ECONOMIC INTEGRATION AND FOREIGN DIRECT INVESTMENT POLICIES: THE ANDEAN CASE

by

ERNESTO TIRONI L.

Ingeniero Comercial

UNIVERSIDAD CATOLICA DE CHILE

1969

SUBMITTED IN PARTIAL FULLFILMENT

OF THE REQUIREMENTS FOR THE

DEGREE OF DOCTOR OF

PHILOSOPHY

at the

MASSACHUSETTS INSTITUTE OF

TECHNOLOGY

August, 1976

Signature redacted

Signature of Author .....
Department of Economics Date

Signature redacted

Certified by .....
Thesis Supervisor

Signature redacted

Accepted by .....
Chairman, Departmental Committee

Archives

MASS. INST. TECH.
OCT 4 1976
LIBRARIES

MITLibraries

77 Massachusetts Avenue
Cambridge, MA 02139
http://libraries.mit.edu/ask

DISCLAIMER NOTICE

Due to the condition of the original material, there are unavoidable flaws in this reproduction. We have made every effort possible to provide you with the best copy available.

Thank you.

Despite pagination irregularities, this is the most complete copy available.

Thesis
Econ
1976
Ph.D.

To Alejandrina,
Alejandra
and
Francisca

ABSTRACT

Economic Integration and Foreign Direct Investment Policies:

The Andean Case

by

Ernesto Tironi

Submitted to the Department of Economics on August , 1976, in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

The purpose of this study is to analyze whether a policy of restricting the participation of foreign (third-country) owned firms in a process of economic integration is justified on economic welfare grounds for the partner and/or host countries. The analysis is applied to the case of the middle sized countries of Latin America which are forming the Andean Common Market.

The fundamental argument which is analyzed in this study, is that the welfare effects of economic integration in the presence of foreign firms differ from those in a situation in which all firms are national because tariff changes have not only resource allocation effects but also income distribution effects. Hence, if there are foreign companies involved, integration entails an international redistribution of income between partner countries and third country investors. As a consequence, an additional specific policy towards the latter would be required to deal with those distributive effects and maximize the host countries' gains from integration.

Chapter I introduces the subject and provides a characterization of the Andean countries and their integration scheme, as well as an outline of the study.

Chapter II studies the welfare effects of economic integration in the presence of foreign capital from the point of view of the competitive equilibrium in the capital market in a one sector model of the host countries' economy, and then in the final goods' market within a two sector general equilibrium trade model. These models allow the rigorous separation of the welfare impact of foreign capital inflows or outflows induced by tariff protection from the impact of changes in rents paid for foreign capital (the international income distribution effects of integration).

Chapter III analyzes the welfare effects of integration in the

presence of foreign owned firms within the framework of the traditional partial equilibrium presentation of the customs union theory. We modify the traditional analysis, however, to take into account the international income distribution changes associated with variations of rents and profits earned by foreign companies. Chapter IV extends the analysis of the preceeding chapter in order to consider the effects of having monopolistic rather than competitive foreign firms in a common market.

Chapter V contains the empirical applications of this study to the case of the Andean countries. The analysis is restricted to the manufacturing sector and seeks to verify the presence or absence of the conditions which would make it necessary to restrict the participation of foreign firms in the Andean market.

Finally, chapter VI examines whether the provisions of the Andean Foreign Investment Code, in particular, are justified, in the sense that they are likely to contribute to a larger gain from integration. The overall conclusion suggested by this study is in the affirmative, given the nature of the Andean economies, of modern FDI in manufactures and the further industrialization under relatively high tariff protection sought by the countries.

Thesis Supervisor: C.P. Kindleberger

Title: Professor of Economics

ACKNOWLEDGEMENTS

Many people have helped with this study during the long five years in which I intermittently worked on it. My colleagues in CEPLAN at the Catholic University of Chile, especially Alejandro Foxley and Ricardo Ffrench-Davis, provided continuous support, advice, and encouragement, without which I would not have been able to complete this task. The members of my thesis committee--Professors C.P. Kindleberger, J.N. Bhagwati and R.S. Eckaus-- provided guidance and helpful suggestions. I am indebted also for Professor's Eckaus support throughout my graduate studies.

My good friend and classmate Martin Zimmerman, currently Research Associate at the MIT Energy Laboratory, read carefully and discussed with me several earlier versions of my work, and patiently "heard me out" for many hours. I am most grateful for his encouragement and advice. Professor Shane Hunt of Boston University also read some drafts of the study and provided helpful suggestions.

I gratefully acknowledge the financial support provided by the Ford Foundation directly to me thoroughout my studies and to CEPLAN, in Chile, where I did part of the research that led to this study. I am also grateful to the Center for Latin American Development Studies of Boston University for the opportunity to be associated with it during the first semester of 1976, when I could devote myself full time to this investigation, and also to O.A.S. for financial support during this last period.

Terencia Leon typed most of this study very efficiently, while outwardly at least, remained always cheerful. My wife and Oriana Van Daele also helped me in that respect. Finally, I am grateful to Larry Kotlikoff and Jim Zeitler for their editing assistance which helped me to improve considerable earlier versions of the work.

My greatest debt is to my wife, Alejandrina. It is certainly not easy to live with a part time "thesis writer" for five years and keep encouraging him in his work. But ultimately she was able to do it, and I am proud to share also the result of this work with her.

TABLE OF CONTENTS

Chapter I: Introduccion 10

1. The Andean Countries Development Experiences ... 11

2. The Andean Integration Model and Foreign Investment 17

3. Outline of the Study..... 22

References 25

Chapter II: The Theory of the Costs and Benefits from Foreign Investment and Economic Integration 26

1. General Assumptions 27

2. The Capital Market in a One Sector Model 30

3. A General Equilibrium Analysis 45

4. Further Implications and Limitations of the Theory 55

References 58

Chapter III: Customs Union Theory and Foreign Direct Investment 61

1. Firm and Industry Equilibriums, Rents and Externalities 63

Rents on Foreign Assets 63
Externalities and Taxes 68
Changes in the Stock of Foreign capital..... 73

2. Welfare Effects of Customs Unions in the Presence of Foreign Firms 79

The Regional Import Substituting Industries: The Foreign Profit Diversion Effect 79

Regional Exporting Industries: The Foreign Profit Creation Effect 85

Distribution of Costs and Benefits of Integration between Host Countries as a Group and Foreign Companies 94

3. Concluding Remarks 98

Mathematical Appendix 102
References 106

Chapter IV: Market Structures and Economic Integration 108

1. Host Country Gains and Losses from Different Market Behavior of Foreign Firms 112

2. Market Structures and Economic Integration 121

National Market Structures before Integration and Barriers to Entry 125
Regional Trade and Tariffs 126
Cost Conditions 130
Institutional Relations Between Firms 135

3. Summary: A Taxonomy of Market Structures in a Customs Union 138

Mathematical Appendix 142
References 148

Chapter V: Foreign Direct Investment in Manufactures in the Andean Group 151

1. Foreign Investment in Manufactures 155

The Manufacturing Sector 155
The Data on FDI 159
Production by Foreign Firms 165

2. Tariffs, regional trade and foreign firms 169

External tariffs 169
The participation of foreign firms in regional exports 173

3. Market Structures in the Andean Countries 180

4. Institutional relations among foreign firms 199

5. Conclusions 211

References 214

Chapter VI: Policies Towards Foreign Direct Investment in the Andean Group 220

1. Relations between FDI and integration policies ... 223

The scope of an effective FDI policy 223
The common external tariff and FDI 226
Industrial Development Policy 229
Intra-common market competition and FDI 231

2. The Main Features of Decision 24 234

3. The Fade-out Formula of the Andean Foreign Investment Code 250

Fade-out and the supply of foreign capital 253
Fade-out and capital repatriation 257
Profit taxes and fade-out 261
Intra common market trade, competition and fade-out 265
Fade-out, joint ventures and management control 270

4. Conclusions 272

References 276

T A B L E S

Chapter I:

1. Andean Countries: Population, GNP and Industrial Product (1972) 12
2. Andean External Trade (1972) 14

Chapter IV:

1. A Taxonomy of Common Market Structures 139

Chapter V:

1. Industrial Structure and Tariff Protection in Selected Andean Countries 158
2. Andean Group: Value of Output of Firms with Foreign Capital by Industry and Country 164
3. Share of Production by Firms with Foreign Capital in Total Domestic Production by Sector and Country 168
4. Regional Exports of Manufactures, Tariffs, and Foreign Firms in Colombia, Perú and Chile..... 172
5. Andean Group: Level of Market Concentration in Manufactures 186
6. Chile: Market Concentration by Firms with Foreign Capital 189
7. Peru: Market Concentration by Plants with Foreign Capital 190
8. Number of Countries in the Andean Group where U.S. Corporations have Subsidiaries 202
9. Subsidiaries of U.S. Corporations by Country.... 205
10. U.S. Manufacturing Corporations in the Andean Group: Sectorial Distribution 207

Chapter VI:

1. Books Value of United States Manufacturing FDI in the Andean Group (1966-1974) 244

F I G U R E S

Chapter II:

1. One Sector Model of the Welfare Effect of Economic Integration in the Presence of Foreign Capital 32

2. Welfare Effects of Tariff Induced Foreign Capital Inflows in a General Equilibrium Trade model 50

3. Payments to foreign capital: The international income distribution effect of integration 52

Chapter III:

1. Firm and Industry Equilibrium and Rents on Foreign Assets 66

2. The Regional Import-Substituting Industry: The Foreign Profit Diversion Effect 77

3. The Regional Exporting Industry: The Foreign Profit Creation Effect 88

Chapter IV:

1. Welfare Effects of Monopolistic and Competitive Common Market Structures 115

CHAPTER I

I N T R O D U C C I O N

The purpose of this study is to analyze whether a policy of restricting the participation of foreign owned firms in a process of economic integration is justified on welfare grounds for partner and host countries.[1/] In other words, the question being asked is whether -in the absence of an adequate foreign direct investment (FDI) policy- the expansion of foreign owned enterprises or the inflow of foreign capital induced by tariff protection are likely to maximize host country welfare.

Economic integration in the presence of foreign companies differs from a situation in which all firms are national because tariff changes have not only resource allocation affects, but also income distribution effects so, when there are foreign firms involved, integration entails an internation redistribution of income between partner countries and third country investors. Therefore, even if the tariff structure in a common market were optimally set for the development of the desired national producers (presumably due to "infant-industry" considerations), additional special controls or subsidies would be required to deal optimally with foreign owned firms.

1/ Throughout this study, the term "foreign" refers to nationals of non-partner countries or "third" countries.

The Andean countries development experience

The study of these issues is critical in understanding the economic prospects of small, semi-industrialized less developed countries, such as the Andeans. During the last decades these countries realized that the import-substituting industrialization strategy isolatedly followed in the past was failing to generate a dynamic self-sustained process of economic growth. Going back, however, to a strategy based in the export of raw materials, with its sequel of balance of payment inestability and dependence, does not appear the best alternative available. These countries have thus started moving towards economic integration aimed at forming a relatively larger protected common market which can allow for a more efficient domestic industrial production through specialization and trade of manufactures among the partner countries. This in the basic economic rationale that lead to the decision to begin forming the Andean Common Market in 1969 by the smaller Latin American countries -Bolivia, Colombia, Chile, Ecuador, Peru and Venezuela.

In terms of national market and resources each Andean country by itself provides too small a base for the introduction of efficient methods of production, particularly, to take advantage of economies of scale and provide a sufficient degree of competition. Table I-1 presents a basic statistical picture of the Andean countries. By 1972, the bigger nations -Colombia and Venezuela- had a GNP of less than one fourth of Mexico's. All the Andean Group, however, accounts for a GNP which is only about 10% lower than that of Mexico or Brazil, but it still less than half that of Italy. Average GNP per capita was around 900 dollars for the group as a whole, compared to 2000 in Argentina, 1,300 in México and 800 Brazil.[2/]

2/ All figures are in dollars of 1974.

TABLE I-1

ANDEAN COUNTRIES: POPULATION, GNP, INDUSTRIAL PRODUCT 1972

(Dollars of 1974)

Countries	Population (million people)	G D P		Value added in manufactures [a/]	
		Per capita	Total (million dollars)	Total	Share in GDP (percentage)
Bolivia	4.9	397	1,946	263	13.5
Colombia	23.8	735	17,464	3,248	18.6
Chile	10.1	1,248	12,565	3,166	25.2
Ecuador	6.4	675	4,346	730	16.8
Perú	14.5	754	10,917	2,467	22.6
Venezuela	11.5	1,604	18,455	2,252	12.2 [b/]
Andean Group	71.2	923	65,693	12,126	18.5
Argentina	25.1	2,027	50,883	17,962	35.3
Brasil	98.7	800	78,904	19,963	25.3
Mexico	54,3	1,326	72,287	17,060	23.6

a/ Excluding petro refining. Including this activity that figures rises to 16.2 percent.

b/ Estimate based on 1970 share on GDP

Source: U.N. Economic Commission for Latin America (ECLA)
Economic Summary of Latin America 1973
New York, 1975.

As can be seen in Table I-1 also, the manufacturing sector of the Andean countries were relatively large as of 1972, with the exception of the two least developed countries, Bolivia and Ecuador, and the special case of Venezuela with its large petroleum industry. At the beginning of this decade, the manufacturing sector of the rest of the Andean countries accounted for a fraction of GNP similar to those of Brazil and Mexico.

In 1972 most Andean nations, however, still depended heavily on exports of raw materials for their foreign exchange earnings, and produced industrial goods locally at relatively high costs. As can be seen in Table I-2, the share of manufactures in their total exports were, on average, less than one sixth that share in the three larger Latin American countries.

