, **Consumers’ individual social utility function** ($U_k$) has the following form:

$$U_k = \left[ \sum_{i=1}^{N} C_{ik}^{\beta} \right]^{\frac{1}{\beta}} , \quad 0 < \beta < 1$$

Consumers maximisation of (1) is subjected to the **budget constraint** (2) where $P_{ik}$ is the domestic tariff-inclusive price of the $i$-th differentiated product in country $k$, and $Y_k$ is the national income of country $k$.

$$\sum_{i=1}^{N} P_{ik} C_{ik} = Y_k$$

The subsequent inverse demand functions are:

$$P_{ik} = \frac{C_{ik}^{\beta-1} Y_k}{Z_k}$$

where

$$Z_k = \sum_{i=1}^{N} C_{ik}^{\beta}$$

The **inverse demand functions** imply the elasticity of demand for the $i$-th differentiated product ($\varepsilon_{ik}$):

$$\varepsilon_{ik} = \frac{1}{(1-\beta) + \beta C_{ik}^{\beta} Z_k}$$

Thanks to the symmetrical additional assumption and the large number of $N$, the **demand elasticity** can be rewritten as in (5’) omitting $i$ and $k$ indices:

$$\varepsilon = \frac{1}{1-\beta}.$$  

Thus, considering:

$TC_{ik}$: total cost of the $i$-th producer;

$W_k$: wage rate in country $k$;

$m$: labour input requirement per unit of output;

$F$: fixed labour input necessary for any positive amount of production;

And as there is **increasing returns** is the production technology ($W_kF$ is a fixed cost), the **cost function** of the producer of the $i$-th differentiated product in country $k$ is:

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22 The appendix section sums up the presentation of the basic model based on [Estevadeordal and alii, 2000].
Considering:

\( \pi_i \): profit of the \( i \)-th producer
\( t_{ij} \): tariff rate imposed by country \( j \) on the \( i \)-th differentiated product ,

the **profit function to be maximised** by the producer is:

\[
(7) \quad \pi_{ik} = \sum_{j=1}^{M} \frac{P_{ij}}{1 + t_{ij}} C_{ij} - \left[ W_k F + W_k m \left( \sum_{j=1}^{N} C_{ij} \right) \right].
\]

The maximisation of this function leads to the following pricing rule for the \( i \)-th producer in country \( k \) facing a demand curve with elasticity \( \varepsilon \):

\[
(8) \quad P_{ij} = \frac{W_k m (1 + t_{ij})}{\beta}
\]

In equilibrium, thanks to the free entry and free exit assumption, the profit of each existing firm is forced to zero. Thus:

\[
(9) \quad \pi_{ik} = \sum_{j=1}^{M} \frac{P_{ij}}{1 + t_{ij}} C_{ij} - \left[ W_k F + W_k m \left( \sum_{j=1}^{N} C_{ij} \right) \right] = 0.
\]

The \( i \)-th producer has the following demand for labour input \( (l_i) \):

\[
(10) \quad l_i = F + m \sum_{j=1}^{M} C_{ij}.
\]

In equilibrium and through another assumption of constant level of the domestic labour supply \( (L_k) \) we have:

\[
(11) \quad \sum_{i=1}^{N_k} l_i = L_k
\]

where \( N_k \): number of firms in country \( k \).

Thus, the national income (factor payment and tariff revenues) is:

\[
(12) \quad W_k L_k + \sum_{i=N_k+1}^{N} \frac{t_{ik}}{1 + t_{ik}} P_{ik} C_{ik} = Y_k
\]

The model is complete and the equilibrium conditions can be given through simulation technique for any number of countries \( (M) \), any commodities \( (N) \) and any differences in country size \( (L) \).
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15
**ANNEX SECTION**


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**ANNEX C : Evolution of the real Exchange rate between Argentina and Brazil**

![Chart showing the evolution of the real exchange rate between Argentina and Brazil from 1994 to 2000](chart.png)

Source: Intal, 2000