These characteristics of the Andean manufacturing sectors were mainly a consequence of an excessive tariff protection and other import restrictions, such as quotas and import deposits. As recently as 1975, after Colombia and Chile started to reduce their import tariffs significantly, the average nominal tariff on manufactures in all the Group was still about 45%. There are great differences in tariff rates across industries and among countries; Peru had the highest average rate, approximately 70%, and Bolivia had the lowest, about 24%.[3/]

One of the consequences of this industrialization strategy based on import substitution, not yet clearly realized, is that manufacturing sectors have come to be dominated to a large extent by subsidiaries of foreign multi-

---

3/ See, JUNAC (1975), Table 3.

TABLE I-2

ANDEAN EXTERNAL TRADE (1972)

(millions of dollars of 1974 and percentages)

	Total External Trade				Regional Trade			
	Exports	Imports	Share of Exports in GDP (%)	Share of manufact. exports in total (%)	Exports		Imports	
					Value	Share	Value	Share
	(1)	(2)	(3)	(8)	(4)	(5)	(6)	(7)
Bolivia	288	278	14.8	3.5	27.3	9.5	7.8	2.8
Colombia	1,329	1,157	7.6	9.2	115.0	8.7	42.8	3.7
Chile	1,214	1,710	9.7	8.8	28.7	2.4	77.0	4.5
Ecuador	459	521	10.6	6.2	42.9	9.3	55.7	10.7
Peru	1,343	1,193	12.3	9.1	45.2	3.4	89.5	7.5
Venezuela	5,393	3,327	29.2	1.4	68.8	1.3	26.6	.8
	10,026	8,186	15.3	4.6 a/	327.9	3.3	299.4	3.7
Argentina	2,756	2,353	5.4	30.3				
Brazil	5,596	5,954	7.0	26.4				
Mexico	2,644	4,064	3.7	39.9				

a/ Excluding Venezuela that share rises to 8.3 percent.

Sources: JUNAC, 1975 "Tendencias del comercio exterior en 1975"; Ffrench-Davis (1975) Col. (8) UN - ECLA (1975) El desarrollo latinoamericano y la coyuntura económica internacional. Tercera parte, Santiago, Chile, p. 97.

national corporations. Hence, the countries' dependence on foreign owned companies has not necessarily fallen as a consequence of the shift away from the export of raw materials traditionally controlled by multinationals. Thus, for example, the share of foreign direct investment by the U.S. in the Andean countries' manufacturing sector increased from about 8% in 1960, to approximately 18% in 1970 and 30% by the end of 1974.[4/]

It is difficult to find direct and comprehensive data about the importance of local production of manufactures by foreign owned firms in the Andean countries. But based on the most complete surveys available in the major countries, we have estimated that about 40% of the total value of sales in the Andean Group manufacturing sector is accounted for by firms with foreign capital; more than three quarters of that share come from majority-owned foreign companies.[5/]

The foreign ownership share has been increasing rapidly in the last years and should be expected to increase even faster as a consequence of the multiple advantages of multinational companies of operating in an enlarged protected common market in the absence of any compensating FDI policy. Some idea of the capacity of foreign enterprises to take advantage of the opportunities provided by a custom union is given by the experience of the Latin American Free Trade Association (LAFTA) during the sixties.

4/ Based on statistics from the Survey of Current Business, various issues.

5/ See Section 1, Chapter V, below.

According to the US census of foreign investment, in 1966 the subsidiaries of American corporations accounted for approximately 40% of total manufactured exports by Latin American countries.[6/] That share was only 12% in the year of the previous census, 1957, indicating the dynamic growth of FDI linked to those exports during this period. The exports by US subsidiaries increased 704% between 1957 and 1966, compared to only 51% for all the rest of Latin American manufacturing exports. Finally, more than half of those exports corresponded to trade among subsidiaries.

The shares of production by foreign owned firms in the various industries within the Andean countries manufacturing sector-as well as within that of the world as a whole- differ significantly. Thus,a change in the <u>average</u> share of foreign firms manufacturing production has been and will be determined by the increase of FDI <u>within</u> each individual industry as well as by the relatively faster development of <u>some particular</u> industries in which FDI predominates. The latter is likely to be the most significant factor determining the overall importance of foreign firms in the Andean countries after integration, due to the particular orientation of the Andean Common Market towards the development of specific industries. This is mainly determined, in turn, by the structure of the common external tariff protection to be established in the Andean customs union.

There is little doubt that the pattern of tariff and other import

---

6/ All this information is based in U.S. Department of Commerce data, reported by May (1970).

restrictions in the past has significantly affected the level and distribution of FDI in the Andean countries' manufacturing sectors. In fact, the first foreign investors in manufactures were mainly in the consumer goods sectors: food and beverages, tobacco and textiles. This resulted from the basic characteristic of the first stage of the countries' import substitution policies which was restricted to those traditional goods that were easier to manufacture locally. The bulk of foreigned owned firms established in the sixties, which have caused the boom of FDI in manufactures, responded to the second phase of the import substitution strategy of the Andean counties: the start of the development of a local intermediate and simple capital goods industries. This has meant the development of a basic chemicals, glass, cement, paper and the assembly of motor vehicles.

Through their integration, the Andean countries seek, essentially, to pass into a third stage of their import substitution development strategy. This stage is centered around the development of heavy and more advanced industries: petrochemicals, machinery and transport equipment; together with a rationalization of production of the more traditional industries. The search for that objective has determined the very particular characteristics of the Andean Integration scheme.

2. The Andean Integration Model and Foreign Investment

The Andean integration process started with the signature of the Acuerdo de Cartagena, that came into effect by the end of 1969. The object of that agreement was to establish a common market in a gradual way, to be completed,

basically, by 1980. The Andean integration process entails five main aspects: 7/

a) The liberalization of trade among partner countries through an automatic reduction of tariffs by 10 percentage points per year. These tariff reductions were started in 1970 and have continued ever since. This form of trade liberalization, however, does not apply to all products in the Andean Tariff Schedule. About a third are subject to a special treatment to be determined in the Sectoral Programs of Industrial Development (SPID), which are a second basic feature of the Andean Integration process;

b) The plans for joint industrial development are aimed particularly at starting local production of new goods which require a larger market to take advantage of economies of scale and to introduce new technologies. The main industrial sectors to be developed through the SPIDs are basic metals, petrochemicals, motor vehicles, and some non-metallic minerals. The production of these goods are to be allocated to particular countries which would enjoy an exclusive duty free access to the partner countries during a predetermined period of time. Until the end of 1975, agreements had been reached for the allocation of the metal and mechanical products, petrochemicals and some categories of motor vehicles.

c) The third important feature of the Andean integration scheme is the decision to gruadually implement a common external tariff (CET). This tariff should be completely effective by 1980, except for the less developed coun-

---

7/ A more detailed description of the Andean integration model can be found in Ffrench-Davis (1974), Aninat (1975) and Kuczynsky (1973).

tries within the region which have until 1985 to do so. The structure of the CET will be very significant in determining the new industrial structure which the countries are seeking. Tariff protection will tend to be relatively higher than before integration in the more advanced intermediate and capital good industries that the Andean countries seek to jointly develop through a regional rather than national import substitution policy.

d) The fourth particular feature of the Acuerdo de Cartagena is the design of special mechanisms to achieve a "fair" distribution of the gains from integration among the partner countries. These mechanisms consist mainly of longer periods for trade liberalization and the adoption of the CET in Bolivia and Ecuador, as well as the allocation of the SPIDs with this distributional criteria in mind.

e) Finally, the most original and controversial provision of the Andean integration shceme is the emphasis given to the implementation of a Common Code for the Treatment of Foreign Capital in all the partner countries. This code - known as Decision 24 - has been in effect in most countries since mid-1971, except in the cases of Colombia and Venezuela which started implementing it fully in 1973 and 1974 respectively.[8/]

This code was born out of the fear that in the absence of explicit foreign capital regulations -in oter words, under a free capital market- the benefits from the formation of the common market would be distributed

---

8/ In those dates Decision 24 became the official law regulating FDI in each of the partner countries. For more details see Chapter VI below, and Danino (1976).

"unfairly" between the foreign investors and the host/partner countries. Integration would result in limited absolute gains for the countries themselves, compared to the benefits of the foreign firms operating or entering into the region. The exact notion, however, of what is "excesive" or what would be a "fair" distribution of the gains derived from integration has not been very clearly defined.

The essential means defined in Decision 24 to achieve a "fair" distribution of the gains obtained by foreign owned firms in the integrated market is the obligation by each of them to gradually transform into a mixed enterprise or joint-venture (with a maximum of 49% of foreign capital) or a national firm (with less than 20% of foreign capital) if they want to export free of duties to the rest of the region. In other words, it calls for partial "fade-out" within a period of 15 or 20 years in order to take advantage of the "larger market".[9/] Another important provision of the Code was to set a maximum level of profits that could be repatriated, originally set at 14%. It finally contemplated the obligation to register all existing foreign investment with a "Competent National Authority", and to obtain authorization for each new investment or large profit reinvestment within the host country.

Decision 24 has been the object of much discussion in the past and there

---

9/ During the transition period until regional trade is completely liberalized, the majority foreign owned firms can export under reduced tariffs in the other member countries if they officially agree to become mixed or national by the end of a fixed period of 15 years.

is now (in 1976) a crucial debate among the Andean countries about its necessity and scope. This debate may define the fate of the whole integration process because some governments within the region -most notably in the case of Chile- are seeking to change it substantially as one of the basic conditions for remaining within the group. In the current debate with respect to Decision 24 all countries accept the principle of having a common treatment of foreign capital within the group, i.e. they all accept the equal application of the law for each member. The polemic arises because the law is considered by some to establish unduly restrictive conditions under which foreign firms must operate.

Undoubtedly, there are many ideological or nationalistic reasons that explain the different views on this matter. But there are crucial economic assumptions behind these interpretations which have not been clarified. We shall concentrate on these economic aspects through out this study, although this shall not be interpreted as if the author disregards the significant political and social effects of FDI and the rationale for regulation due to those factors.

A first group, represented not only by the more conservative Governments in the region, but by some private businessmen as well as by most foreign investors, argues that foreign capital and firms should be allowed to enter, produce and export freely within the common market on the same conditions as domestic capital and enterprises. This group basically postulates that any specific FDI policy that "discriminates" against the foreign investor would reduce the amount of FDI available for the host country and will, therefore,

reduce the contribution of FDI to the countries' National Income.

A second group, which has supported Decision 24 argues essentially that in the absence of a selective regulation of FDI, economic integration would imply mainly an increase in foreign companies' profits and rents while making a neglible or negative contribution to the countries' national welfare. Therefore, this group favors a differentiated treatment of foreign firms that wish to take advantage of the protected common market, and argues that if such policy is followed it will not reduce the amount of investment significantly, and even if it does so, it will still increase the net contribution of FDI to the countries' national income and economic development.

The latter discussion highlights the need to analyze the host countries' exact gains or losses from the formation of a common market in the presence of foreign owned firms, and the latter's additional benefits from their participation in that market. The knowledge of those welfare effects - and not only whether more or less foreign capital will flow into the countries- is the basic necessary condition for the design of adequate policies towards FDI. The purpose of this study is to illuminate these welfare effects and apply our theoretical results to the case of the Andean countries, particularly, to appraise the desirability of the Andean Foreign Investment Code.

Outline of the study

The processes of economic integration and foreign direct investment have many interrelated dimensions. Within economic theory they fall in three

different fields which are seldom considered jointly in the standard literature. The first is the area of capital investment and international capital movements; the second is that of international trade and customs union theory; and the third is the field of industrial organization. The latter has been increasingly recognized as crucial in order to understand modern FDI in manufactures by multinational corporations (Caves, 1971). This is especially valid in the case of less developed countries whose markets are typically far from competitive, as it is usually assumed in the more standard theory.

Our general approach will be based on some of the essential concepts and methods used in all those three areas. The core of our analysis, however, shall be the neo-classical theory of trade and capital investment. Notwithstanding its limitations, it is probably the most useful analytical method available to study the welfare effects of integration and FDI, especially if the assumptions about the homogeneity of producers and perfect competition are replaced by more realistic assumptions about firms earning rents on exclusively owned assets and monopolistic markets.

In Chapter II we study the welfare effects of economic integration from the point of view of the competitive equilibrium in the capital market in a one sector model of the host countries' economy and then in the final goods' markets within a two sector general equilibrium trade model. These models allow us to separate the welfare impact of foreign capital inflows of outflows induced by tariff protection from the welfare impact of changes in rents paid for foreign capital(the international income distribution effects of integration).

Chapter III studies the welfare effects of economic integration in the presence of foreign owned capital and firms within the framework of the traditional customs union theory, but we modify the traditional analysis to take into account the international income distribution changes associated with the variations of rents and profits of foreign firms.

Chapter IV extends the analysis of the preceeding chapter in order to consider the effects of having monopolistic rather than competitive firms in a common market. It also discusses the conditions most likely to affect the impact of integration on market structures as well as the welfare consequences of those changes.

Chapter V contains the empirical applications of this study to the case of the Andean countries. The analysis is restricted to the manufacturing sector, since that is the one most directly influenced by the Andean integration scheme, and seeks to verify the presence or absence of the conditions which would make it necessary to restrict the participation of foreign owned firms in the Andean Common Market.

Finally, Chapter VI examines whether, in general, the provisions of the Andean Foreign Investment Code are justified, in the sense that they are likely to contribute to a larger gain from the Andean countries' integration effort. The overall conclusion suggested by this study is in the affirmative given the basic nature of the economies considered, of modern FDI in manufactures and the further industrialization under relatively high tariff protection sought by the countries.

REFERENCES

CHAPTER I

- Aninat, A. (1975) "El Programa de Liberacion Comercial y Arancelaria del Acuerdo de Cartagena", mimeo, CINDA, Santiago, Chile.

- Danino, R. (1975) "The Andean Code After Four Years", mimeo, International Legal Studies, Harvard Law School, Cambridge, Mass.

- Ffrench-Davis, R. (1974) "El Pacto Andino: Un Modelo Original de Integracion", Santiago, Chile, Estudios de Planificacion No. 42, CEPLAN.

- Junta del Acuerdo de Cartagena (JUNAC) (1975) "Situacion Arancelaria de los Paises Andinos", mimeo, J/PE45, (September), Lima, Peru.

- Kuzynski, M. and D. Huelin (1973) The Andean Group: Trade, Industry and Foreign Investment, London: Latin American Publications Fund.

- May, H. (1970) "The Effects of U.S. Direct Investment in Latin America". New York: Council for Latin America.

- U.S. Department of Commerce (1975) "U.S. Direct Investment Abroad", Survey of Current Business (various issues), Washington D.C.

- Wardlaw, A. (1973) The Andean Integration Movement, Washington D.C.: U.S. Department of State, Office of External Research.

CHAPTER II

THE THEORY OF THE COSTS AND BENEFITS FROM FOREIGN INVESTMENT

In recent years there has been a substantial increase in the number of studies concerned with Foreign Direct Investment (FDI) and multinational corporations. Several of these studies have pointed out the importance of various trade policies, especially tariff restrictions, in stimulating Foreign Direct Investment in import substituting manufacturing sectors. Therefore, it comes as no surprise that the formation of common markets with tariff restrictions on non-member countries and trade liberalization among the partner countries has been a chief factor explaining the expansion of multinational corporations in the last decade. The best example of the importance of that factor is the expansion of FDI induced by the creation of the European Common Market.

Most of the academic studies on this topic focus on the magnitude of FDI, the industries in which it concentrates, and the particular characteristics of the firms that invest abroad. Much less attention has been given to the analysis of costs and benefits of different volumes of FDI for the receiving or host countries, especially the less developed ones. Such an analysis is essential for host countries designing policies to maximize their national welfare .

The purpose of this chapter is to survey the main theoretical

approaches that have been proposed in the literature to analyze the costs and benefits of FDI, and examine their usefulness in the study of those FDI costs and benefits resulting from economic integration. After laying out some basic distinctions and assumptions in Section 1, in Section 2, we consider the classical Mac Dougall one sector model which concentrates on changes in the stock of capital and its marginal productivity. Although this approach presents several important limitations for the analysis of the effects of integration and of modern direct investment by multinational corporations, it is a good starting point which allows us to demonstrate a few crucial propositions. Section 3 examines a more rigorous, but abstract, general equilibrium model of the effects of integration on the gains or losses from FDI. Finally, Section 4 summarizes the main insights about the problem captured by these models as well as the model's limitations.

1. General assumptions

The foreign investment process has many different dimensions and can be analyzed from different points of view. Hence, it is important to make explicit which aspects of the investment process we choose to study here.

First, one may be concerned with the aggregate gains or losses of the whole group of integrating countries, or gains and losses for each individual country and/or its distribution among them. In this study we shall be concerned ultimately with aggregate gains or losses. Thus, we implicity assume that the social welfare functions of the partner countries can be added and that there are other policy instruments available to redistribute costs and benefits among the countries involved.

Second, the analysis can be carried out under several alternative assumptions about foreign capital mobility. Although the analysis would be greatly simplified by supposing immobility, for the sake of greater generality and realism we shall assume perfect mobility in the long run, especially allowing old foreign capital to leave or new capital to enter the common market. Within it, we also assume perfect mobility, but we shall emphasize that within the particular sector where foreign capital concentrates.

Third, the assumptions about capital mobility are related to the period of time being considered in the analysis. In this study we will be concerned with the long run effects after integration is completed. This implies that supply functions are elastic and the size of existing plants may be varied. Time is crucial in the process of foreign investment in a second sense. Since capital is invested at a given moment of time, while revenues are generated over a number of years into the future, then, obviously, the relevant way of measuring the effects of FDI is considering their present value. Although we shall not be repeating this throughout the study, <u>all</u> revenues and costs, supply and demand functions, etc., are assumed to be discounted into the present at the relevant discount rate (which may be different for the investor and the host country). Finally, our analysis will be static. That is, we shall be comparing a given situation <u>before</u> integration with another <u>after</u> integration. In the real world, however, and in particular within the Andean model, the transition towards the formation of a common market is gradual. But our assumption implies no loss of generality, provided that the relevant rigidities or

flexibilities in the transformation of the economies from the initial to the final situation are captured by the elasticities of the corresponding variables.

Fourth, economic integration affects FDI in several different ways. One of these is through the simple trade liberalization within the common market. This not only implies the possibility of trading freely within a broader market protected from third country imports by a common external tariff, but it also implies changes in the national market structures of different industries.

Markets which were monopolistic before integration may become competitive as a consequence of the "entrance" of new producers from the other member countries or viceversa. In general the market relations and established "modus vivendis" of local national or foreign oligopolies may be drastically upset by regional trade liberalization. A second way in which integration affects FDI - and especially the gains or losses derived from it by the host countries - is through the change in each country's tariff structure in order to adopt a Common External Tariff (CET). Thirdly integration affects FDI through the adoption of other exogenous common policies, such as the Andean Common Treatment of Foreign Capital.

The theoretical part of this study concentrates on the effects of trade liberalization alone, assuming that FDI is not affected by the imposition of a common external tariff. The analysis of the isolated impact of regional trade liberalization <u>per se</u> is a prerequisite to the development of optimal (welfare maximizing) host country policies towards

foreign capital and firms.

2. The capital market in a one sector model

In general, the gains or losses from FDI for the host countries will depend on three main factors: (a) the change in the productivity of foreign capital induced by economic integration; (b) the change in rents or profits earned by that capital; and (c) the changes in the stock of foreign capital. Changes in productivity induce changes in the income earned by capital (profits) which in the case of that owned by foreigners is likely to imply a redistribution of income between the host country and the foreign investors as well as generate new capital inflows or outflows.

One very simple model that can be used to study the relations between the variables mentioned above is the one suggested by MacDougall in his classic 1960 article.[1/] The basic limitation of his approach, however, is that he assumes only one sector or only one bundle of commodities produced in fixed proportions, while integration implies essentially a change in relative prices and levels of production between at least two sectors or groups of commodities. Nevertheless, a one sector model may still yield useful insights into the character of economic integration

---

1/ Reproduced in Bhagwati (1969), pp. 391-69 and Caves and Johnson's (1968) readings in international economics. Additional useful extentions of the model have been made by Jones (1962a and 1962b), Cohen (1972) and Pitchford (1976). Each of them will be briefly considered below.

as a kind of "technical" change that increases the productivity of all the resources available. MacDougall's simple model is particularly useful in detailing the costs and benefits accruing to host countries from the inter-related changes in rents, profits and levels of foreign capital. This implies focusing on the supply of foreign capital, while -for the moment- the productivity of capital must be assumed to change exogenously, due to the impossibility of distinguishing between the different commodities or sectors affected by economic integration.

A second limitation of this model, is that it assumes that foreign capital is identical to or a perfect substitute for domestic capital, so both can be simply added to obtain the total supply of capital in the economy. Moreover, foreign investment is not used specifically to produce some particular commodiites, and there is nc room in this model for any difference between national and foreign "firms".

The core of MacDougall's approach can be presented with the aide of his graphical analysis reproduced here in Figure II-1. The horizontal axis in Figure II-1 measures the stock of national and foreign capital in the whole group of countries engaged in the formation of a custom union. The vertical axis measures the values of their marginal products and the profit rate earned by capital. The line MP_o relates the quantity of capital used to the value of its marginal product in the whole group of countries before integration, given the supply of the other factors of production. Line MP_o is downward sloping for the conventional reasons and here it is drawn as a straight line only for simplicity.

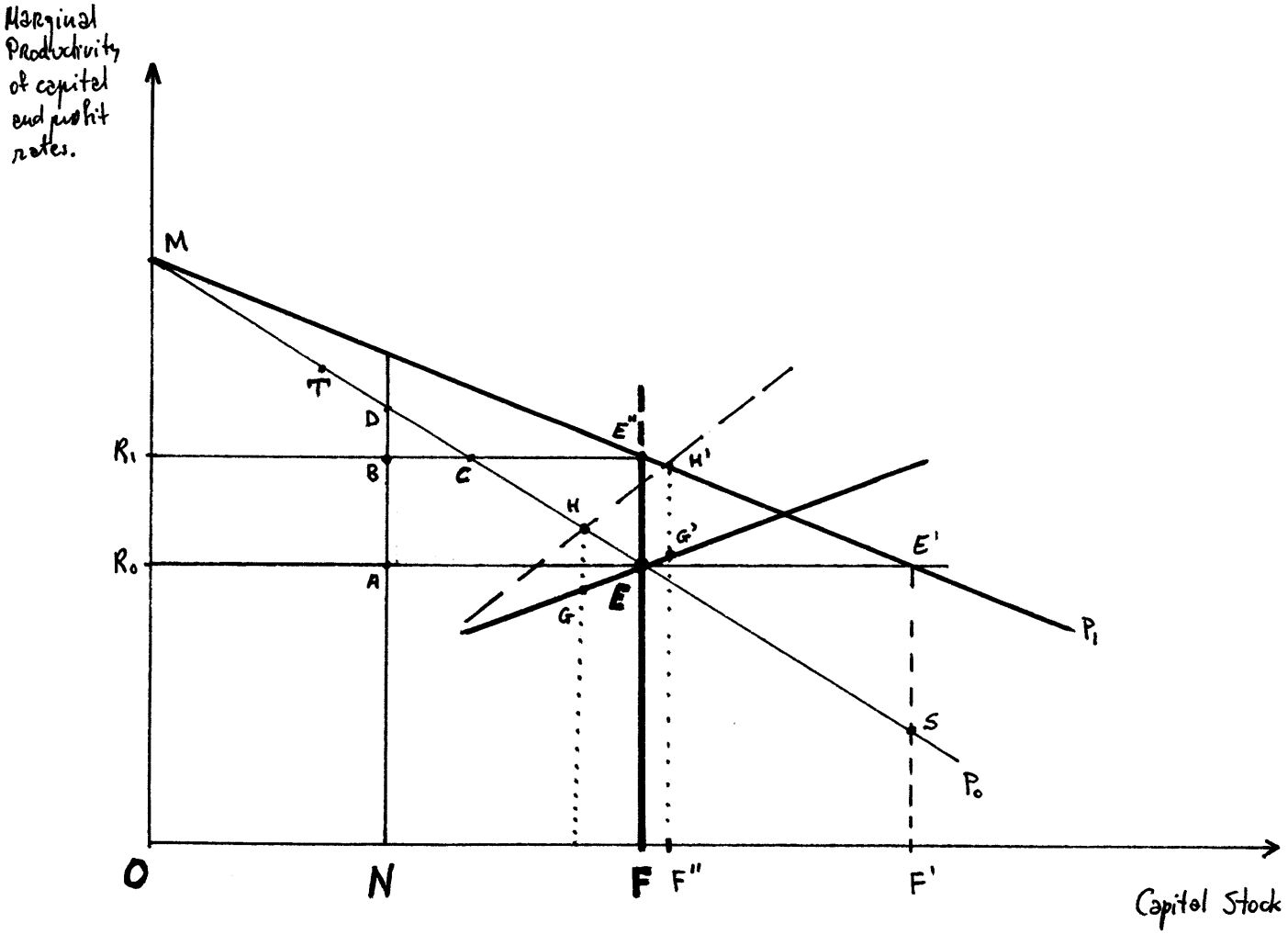

Marginal Productivity of capital and profit rates.
M
T
D
B
C
A
R_1
R_0
E''
H'
H
G'
E
G
E'
P_1
S
P_0
O
N
F
F''
F'
Capital Stock

Figure II-1.

Assuming that social (or shadow) and private (market) prices are always identical [2/] and that the total stock of capital before integration is OF in Figure II-1, the competitive equilibrium in this economy will be at point E. The profit rate earned by capital will be equal to ORo, so the area OFERo is the total income captured by capital, the area RoEM is the income earned by the other domestic factors of production and OFEM is the total Gross Domestic Product.

If the amount NF of capital corresponds to foreign capital investment before integration, then the area NFEA is the value of profits paid abroad. Since the gross "social contribution" of that capital is NFED, the net benefits from FDI already being used by the host countries before integration is equivalent to the area AED. Hence, the countries National Product will be equal to the total Domestic Product less the profits remitted abroad; that is, the area ONAEM.

The impact of economic integration within this model can be represented in general as a positive shift in the social value of the marginal productivity of capital; a movement of line MPo to, say, MP_1. The main limitation of this model, which was mentioned above, is that the

---

2/ Note, this implies that tariffs do not introduce distortionary differences between domestic market and social (shadow) prices. Later, the introduction of a general equilibrium model will allow us to relax this assumption. In addition, this model implies no externalities, no taxes and full employment; also balance of payment problems and changes in the terms of trade are all dealt with optimally.

relative price changes remain "hidden" in the apparently simple shifting of the value of the marginal product of aggregate capital.[3/]

If the trade effects of integration are to benefit the partner countries at all, their gross domestic income should increase. Given their initial factor endowment, the area OFE"M will be larger than OFEM. Whether revenues earned by capital will increase by more or less than that of non-capital factors (labor, for instance) depends on the factor intensity of production after integration, which in this model would be represented by the exact position of the MP_1 line. If the marginal productivity of capital falls in the new equilibrium position, i.e. if MP_1 were to cut the vertical line FE" below E (not drawn in Fig. II-I), capital's revenue will fall; if it cuts it above E (as drawn in the diagram) it will rise. The consideration of this phenomenon in isolation leads to our first important result.

Proposition 1: The economic gains from a customs union in the presence of foreign capital supplied inelastically to the integrating countries will be smaller, the higher is the capital intensity of production after compared to before integration and the higher is, therefore,

---

3/ Before integration, the set of commodities produced were valued at a given set of relative prices, which were influenced by the tariffs imposed uniformly on imports from the partner and third countries. After forming the customs union, however, tariffs among partners are eliminated, so relative prices change and a different discrepancy arises between the union and world relative prices. In the model we are considering the shift in the aggregate marginal productivity of capital depends on the relative intensity with which it is used in producing the commodities whose domestic price and production change. Production changes of each good, in turn, depend on whether they are subject to trade creation and diversion effects, which cannot be considered explicity in this one sector model. This is the disaggregate analysis which requires at least a two sector general equilibrium model to consider.

the increase in the marginal productivity of capital due to integration.

Figure II-1 illustrates this proposition. Under the assumption that the supply of foreign capital is absolutely inelastic, i.e. it remains constant at OF, if the marginal productivity of capital rises, the competitive equilibrium after integration will move from E to a point such as E". Hence, there will be an increase in the rate of profit on capital to OR_1. But in the presence of foreign capital, the change in profits implies both an internal redistribution of income due to integration as well as a redistribution between the host countries and the foreign investors. Specifically, Gross Domestic Income after integration will be OFE"M; an increase equivalent to the area MEE". But profits paid to foreign capital will now be NFE"B; an increase equivalent to the shaded rectangle AEE"B. Therefore, the increase in the host countries National Product will be equal to the difference between MEE" and AEE"B (equivalent to AECB - MCE").

If, on the contrary, the capital intensity of production and, thus, the marginal productivity of that factor falls, so the competitive equilibrium moves to a point below E on line E"F, then integration will induce a redistribution of income in favor of the host country and against the foreign investors.

It is certainly more reasonable to expect that in equilibrium the marginal productivity of capital will rise rather than fall. First, because a fall would imply that more than all the gains from integration

will accrue to non-capital factors, i.e. mainly labor. Second, if the supply of capital has some elasticity, that fall in marginal productivity would imply that after integration the capital stock would also fall. The two last results are clearly hard to believe. Finally, a rise in the capital intensity of production and the marginal productivity of capital should be expected from the use of more capital intensive plants in the enlarged common market than in the smaller national market.

Those plants are likely to be more capital intensive because they have been developed in and for larger and more advanced capital-abundant countries. Therefore, in the analysis that follows, we shall assume that integration at least increases somewhat the marginal productivity of capital so all factors gain something (in absolute terms) from integration.

Proposition 2: In the absence of a specific policy towards FDI, the host country gains from economic integration in the presence of foreign capital will be smaller the more inelastic is the supply of foreign capital in response to an increase in its productivity.

To demonstrate this proposition, simply compare the result obtained previously when the supply of foreign capital was perfectly inelastic with the opposite extreme case in which it is perfectly elastic.

With a horizontal supply of foreign capital such as line RoE', the positive shift in its marginal productivity moves the competitive equilibrium in the capital market to point E'. The rate of profit in the economy

remains constant, and the domestic product after integration will be OF'E'M. If all the additional capital invested is foreign, profits remitted abroad will now amount to OF'E'Ro so the National Product of the partner/host countries will increase by MEE', rather than by only MEE" - AEE"B as in the case of a perfectly inelastic supply.[4/]

The crucial characteristic of the case of a perfectly elastic supply is that since the profit rate per unit of capital remains constant there is no redistribution of income from the host country to the foreign investors resulting from the initial capital holdings of the latter.

It seems more reasonable, however, to assume that the supply of foreign capital has some elasticity. This would stem not only from traditional imperfections in the capital markets, but mainly from the peculiarities of modern foreign direct investment. First, the risks of expropriation or stiff regulations on FDI may be higher when foreign capital becomes a larger proportion of the total capital stock in the country or of a particular industry within it. The most important means available to foreign businessmen to reduce those risks is to repatriate their capital faster, and this implies ceteris paribus requiring a higher profit rate on capital as more is invested in a given country.

4/ Since foreign and domestic capital are identical and indistinguishables in this model, there is no way of rigurously determining the expansion of output that is "attributable" or made possible by existing national or foreign capital. The additional entrance of foreign investment due to economic integration, however, (equivalent to FF') implies a net contribution to the host countries' national income equal to the triangle EE'E".

Second, modern FDI by multinational corporations involves the transfer of capital together with a whole package of different assets, such as technological know-how and patents, entrepreneurial ability, brand names and other specific factors. By definition, those factors have an inelastic supply and indeed earn rents or quasi-rents. Therefore, if "foreign capital" is more realistically defined as a composite factor of production including those specific factors, then, it is reasonable to assume that it has a relatively inelastic supply.

When capital stocks vary as a consequence of integration it becomes difficult to distinguish between the economic gains for the host countries attributable to the customs unions per se and to the participation of foreign capital in the countries 5/. The most reasonable way to consider the distribution of integration gains is to compare the overall situations after and before integration. We have so far implicity shown that those gains can be distributed unevenly between host countries and foreign investors. When capital is constant, for example, and, thus, the gains from integration are more simple to interpret, the host country's gross benefits were equivalent to the area of the triangle MEE" in Fig.II-1 while those of the foreign investors were equal to the rectangle AEE"B. We are now in a position to show an additional result: that in the absence of an appropriate FDI policy, the redistribution effect of integration in favor of foreign capital can be so strong as to imply negative net gains from integration for the host countries.

5/ In general, this is a consequence that the changes in host country and foreign investors' gains do not involve a zero-num game: the gains for one are not simply the difference between the total gains and those captured by the other.

Proposition 3: In the absence of an optimal compensating FDI policy, given a sufficiently high share of foreign capital supplied with a sufficiently low elasticity, the formation of a custom union in the presence of foreign capital may imply absolute losses for the integrating host countries.

The demonstration of this proposition involves the comparisons of the increase in the host countries domestic income after integration (the area MEE" in Fig. II-1) and the redistribution of that income to foreign investors (the area AEE"B), assuming a perfectly inelastic foreign capital supply. For some minimum initial stock of capital (such as NF) and supply elasticity, the area MEE" can be larger than AEE"B or, what amounts to exactly the same thing, the area MCE" can be larger than AECB. Clearly, if the initial stock of capital is smaller, ceteris paribus, the loss for the host countries will be smaller.[6/]

The other two main variables determining the net gains for the countries from integration in the presence of foreign capital are the factor intensity of production in the new situation and the elasticity of capital supply. The former has been already analyzed, so we shall briefly

---

6/ Note that this result does not depend on a zero elasticity of capital; given a sufficiently high initial foreign capital stock, that elasticity could be positive and the host countries would still lose from integration.

consider the latter.[7/]

As it can be seen from an examination of Figure II-1, the lower is the elasticity of the foreign capital supply, the smaller will be the gain (or greater the losses) from integration in the presence of foreign capital assuming no compensatory policy of taxing foreign profits. The reason for this result is that the increase in the profit rate on capital will be higher than when the supply is more elastic. Thus, differences in foreign capital supply elasticities have important policy implications on which we shall concentrate.

Proposition 4: If the supply of foreign capital is inelastic, the host countries will maximize their gains, or avoid losing, from economic integration in the presence of foreign capital if and only if they levy an optimal differential tax on the stock of all foreign direct investment.

This is an application of a proposition originally introduced by Kemp (1962a and 1962b). He also derived the optimum tax as a function of the elasticity of supply of capital and of its marginal productivity. The

---

7/ Notice that if economic integration implies using even more capital intensive techniques, the gains for the host countries will become smaller (or the losses greater). This may be seen by twisting the new marginal productivity of capital function (MP), in such a way that it would cut the function MPo in figure II-1 at a point such as T and cut the prolongation of the vertical line FE" at a point above E" (not drawn here). This case has been analyzed in detail by Cohen (1972) in relation to changes in technology introduced by foreign investment, without considering the effects of integration, and therefore, we shall not repeat his analysis here.

idea behind Proposition 4 is that the government of a host country (or group of countries acting as one maximizing unit) which faces an upward sloping supply of foreign capital has some monopsonistic power over it. In this case, the optimal level of "borrowing" by the host country will be at the point at which the marginal cost of obtaining foreign capital equals the value of its marginal product, and not where the latter equals the (lower) average cost of borrowing given by the investor's supply curve. In Fig. II-1, with a supply of foreign capital such as line S, the national income maximizing level of foreign capital before forming the customs union would have been at point H rather than E, achieved with an optimal tax on foreign profits equivalent to HG. Point H and the optimal tax GH is obtained at the point in which the marginal "cost" of foreign capital for the host countries (represented in Fig. II-1 as line S') intersects the value of the marginal product of capital function. Naturally, a shift of the latter function caused by economic integration changes the optimal tax rate. The optimal tax after integration, given the foreign capital supply function S, would be H'G', determining implying an optimal level of capital equal to OF". In general, the simple effect of this policy is to reduce or tax away the redistribution effect of integration in favor of foreign investors.

There is a last result worth studying with this simple model. It is related with the possibility of a change in the relevant elasticity of supply of foreign capital faced by the host countries before and after integration. Since the supply faced by each of them before uniting is an excess supply, if the elasticity for the group as a whole is less than infinite,[8/]

8/ If all the member countries are still very small in relation to the total supply of foreign capital, they would also face a perfectly elastic supply after integrating.

then it will be more inelastic than the supply faced in isolation by each individual country. Therefore before integrating it may have been optimal for each isolated country to levy a low or no differential tax on foreign capital; but afterwards it would become optimal to levy a positive or high tax.[9/]

A less than perfectly elastic supply of foreign capital is the notion than lies behind the popular argument that host countries can improve their economic position after integration by excercising their greater "bargaining power" vis à vis the foreign investor.[10/] But we have shown that this is not the only argument for implementing a special foreign investment policy in order to maximize the countries' gains or avoid losing from economic integration.[11/]

9/ In terms of Fig. II-1, if before integration each country was facing the horizontal supply curve RoE, they should have had an optimal zero tax. If after integration they face as a group the supply S, there would be an optimal positive tax H'G' which maximizes their national income.

10/ It should not, however, be confused, with the argument merely in favor of a common policy towards FDI. It is an argument for a common and stricter policy than that followed independently by each country before integration. The basic argument for a common FDI policy is to avoid the competition among partner countries to attract foreign capital by offering special concessions or inversaly, to avoid an increase in the investor's bargaining power after they can sell in all the common market by investing in the country that offers most favorable conditions.

11/ Notice also, that these potential benefits from integration do not depend on the increase in the productivity of capital and, hence in trade liberalization per se. Some benefits could be obtained even if capital productivity remains constant.

We conclude this section with a few general remarks about policy measures. First, the change in foreign capital stock induced by economic integration, that is, increases or decreases in the inflow of capital, are only one -and not necessarily the most important- of the several variables affecting the costs and benefits derived from the presence of foreign firms. Other, probably more important variables, include the conditions under which the original foreign capital is operating both prior to and following integration, and the profit rate it earns.

The second general remark, with important policy implications, is that quantitative restrictions or absolute prohibitions of additional inflows of FDI do very little or nothing to tranfer more of the benefits from integration to the host countries. In general, host country policy vis à vis foreign capital should principally address the conditions under which foreign capital is employed. Taxes on all foreign profits, and taxes and tariffs on commodities produced by foreign capital (to be discussed below) are examples of required regulatory measures.[12/]

12/ If, for instance, to avoid the "loss" expected from the free entry of foreign capital up to point G', the additional inflow of foreign capital from points L to G' is forbiden, the losses for the host countries become greater because the profits on already existing foreign capital increase to AEE"B, and the gross gains LG'E" are forgone. If, on the contrary, an optimal tax on all foreign capital is levied, an optimal inflow up to point H' will be reached and the host countries' national income will be maximized.

But in our analysis so far, we have assumed that the increase in foreign capital was responding to a social productivity increase; in other words, the physical productivity of capital was supposed to be valued by the shadow or social price of commodities produced with foreign capital. Integration, however, by definition, implies the presence of tariffs which introduce "distortionary" differentials between the domestic market or private prices of some commodities and their shadow or social prices (which would normally be given by their CIF world price). This phenomena introduces an additional source of gain or losses for the host countries from integration in the presence of foreign capital. Even if profit rates on established capital do not change because the supply of foreign capital is perfectly elastic, domestic and foreign resources may be pulled into the "wrong" sectors or industries.

In the next section we analyze these additional effects within a two sector general equilibrium model.

3. A general equilibrium analysis

The formation of a customs union entails increasing trade among the member countries by eliminating tariffs and other restrictions on partner imports while setting a common external tariff with respect to imports from third countries. These structural changes will result in a new set of relative prices faced by consumers and producers as well as changes in the composition of production and consumption. To analyze in more detail the effects of integration it is, therefore, convenient to use a two sector general equilibrium model.

The formation of a common market has trade creation and trade diversion effects. A trade creation effect results from the elimination of tariff protection of domestic producers from their counterpart in the partner countries, and a trade diversion effect results from the increased protection granted to domestic producers vis à vis third country producers through the extention of their protected market to the partner countries. The net trade gain from integration depends on the relative strength of those two forces, i.e. of the "size" of the trade creation and diversion effects.[13/]

13/ The concepts of trade creation and diversion were first introduced and defined by Viner (1950) and considerable controversy has arisen about their correct interpretation and usefulness. We shall not get into that discussion here and simply follow the generic meaning of the terms defined in the text. For a survey on that controversy see Krauss (1972).

In the presence of foreign capital or foreign companies located in the member countries there are additional effects to consider in arriving at the net gains of integration for the host/partner countries. We have already considered in the one sector model those net gain related to aggregate changes in profits and stocks of foreign capital. But those aggregate changes are the result of several interrelated changes, sometimes in opposite directions, going on in individual sectors or industries. Within a two sector two country model of a common market, trade creation implies both "foreign investment diversion" in the country importing one commodity (i.e. a fall in the stock of foreign capital in the industry producing that commodity), and as "investment creation" in the partner country exporting that same commodity. The elimination of tariff protection on imports from the partner reduces the domestic price and, hence, profits, domestic production and capital investment in the industry whose imports from the partners increase after integration. The opposite occurs in that same industry in the exporting partner country. On the other hand, diversion of trade formerly carried out with third countries will normally imply foreign investment creation in each country.

One's initial intuition is that if there is a net foreign investment creation effect, i.e. net increase in the stock of capital, there will be a gain for the host countries. A rigorous analysis of the problem in a disaggregated model, however, shows that this is not necessarily true, even assuming a constant rate of profit or a perfectly elastic supply of foreign capital. The essential reason is that the foreign capital inflow is being invested in tariff protected industries: we

are in a second best economy whose initial distortions do not necessarily assure a welfare improvement from additional capital. Bhagwati (1973) and H.G. Johnson (1967) have analyzed similar problems; in their language, foreign capital inflow may entail "immiserizing growth".[14/]

Immiserization can occur even without considering the profits that are "paid" by the host country to obtain foreign capital. We can call this a pure immiserization effect, analogous to that resulting from technological change occuring in a tariff distorted industry (Johnson, 1967). The changes in profits or rents earned by foreign factors already located in the host countries which were analyzed above in a one sector model constitute an additional variable affecting the overall gains from FDI in the process of economic integration. To concentrate on the "immiserization" phenomenon we shall assume first that there was no foreign capital being used in the borrowing countries before forming the custom union, and consider only the trade diversion force within a customs union which induces an inflow of capital.

The situation of a union producing two commodities X and Y, with given fixed supplies of two factors of production -say, capital and labor- is illustrated in Figure II-2. The production possibilities curve of the integrating countries taken together after forming the customs union but before any trade diversion and foreign investment creation (capital inflow) occurs is assumed to be represented by CC. Assume that production of Y is relatively capital intensive and that of X is labor intensive. In the diagram we allow some

---

14/ The concept was originally introduced by Bhagwati (1958) in relation to a different phenomenon, but it was later generalized by him -Bhagwati (1968)- and applied to the case of tariff-induced capital inflows.

trade to exist with third countries even after the formation of the union, but before any trade diversion. World terms of trade are given by line PoCo and the regional or common market price ratio is given by line RR; the joint competitive equilibrium in production will be at point Po and consumption at Co. Exports of X to third-countries before trade diversion would amount to APo and imports of Y amount to ACo.

The trade diversion effect alone (still not allowing for foreign investment inflows) moves production from point Po to point P_1 and consumption to point C_1. The new equilibrium points imply less trade with third countries; in particular, it implies an extension of protection to commodity Y, which was formerly imported from third countries.[15/]

We now consider the welfare effects of foreign investment creation induced by the customs union trade diversion. Following Bhagwati's (1973) analytical framework, we distinguish three main welfare effects as a protected common market with no initial foreign capital proceeds to get an inflow of foreign capital under tariff protection:

15/ The movement from point Co to C_1 implies a reduction in the countries joint welfare, but this does not necessarily mean that the formation of the customs union as a whole does the same. We are concentrating here only on the trade diversion aspect. Trade creation, i.e. the gains resulting from duty free regional trade are not explicitly considered in this analysis. Within this model, the latter could be represented as a movement from a point like B inside the joint production possibility curve cum regional trade towards point Po on that curve.

1) The tariff (i.e. regional protection from third country imports) implies a production and a consumption loss by distorting the prices faced by producers and consumers.

2) The foreign capital inflow implies "growth" at the constant tariff-inclusive domestic (regional) prices faced by producers. This "growth" may imply a welfare gain or loss for the host countries.

3) The tariff-induced capital inflow earns rentals or profits which must be considered a cost and hence a welfare loss to the integrating countries.

These welfare components are illustrated in Figure II-2. The pre-foreign capital inflow production is at P_1. With the additional capital stock the production possibility curve shifts from CP_1 C to $C'P_1'C'$; domestic production moves to P_1' and consumption to C_1'; welfare is reduced from U_1 to U_1'. This is a pure "immiserizing growth effect" since it arises from the distorted use of the additional resources even before considering the value paid in rentals on foreign capital. In other words, it arises from effects (1) and (2) mentioned above, without considering effect (3). The common sense explanation of this result is that "growth" takes place in the "wrong" industry: the import-competing industry.[16/]

15/ A necessary and sufficient condition for this effect to occur is that foreign capital is ultra biased in the production of the importable good in the common market as a whole. This will happen if the importable good uses the foreign factor of production relatively intensively. In that case, based on the Rybczynsky (1955) theorem, the output of the importable will increase at constant tariff inclusive prices, while the output of the exportable commodity must fall. Strictly speaking, the necessary and sufficient condition for immiserization is that the Rybczynsky line P_1P_1' be less steep than the international price ratio P_1C_1. (Bhagwati, 1973, p. 51).

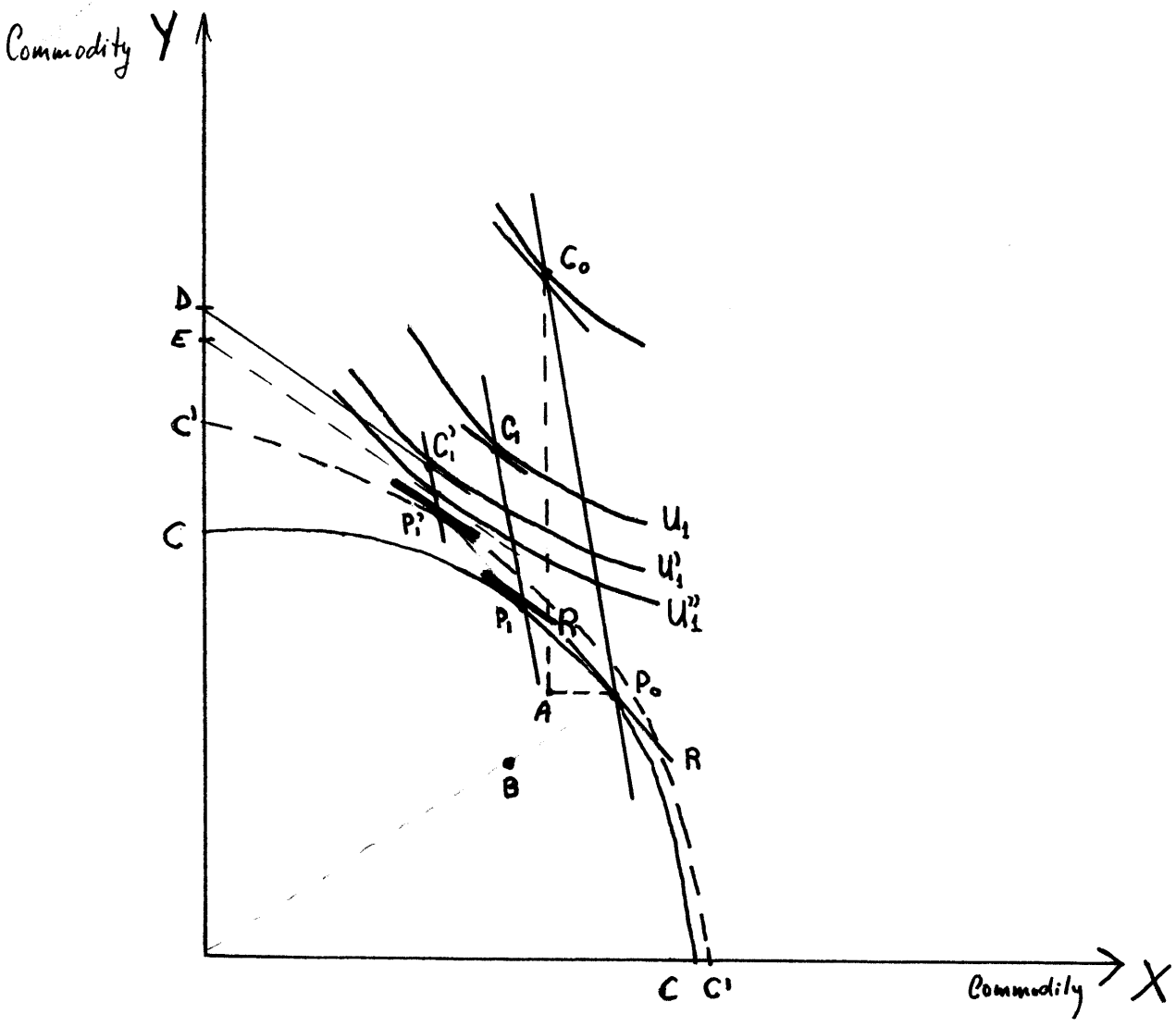


FIGURE II-2

In the case drawn in Figure II-2, the consideration of the payment for the foreign factors further reduces the host countries' welfare. If the return to foreign capital amounts to DE in terms of the quantity of the importable good Y at domestic prices, then the host countries' welfare will fall to U"1 in figure II-2.

Naturally, for a given positive or negative pure "immiserizing growth" - type effect of FDI, the gain (loss) for the host countries will be lower (greater) the higher the profits or rents "paid" for foreign capital. The rent per unit of foreign capital is systematically related to the increase in the stock of capital invested; this relationship is expressed by the elasticity of supply of foreign capital, as was examined in the one sector model above. Within the general equilibrium framework we have been using, the payment to foreign capital can be derived graphically by using a technique developed by Johnson (1959) to study the distribution of income among factors of production from the production possibility curve.

It is not necessary to repeat Johnson's derivation here. His result can be summarized in a his "income-distribution" curve (labeled FK in our Figure II-3) which lies uniformly inside the production possibility frontier, C'C', for commodities X and Y. The curve FK is derived in a such a way that it intersects the vectors from the origin of Figure II-3 to any point on the tranformation curve in the ratio in which income is divided between foreign capital and domestic labor and capital.[17/]

17/ For example, if production is at Po and the intersection at Ro, foreign capital's share is ORo/OPo.

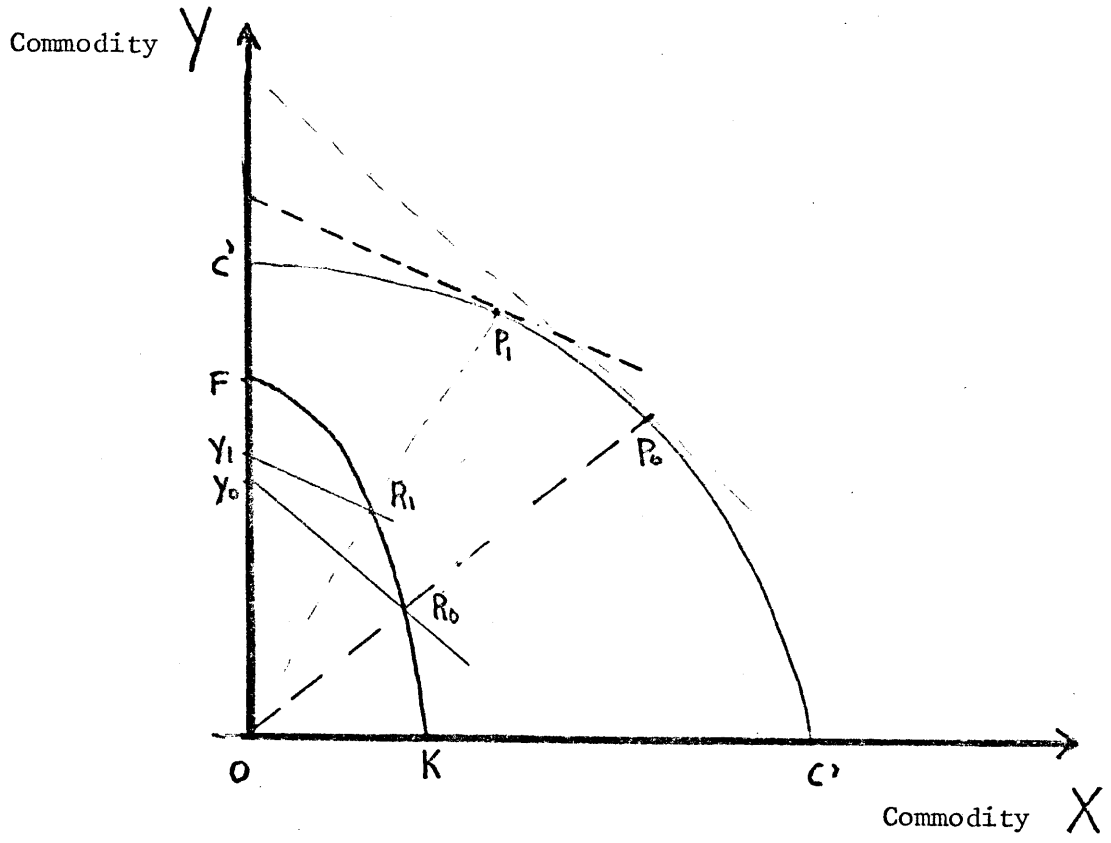


FIGURE II-3

The income actually received by foreign capital in terms of the imported commodity Y is obtained by drawing the "budget line" through Ro parallel to the tangent to the production possibility curve at the corresponding point Po.[18/]

With this simple extension of the Bhagwati model it is not only possible to derive exactly the value of income paid abroad for foreign factors (the difference between Domestic and National income or the distance DE in Figure II-2) but also to consider the unions' effect on rents paid for capital invested in a group of countries prior to integration.

Assuming that the original stock of capital located in the integrating countries remains in these countries, the changes in commodity prices brought about by the union will affect the profits or rents on the original stock of foreign capital depending on the relative intensity with which it is used in producing the commodities affected by integration.

If the formation of the customs union increases the domestic relative price of the commodity (Y) which employs the fixed foreign factors of

---

18/ Since commodity Y is assumed to be the relatively capital intensive commodity in our analysis, the income-distribution curve is tilted towards the Y-axis, so any budget line through a point to the left of Ro must lie outside of the budget line passing through Ro. See Johnson (1959), pp. 37.

production (say, capital) relatively intensively, then integration will imply an income transfer away from the host country; this welfare loss must be subtracted from the gains from regional trade and specialization.[19/]

To conclude, it is worth stating the phenomenon arising with immiserizing growth in a different form and relating to our simple one sector model. The essence of the problem is that tariff protection is introducing a domestic market or <u>private</u> (tariff protected) value of the marginal productivity of capital <u>higher</u> than that productivity valued at social or <u>shadow</u> prices of commodities produced with foreign capital (assumed to be the CIF international price of these goods). Thus, tariffs are not only introducing a distortion, but imply paying an implicit "subsidy" on foreign capital used to produce a commodity which "should not be produced domestically in the first place". That is the reason why the countries may end worse off except if a compensating FDI policy is implemented.[20/]

19/ In terms of Figure II-3, a movement of production from point Po to P_1 would raise the income earned by foreign capital from OYo to OY_1, measured in units of the import commodity. The exact increase in the profit rate earned by capital (the shape of the FK function in figure II-3) is given by the elasticity of supply of foreign capital considered in the previous action. A rigurous mathematical analysis of the results arising from the assumption of different capital intensities and degrees of capital mobility has been made by Kemps (1966), Jones (1967) and Gehrels (1971).

20/ If we modify the definition of the new marginal productivity of capital function after integration (MP_1 in Fig. II-1) so as to reflect indeed the <u>private</u> or <u>market</u> domestic value of the productivity of capital in the common market, while MP_o remains measuring that function in <u>social</u> terms, then, even assuming a perfectly elastic foreign capital supply, the host countries' domestic income measures at social prices well increase by an amount equivalent to the area ESF'F. Foreign profits, however, will still amount to FE'F'E. Therefore, the countries will really lose the equivalent of ESE'.

4. Further implications and limitations of the theory

With respect to foreign investment induced by economic integration, the main lesson derived from the analysis of immiserizing growth is that increases (or reductions) in foreign capital stocks alone do not necessarily imply a benefit for the host countries. We have examined in detail the case of welfare reductions arising from an inflow of foreign capital induced by the trade diversion forces within a customs union. In addition we have isolated that component of the total welfare loss (gain) due simply to increased foreign factor rewards. By symmetry, we have also shown the possibility of a gain from trade creation which induces an outflow of foreign capital when it was initially immiserizing. The net gains or losses from changes in stocks of foreign capital per se depend on the "degree" of immiserization; the "degree" of immiserization depends both on the distortions prevailing in the economy, especially non optimal tariffs, and the amount of resources used in the distorted activities.

Since changes in the stocks of foreign capital which occur under tariff distortions may per se involve no net gain or loss for the host country, we may pay less attention to those stock variations than to the changes on foreign profits or rents paid. In other words, since the line $P_1' C_1'$ in the general equilibrium model represented in Figure II-2, may shift only a little either to the left or to the right line P_1C_1 as a result of a given outward shift of the transformation curve due to a foreign capital inflow, we may disregard those shifts and focus on the more certain and unambiguous changes in foreign profits and rents before and after integration. This result will allow us to later use the traditional partial equilibrium representation of the welfare effects of trade, and center the analysis around specific foreign firms producing in particular industries.

Tariff protection is not the only or main distortion in an economy which can give rise to immiserization. Another very important distortion that is likely to give rise to it is monopoly in the commodity markets. This may be particularly significant for goods produced by foreign firms. Monopoly will introduce a differential between relative prices paid by consumers and relative domestic marginal costs of production, in the same way as tariffs do in competitive industries with respect to the alternative cost of importing the commodities. Thus, for instance, the differential between the slope of lines PoCo and RR in figure II-2 could be due to monopoly rather than to tariffs.[21/]

On the other hand, the existence of tariffs per se should not be judged as a "distortion". Tariffs may be a second-best policy for national (presumably "infant") industries,[22/] but the same tariff may not be optimal for "non-infant" foreign companies. Thus, a tariff, even if not distortionary in the case of national firms, can be so for foreign firms and hence give rise to immiserization from the inflow of foreign capital.[23/] Since tariffs tend normally to be established with national firms in mind, this important qualification should be kept in mind throughout our study.

21/ For a digrammatic presentation of monopoly in a general equilibrium trade model as the one used here, see Caves (1974).

22/ They may even be an optimal (first best) policy if compensated with consumption subsidies.

23/ Immiserization could only be avoided by levying simultaneously an optimal compensating tax on foreign capital.

Finally, it is worth specifying some general limitations of the two models we have considered thus far. The main limitation is undoubtedly the consideration of foreign investment as a mere transfer of "homogeneous" capital goods or funds.[24/] Modern FDI in manufacturing involves the "transfer" or use of several intangible assets -such as especial technologies, know-how, administrative capacity, brand names, etc. - none of which are sold in any normal market. They are specific not only to production in particular industries, but to particular firms which own and use those assets. One should therefore, be concerned with foreign firms, usually subsidiaries of multinational corporations (MNCs), rather than with a foreign "factor of production" which is paid a price in a market and can be used indifferently by national or foreign owned firms.

Moreover, the specific factors owned and used by foreign firms are typically a joint package of inelastically supplied assets (technologies, know-how, administrative capacity, brand names, etc.) which are normally indivisible, from which the firms earn pure or quasi-rents. Those rents depend directly on the price obtained for the finished commodities. This reason suggeststhat a more useful approach to studying the implications of modern FDI in manufacturing by MNCs is to move to a partial equilibrium analysis of the theory of firms earning supra-normal profits or rents from the ownership and use of specific factors of production.

24/ For a more extensive criticism of this assumption, see J. Robinson (1973).

A second limitation of the models used so far is the implicit assumption that foreign capital is always mobile between sectors in each country. If FDI is indeed quite industry and even firm-specific, it is likely to be more mobile among countries within the same industries, and especially within subsidiaries of the same multinational corporations. This a second reason for moving into a partial equilibrium analysis of the individual firm behavior under the assumptions briefly suggested here.

To summarize, notwithstanding the limitations of the relatively orthodox or traditional neo-classical models considered so far, they provide a very important insight into the phenomenon of FDI and show the possibility of quite "unorthodox" results. The basic point that has been proven with these models is that the formation of a customs union implies dealing with a problem of income distribution between foreign investors and countries, within a second-best economy, resulting from market and policy imposed distortion.

REFERENCES CHAPTER II

- Bhagwati, J. (1958) "Immiserizing Growth: A Geometrical Note", Review of Economic Studies, Vol. 25, No. 68 (June) pp. 201-205.

- _____ (1968) "Distortions and Immisering Growth: A Generalization", Review of Economic Studies, Vol. 35, No. 104, (October) pp. 481-5.

- _____ (1969)(Ed) International Trade, Baltimore, Maryland: Penguin Books.

- _____ (1973) "The Theory & Immiserizing Growth: Further Applications", in Connolly, M. and Swoboda, A. (eds), International Trade and Money, Toronto: Allen and Unwin, pp. 45-54.

- Caves, R. (1974) "International Trade, International Investment and Imperfect Markets", Special Papers in International Economics, No. 10 (November), International Finance Section, Princeton University, New Jersey.

- Cohen, Benjamin (1972) "An Alternative Theoretical Approach to the Impact of Foreign Investment on the Host Country", Center Discussion Paper No. 164, Economic Growth Center, Yale University, New Haven.

- Gehrels, F. (1971) "Optimal Restrictions on Foreign Trade and Investment", American Economic Review, Vol. 59 (March), pp. 147-59.

- Johnson, H.G. (1959) "International Trade, Income Distribution and the Offer Curve", in Bhagwati, (1969) pp. 30-49.

- _____ (1967) "The Possibility of Income Losses from Increased Efficiency and Factor Accumulation in the Presence of Tariffs", Economic Journal Vol. 77, No. 305 (March), pp. 151-54.

- Jones, R.W. (1967) "International Capital Movements and the Theory of Tariffs and Trade", Quarterly Journal of Economics, Vol. 81 (February) pp. 1-38.

- Kemp, M.C. (1962 a) "Foreign Investment and the National Advantage", Economic Record, Vol. 38 (March), pp. 56-62.

- _____ (1962 b) "The Benefits and Costs of Private Investment from Abroad: Comment", Economic Record, Vol. 38, (March), pp. 108-10.

- _____ (1966) "The Gain from International Trade and Investment: A Neo-Hecksher-Ohlin Approach", American Economic Review, Vol. 56 (September), pp. 788-809.

- MacDougall, G.A.D. (1958) "The Benefits and Costs of Private Investment from Abroad: A Theoretical Approach". In Bhagwati, J. (1969), pp. 341-369.

- Pitchford, J.D. (1976) "The Gains from Foreign Investment Revisited", Research Report No. 76-09, Department of Economics, The University of Western Ontario, London, Canada.

- Robinson, Joan (1973) "The need for a Reconsideration of the Theory of International Trade". In Connolly and Swoboda (eds), International Trade and Money. (Toronto: Allen and Unwin) pp. 15-28.

- Rybczynski, T.M. (1955) "Factor Endowment and Relative Commodity Prices", Economica, Vol. 23, No. 88 (November) pp. 323-41.

- Viner, J. (1950) The Customs Union Issue. New York: Carnegie Endowment for International Peace.

CHAPTER III

CUSTOMS UNION THEORY AND FOREIGN DIRECT INVESTMENT

The purpose of this chapter is to study the cost and enefits that result from economic integration when there are foreign owned firms affected by the process. The analysis will be carried out using the traditional partial equilibrium presentation of the customs union theory; the characteristics of modern foreign direct investment call for a more explicit emphasis on the individual firm as the basic unit of analysis.

The welfare effects considered in our partial equilibrium analysis are based on Marshallian consumer and producer surplus. The use of the welfare measures entails certain well knowndifficulties associated with changes in the marginal utility of income. Secondly, adding together surpluses in different countries to obtain changes in joint welfare requires either the assumption that the welfare of each one counts equally for purposes of valuation or that compensations are available. Finally, the results from the application of partial equilibrium concepts in several industries cannot simply be added together in order to obtain results for the whole economy under consideration. Throughout this study we assume that marginal utility of income is constant and that compensations among countries are available so the concept of consumer surplus can be used and added in the various countries. The conditions under which the results from a partial equilibrium analysis can be generalized to reflect the results for a whole economy in which there is an important participation of

foreign firms in production require a more explicit discussion.

In Section I of this chapter are analyzed the basic features of a partial equilibrium model designed to study the welfare effects of changes in the conditions under which foreign firms produce in a given country. That requires the consideration of three main peculiarities of FDI: (a) the existence of rents on exclusive sectors of production or assets typically owned by foreign firms; (b) the "externalities" of FDI, such as its contribution of new technologies, entrepreneurial ability and tax revenues to the host country; and (c) the possibility that the total stock of capital in a country may change as a consequence of additional inflows or outflows of foreign capital. The latter is the principal factor that makes the transition from partial to general equilibrum results different to those already sufficiently analyzed in the standard economic theory.

Section II contains an inquiry into the welfare effects of the formation of a customs union in the presence of foreign firms. We consider first the situation of the import substituting foreign firms, then that of the exporting firms, and finally the joint gains or losses for the host countries and the firms.

Section 3 focuses on the welfare effects of integration within monopolistic markets; such markets predominate in manufactured goods produced by multinational corporations. The last section makes some general concluding remarks and suggests some policy implications.

1.- Firm and Industry Equilibriums, Rents and Externalities.

Rents on Foreign Assets.

Subsidiaries of foreign multinational corporations are typically characterized by the possesion of exclussive assets and superior entrepreneurial capacity on which their greater efficiency (lower costs compared to national firms) is based. It is indespensible then, to include the rents or quasi rents on those assets in a model designed to be used in the study of the behavior of foreign firms and their gains from foreign investment. Rents --as well as returns to all factors of production--obviously depend on the conditions of demand for the commodity with which they are related. Thus we need to consider the whole industry where foreign firms produce. To abbreviate we shall describe the situation diagramatically.

The line Da in Figure III-1 represents the industry demand for commodity X in country A. Line S_a^f is the industry's domestic supply, showing the minimum price at which each quantity would be supplied, or the maximum quantity sold at each given price, given the technological knowledge available, the prices of inputs and other related commodities, and the supply functions of the factors of production relevant for the producers considered. Given S_a^f and Da, the industry competitive equilibrum for commodity X will involve a price Pa and production Qa.

The different output levels are in fact supplied by a number of individual firms. Thus, one could mark off on line PaE=OQa the amount supplied by each one. For example, at the initial price Pa, firm 1 may supply an output Oq. If the industry is competitive, then each firm will face a constant

price Pa for the commodity, so it will maximize its profits by setting a level of production at which its marginal costs equals that price (point e in the Figure). In general, the industry supply curve is not the sum of each firm's marginal costs function. As industry output contracts or expands the prices of the factors of production will be bid up or down if their supply is less than perfectly elastic. The marginal cost (MC) functions of each individual firm will shift upwards or downwards accordingly. In addition, technical conditions may change for individual firms but not for the industry: there may be non-pecuniary external economies or diseconomies. Each point on the industry supply function corresponds, then, to an equilibrium position of the individual firm and a set of possibly different factor prices. Thus, since our MC, and AC, are designed so as to represent the firm's output decision for different prices faced by it, it is indeed a "quasi-supply curve" defined as the "envelope" of MC and AC functions for each equilibrium position at various factor prices.[1/]

The first point which can be stressed with the help of Fig. III-1 is that a long run competitive equilibrum in a given industry is perfectly compatible with positive rents or quasi-rents earned by some firms. This is what in the textbooks is defined as the return to "entrepreneurial capacity", which is indeed the return to specific factors owned by the firm.[2/] The rents can be represented as the difference between the firm's

---

1/ See Viner's (1931) classical analysis of these issues.

2/ See, for instance, the analysis of this aspect by Friedman, M. (1962) pp. 93-100 and 115-18. Rents on exclusive assets may not, however, be the only source of profits of foreign firms. An additional source and presumably quite important are monopolistic rents or profits. Monopoly profits are conceptually different from pure rents; they result from selling at a price above marginal cost (equal to marginal revenue). The case of monopoly will be studied separately in Section 3 below.

total income and its "contractual costs" which determine its output decision during the period of time under consideration. If average or unit costs of a given foreign firm are represented by the function AC_1 in Fig. III-1, the quasi-rents earned by that firm when it sells its optimum output level at price Pa will be equivalent to the area Pa e f Ca.[3/] A reduction in the price of X in Fig. III-1 from Pa to Pr (because a tariff on X is eliminated, for example) would ceteris paribus, reduce the rents or returns to entrepreneurial capacity of firm 1 from Pa e f Ca to Pre'f'Cr. That reduction, or the difference between the two latter areas is equivalent to the area to the left of the marginal cost function of firm 1 between the initial and final price of X.[4/] In this sense, we define the rents on the specific factors with fixed supply owned by the foreign firm as equivalent to the traditional concept of producer's surplus.[5/]

3/ For evidence about the significance of entrepreneurial capacity as the most specific factor which explains the greater efficiency of MNCs, see Stopford and Wells (1972).

4/ The area to the left of the MC function between Pa and Pr is identical to the difference between the initial price (Pr) and the average or unit cost at the initial level of production (q) times the latter output level (the area Pa e f Ca). For a formal proof, see Bishop's Manuscript, Book II, Chapter 3.

5/ Note also that what we have defined as rents or return to entrepreneurial capacity of foreign firms are not necessarily equal to profits appearing on balance sheets. Part of what appears as "profits" is usually the alternative cost of capital used by the foreign firm. Within our definitions, this would be a contractual cost included in the MC function which is relevant for its output decision. On the other hand, true rents or quasi rents, defined as the residual between total revenue and contractual costs, may in practice appear as costs in the firm's books. That would be the case of royalties paid on patents or brand names owned by the parent company of a foreign subsidiary. Also transfer pricing is often used to increase costs and reduce profits in order to transfer true economic rents of a subsidiry to other affiliates.

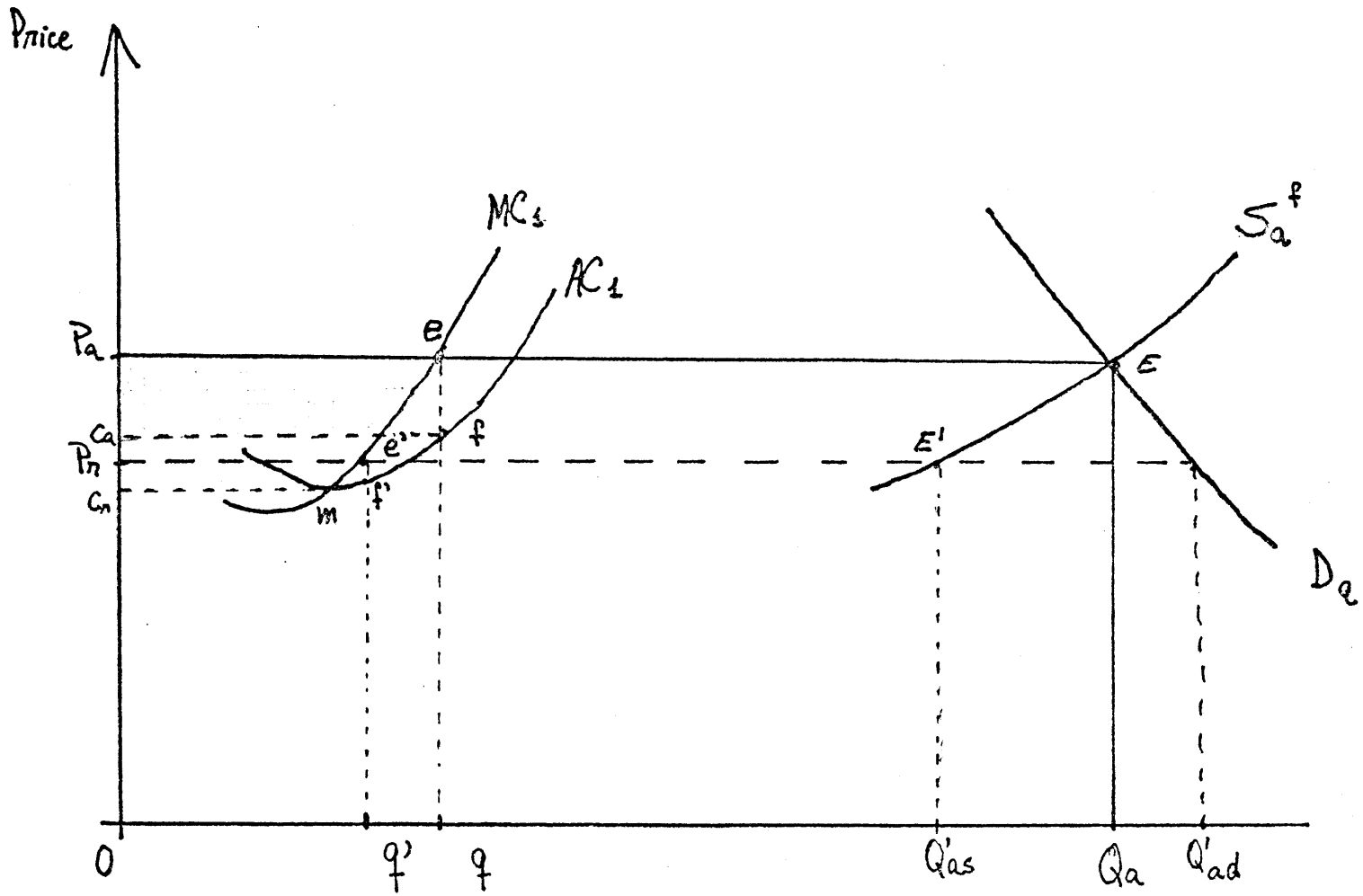


Figure III-1

Under the assumptions spelled out so far, and supposing in addition that: (a) there are no externalities, taxes or distortions of any kind in the economy (all variable factors are paid the value of their marginal product); and, (b) that the foreign capital stock within the country remains constant but is reallocated to other industries, we can consider unambiguously the welfare effects of change in foreign firms' production induced by a change in the price of the commodity they sell. The marginal cost functions of individual firms, as defined previously, may be added to generate an industry supply function by foreign firms, such as Sa^f in Fig. III-1. Thus, reduction of the price of X from Pa to Pr would involve an increase in consumer's surplus equivalent to the area PrGEPa. Assuming, for simplicity, that there are no national firms in this industry, the main counterpart of that gross gain for the country is a fall in producer's surplus, or, indeed, in rents earned by foreign firms on the specific package of assets that they own (which are equivalent to the area PrE'EPa). This implies a redistribution of income between producers and consumers, but, contrary to the case when national firms are involved, in the case of foreign firms it is a transfer of income from the foreign investors to the host country. The area under the industry supply function, or under the relevant MC function of each firm, does not imply either a welfare gain or loss for the host country nor the firms. It simply reflects payments no longer made to variable factors used in this industry which, under our assumptions, would be reallocated and paid to produce other commodities.[6/]

6/ Moreover, as mentioned above, contractions or expansions of the foreign firm's output within the framework we have defined may entail changes in prices or returns to non-specific factors of production, both foreign and national. Output variations may imply changes in the return of domestic

There are two additional aspects, however, that need to be considered in order to make a more realistic analysis of the welfare effects of changes in foreign firms' production. They are related to their "externalities" and the eventual effects of changes in the aggregate stock of foreign capital.

Externalities and Taxes.

A second characteristic feature associated with the presence of foreign firms is what in the literature on FDI is loosely defined as its "externalities". By this is meant all the investors' "contributions" to the host country's welfare aside from the inflow of capital (goods and funds) which enter in the balance of payment calculations. Those loosely defined "externalities" include three very different sets of foreign "contributions": (a) advanced technologies, new products and superior entrepreneurial capacity; (b) employment opportunities and training of local labor; and (c) taxes paid to the host countries.

---

factors in inelastic supply, such as skilled labor. Recall that these factor price changes are already included in our definition of the relevant MC functions of the firm (their quasi-supply functions), which include all contractual costs.

The "true" economic externalities generated by foreign firms (to be differentiated from "apparent" FDI externalities below) should be properly represented as a difference between the market or private and the social costs of production. In terms of Fig. III-1, if the foreign firm 1 was training unskilled workers that were later being employed by national firms which did not pay for the cost of that training, then the reduction of the foreign firm's output from q to q' would not only imply fewer workers employed by that firm (which will be transferred to other industries), but will also imply fewer workers trained. Therefore, the area under the firm's MC function would not imply no net welfare gains or losses for the host country as in the case without externalities considered above. In the case considered here, part of that area should indeed reflect a loss from lower production by the foreign firm because fewer workers are trained. This loss can be represented by an area given by the difference between the private (firm's) MC and the lower social MC of production in the host country (not drawn in Figure III-1). That area should be subtracted from the gain in consumer's surplus in order to obtain the net welfare effect for the country.

Notice, however, that the training of local labor by foreign firms constitutes a true externality for the host country only if workers move out

of the foreign firm to work in national firms and neither the workers nor the national firms "pay" for the training. In general, true economic externalities result from "contributions" by foreign firms which "spread" freely to the domestic economy or are not "paid" by the host country through rents or other forms of compensations.[7/]

Therefore, the first three types of "contributions" of FDI mentioned at the outset are only "apparent" but not "true" economic externalities. As Caves (1974), p. 176, has stated: "The host country does not benefit directly because the foreign subsidiary is efficient, or brings to its shore skilled entrepreneurship and productive knowledge. Rather its gain depend on the spill-over that occur when the multinational corporation cannot capture all quasi-rents due to its productive assets."

The mere employment of local labor constitutes a true economic "contribution" of FDI for the host country's welfare only to the extent that they would not be employed otherwise. Very strong conditions must be assumed for that to be the case and, in the case of FDI in manufactures, the "contribution" of foreign firms to increase employment is relatively small compared to the cost of generating it, given -partially- by the rents earned by the firms.[8/]

7/ These distinctions have long since been recognized in the theoretical literature, since the pioneer work of MacDougall (1958). They are still not recognized, though, (or do not want to be recognized) in many applied studies, such as, for instance, May's (1970) report to the Council of the Americas.

8/ To the extent that rents are more closely associated with total revenues earned by foreign firms it is worth pointing out that, according to data from the 1957 and 1966 Census of US direct investment abroad, sales by manufacturing subsidiaries in Latin America increased by 300% compared to only 50% increase in employment by those subsidiaries between the dates just mentioned. See,May (1970), pp. 74.

Moreover, along with positive true externalities, FDI also entails negative externalities, which may outweight the positive ones. Examples of negative externalities are the use of subsidized domestic factors of production and the tendency to transfer factors--specially skilled managers--out of the host countries.[9/] It is also possible to include the political manipulation and influence of MNCs in the countries' domestic affairs as a negative externality. Thus, on balance, there are important reasons to believe that foreign firms do not generate very significant true net externalities.[10/] Finally, whatever is the value of the true net externalities of FDI, it seems more reasonable to consider them jointly with taxes as a (positive or negative) revenue received by the host countries' economies, rather than as a differential between social and market costs, for reasons to be given in a moment.

Taxes paid by foreign firms in host countries are probably the most important and unambiguous contribution they make. We shall concentrate on corporate income taxes (or profit taxes, in general) and not on commodity taxes affecting more directly the levels of production. We shall define profit taxes as a general mechanism by which a host country may participate in the profits earned by foreign firms. The obligation to form joint ventures, in particular, would be one form of what we shall call a "profit" tax if local participation in the capital stock is obtained by paying less than the

---

9/ See Floto (1974).

10/ For some interesting empirical evidence on this point, see Caves (1974).

present discounted value of the future flow of profits generated by the firm.[11/]

Within this broad definition of profit taxes, it is reasonable to deal with true externalities generated by foreign firms jointly with taxes, for the particular reason that positive externalities for the host countries are usually not obtained automatically, but rather are "extracted" by the governments through a process of bargaining with the foreign investor very similar to, and interrelated with, that which goes on to determine profit taxes. True positive externalities are materialized through the requirement that firms should hire and train more local workers, have a higher share of "local content" (inputs whose local production will imply learning new processes and training more workers) and by reducing the payments of royalties and other fees imposed by foreign firms which transfer patented technologies.[12/] A second reason to treat taxes and externalities jointly, is that the former should be measured net of the public services provided without direct payment to the foreign firms and of their use of subsidized local factors of production. These imply positive "externalities" for the firm, but negative"externalities" for the countries, which should be subtracted from the positive tax contributions made by the foreign investors.

11/ Obviously, there will be differences with respect to who gets the "tax" receipts when there are national private investors, rather than governments engaged in joint ventures.

12/ Notice, therefore, that we are not implying that FDI externalities are conceptually analogous to taxes in economic terms. They are different in several respects -for example, taxes are captured solely by the governments, while externalities may be captured by various economic agents. Taxes and positive FDI externalities, however, share the general common property of being an important form through which the host country benefits from FDI.

Changes in the Stock of Foreign Capital.

As mentioned in the introduction, the fact that changes in production by foreign owned firms may induce outflows or inflows of capital into the country whose welfare we are considering introduces an additional welfare effect which must be considered. Unfortunately, this isolated effect is much more difficult to represent in a partial equilibrium than in a general equilibrium framework as we did in Chapter II. Obviously, it is not difficult to study the problem in a partial equilibrum framework when we are interested only in the particular industry under consideration; but the difficulties arise when we want those results to reflect the aggregate (general equilibrium) welfare effects of changes in production by foreign owned firms. In other words, the problem arises when one wants to define a partial equilibrium model representing a general equilibrium model. The conditions for making that kind of representations have been stated rigourously long ago by Marshall and used, among others, by H.G. Johnson (1962) to deal, in particular, with the effects of a customs union in which we are interested here, but they implicitly assume a given fixed stock of capital.[13/]

If foreign capital remains within the host country, and is simply re-allocated to other industries, then the supply and demand functions of the commodity being studied (defined in the relevant way) will remain stable; i.e. they will not shift. Therefore, the gains and losses from integration can be measured using the traditional partial equilibrium concepts associated with the areas under the demand and cost functions.

13/ For an heuristic discussion of the relations between partial and general equilibrium, see Joan Robinson (1941). For a diagramatic analysis, in relation to the concept of producer surplus that we have been using, see Mishan (1968).

If foreign capital leaves the country, reducing the total stock available, the demand and supply functions of the particular commodity being analyzed will shift, because--looking at the situation in a conventional general equilibrium diagram--the whole production possibility function of the host country will shift inward and consumption will also move to a lower indifference curve. Therefore, we would have one set of demand and supply functions in a particular industry for each level of foreign capital stock. Thus the different industry equilibrium positions for each level of capital stock induced by each set of relative prices (with and without tariffs, for example) could be connected to give rise to the relevant supply and demand function: these would be a sort of "envelope" of the functions defined inclusive of capital stock changes, in the same way as the quasi-supply curve of a firm is an envelope of MC functions for different sets of factor prices.

The extent to which the supply and demand functions in a particular industry will shift as a consequence of foreign capital stock changes induced by relative commodity price changes due to economic integration is an empirical question. Recall, however, that in our general equilibrium analysis of "immiserizating" growth in Chapter II, we showed that an exit (entry) of foreign capital induced by lower (higher) tariff protection per se may imply either reductions or increases in the host country's welfare or national income. Thus the direction of the shifts in an individual industry's supply and demand would be ambiguous, with positive and negative welfare effects canceling out.[14/] Hence, it does not seem unreasonable to pay

---

14/ See, in particular, Bhagwati (1973), p. 53, and pp. 46 to 53 above.

less attention to those shifts than to changes in the rents and consumer surplus reflected by the conventionally defined demand and supply functions.

Another consideration that leads to the same conclusion when one is interested in the joint welfare of two integrating countries, is that the foreign capital that leaves an industry in a country that starts importing a commodity produced in a partner country may move to the same industry in the latter in order to increase the exports of that commodity. Thus, the aggregate stock of foreign capital in the two countries may not change or change very little. This would imply that the supply functions of commodities produced by foreign firms in each country would be more elastic than otherwise, but that the region's joint demand for them would not shift as a consequence of capital stock changes. The industry-specific nature of FDI in manufactures implies that this is the most sensible assumption to make. Hence, we shall base our subsequent analysis on it as the main justification to concentrate relatively more on the welfare effects of changes in consumer surplus and rents earned by foreign firms than on the impact of variations in the pure capital stocks.

Under the assumptions we have spelled out in this section, the marginal cost functions of the individual foreign firms may be added to generate an industry supply of output by foreign firms, such as for example Sa^f in Fig. III-1. If there are also national firms in that industry, Sa^f will be a fraction of the total supply of the commodity in the country. If there are no competing national firms, tha latter would determine all supply and the market price. This is the case on which we shall concentrate first, as represented in Fig. III-1.

Notice that this presentation allows us to consider the change in the number of firms producing in an industry. If the price falls below the minimum average or unit cost of production of firm 1 (point m in Fig, III-1) then that firm would leave the industry and possibly the country. But the consideration of this problem is no different from the one of changes in the stock of foreign capital. Under our definitions all these phenomena are reflected in the form (elasticity) of the industry supply curve, together with the impicit changes in factor prices and non-pecuniary external economies or diseconomies.

The crucial point to emphasize, in summary is that the assumptions we have made assure us that the area below the industry supply function between two different levels of output (such as Qa and Q'as)

measure the opportunity costs of using domestic factors of production and of doing without foreign factors, in the case that the latter are not transferred within the country but leave it. On the other hand, the area to the left of the industry supply function between the corresponding prices (pa and Pr in Fig. III-1) will measure the "producers' surplus" obtained by foreign firms. We have defined the function in such a way that that area corresponds to the rents and quasi rents that are earned by the foreign firms on their exclusive assets--such as technolgies, patents, brand names, etc.--or, in general, on its superior entrepreneurial capacity.

Keeping these modifications of the traditional definitions of partial equilibrium supply and demand functions in mind, we can proceed to study the effects of economic integration in industries in which foreign firms participate.

2.- Welfare Effects of Customs Unions in the Presence of Foreign Firms.

In this section we will analyze the welfare effects of changes in foreign firms' production arising from the formation of a common market by using the traditional partial equilibrium theoretical approach and assumptions.[15/] It must be recalled that we are not concerned with the question of whether FDI in general will increase or reduce a country' welfare, but only the conditions under which a gain or loss will arise as a consequence of the formation of a common market. We first consider the case of an import substituting industry within the common market, then consider what is happening in the exporting industry (or country), and finally the joint welfare effects for host/partner countries and foreign companies.

a) The Regional Import Substituting Industry: The Foreign Profit Diversion Effect.

We start with this case because it follows the traditional presentation of the standard partial equilibrium analysis of the effects of customs unions. Thus, the welfare effects resulting from the presence of foreign firms in an industry can be "added" to the well known trade creation and diversion effects.

15/ These assumptions include mainly the absence of transport costs, decreasing returns or increasing costs of production, perfect mobility of domestic factors and no other distortions in the economies except for tariffs on third country imports. The validity of these assumptions may be questioned especially in the case of customs union among developing countries. But we shall not attempt to modify them, in order to keep the analysis simple and comparable with the traditional theory. We also assume the countrys' objectives to be the maximization of national income, without the consideration of non-economic objectives (such as preference for industrialization) or concern about political or economic "dependence" brough about by FDI. For a very illuminating analysis about the shortcomings of the former assumption in LDCs, see Bhagwati (1968).

The market equilibrium in an import substituting industry X within a given country (A), is represented in Figure III-2. For simplicity we shall assume throughout this section that there are only foreign firms producing in the industry. Their commodity supply function is represented by line Sa^f which reflects the industry's relevant marginal costs of production under the assumptions discussed above. Da is the country's demand for the commodity under consideration. Thus, if the CIF price of X imported from third countries is Pi and before integration the country was levying a tariff on X equal to Ta, the domestic price of output will be Pa (equal to Pi(1+Ta). The level of domestic production will be set by the intersection of the industry's supply curve and the horizontal line PaJ reflecting the maximum price that domestic producers receive. That output before integration would be Qo, and since the total quantity demanded at that price is Do, then imports from the rest of the world amount to Do-Qo.

Let country A form a customs union with country B. B now sells good in A at a lower price (Pr in Figure III-2)[16/] so the foreign firms in A will reduce domestic production to Q_1 and imports (now from the common market) will increase to D_1-Q_1.

16/ How that price is set within the common market, as well as the adjustments taking place in Country B are analyzed below.

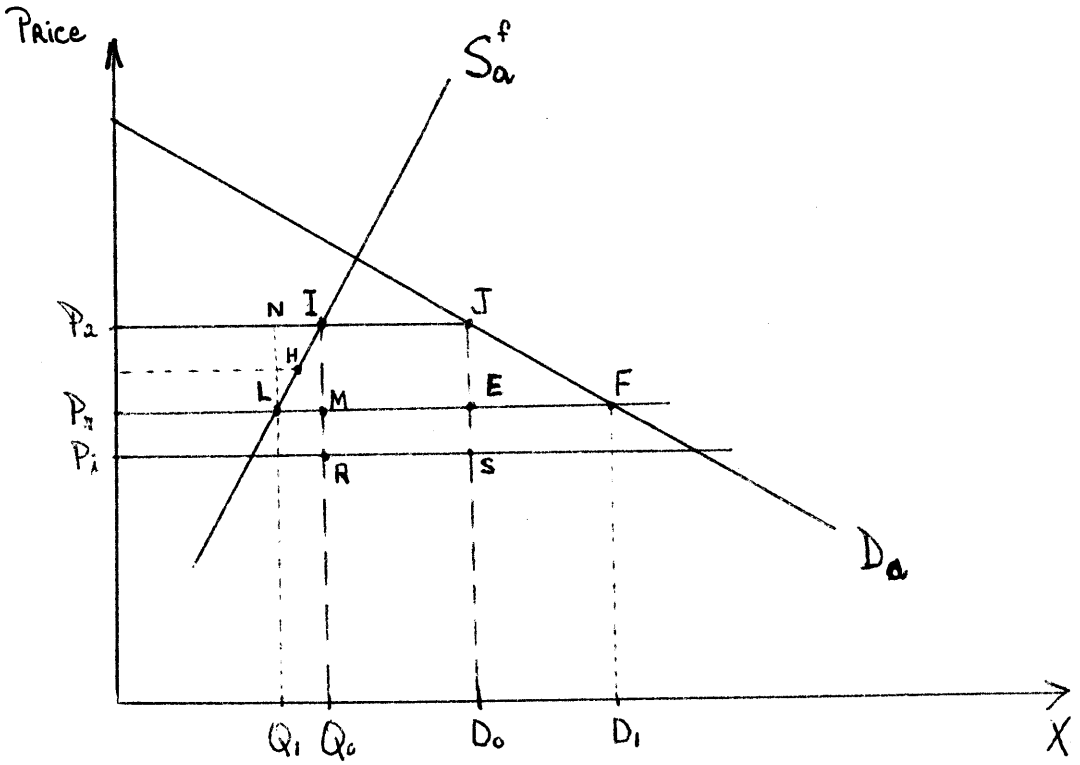


Figure III-2

The traditional gains and losses for a country forming a customs union arise from the opportunity to obtain some commodities cheaply from the partner countries; but as a counterpart, the country normally has to pay more for some commodities that may have been previously imported from third countries. These welfare gains and losses are measured by the classical trade creation and diversion effects. Since several authors interpret these concepts differently, it is necessary to state explicitly that we shall follow Harry Johnson's (1962) definitions of those concepts, which are more appropriate to the partial equilibrium model we are using.[17/]

The reasoning applied to estimate the effects of forming a customs union in the absence of foreign firms goes as follows. Country A's "gross" benefits from the opportunity to import cheaply from the partner country after regional tariffs are eliminated result from the increase in consumers' surplus. This is the area P_rFJP_a in figure III-2. But from that sum, we must subtract the tariff revenues no longer collected by the government (the area MEJI) and the loss in producers' surplus (PrLIPa). Those two areas are a mere transfer of income from the government and producers, respectively, to the consumers. Therefore, the net gain that is left for the country is the triangle EFJ (the consumption component of trade creation) plus the triangle LMI (the production component of trade creation) Those two areas should be compared with the trade diversion effect (the higher cost of importing from the common market the quantity formerly bought from the less expensive third countries, the area RSEM, in order to obtain the overall effect of integration.[18/]

17/ For a discussion about those different interpretations see Krauss (1972).

18/ The trade diversion effect also has a consumption and production component which could be represented by the fall of consumption in the other industry (Y) within country A as a consequence that the government no longer has that income to spend. See Johnson (1962), p.55.

In the presence of foreign firms, the gains and losses from the formation of a customs union are no longer restricted to the traditional trade creation and diversion effects. There will be additional gains or losses for the host country which arise from the change in rents earned by foreign subsidiaries, which implies a redistribution of income between them and the host countries . In the case of an importable commodity produced by foreign firms whose price falls after integration, the host country will gain from the reduction in the foreign company rents.[19/] In fact, within our model, the country gains from the transfer or "transformation" of those rents into an increment in consumer's surplus and, hence, those gains correspond to the area PrLIPa in Fig. III-2.[20/]

19/ Recall that the possible additional gains or losses derived from changes in the foreign capital stocks per se, are already included in the definition of the demand and supply; for instance, the latter being more elastic than what it would be if capital stocks do not change.

20/ That area has two components: one is the "output variation" component given by the triangle LNI which measures the fall in profits on the quantity of the good that the foreign firms stop producing. They were generating revenues equivalent to the area Q_1NIQ_o, but had a cost of only Q_1LIQ_o, the difference being the profits earned by the foreign firms. The second component of the total rents transfered from the foreign firms to the host country is that arising from the lower price at which the former can sell the quantity that they will remain producing domestically after integration. That amounts to the area PrLNPa.

There are two additional peculiarities of FDI worth considering which will make our analysis more general and realistic. They are taxes on foreign profits and the (positive or negative) externalities that may be generated by FDI. For the sake of a simple exposition, we shall assume that only profits taxes are imposed and that externalities can be represented as an additional positive or negative "income" received by the country which can be added to the "tax bill".[21/] Externalities and profits taxes, as different from commodity taxes, are assumed not to affect directly the levels of production determined by the firms.

If the host country participates in a fraction of the rents or profits earned by the firm, then it shares in the gains or reductions in those rents or profits. Thus, for example, if taxes on profits were 100% and there are no externalities, the situation would be analogous to having a national firm and there would be no gains to be attributed to the transfer of foreign profits to host country consumers. If foreign capital remains in the country and is reallocated, then the standard trade creation and diversion effects alone could capture all the welfare impac of integration.

21/ The justification to follow this procedure were discussed in the previous section. Recall that alternatively, both taxes and externalities could be introduced in the analysis as a difference between the private costs (those considered by the firm in taking its price and output decisions) and the "social" costs viewed by the host country. A knowledge of the base on which taxes are levied as well as the exact nature and the origin of the externalities are critical for determining how they should be introduced in the analysis. For a study of the effects of integration when there are differences between private and social costs, see Pou (1974).

To summarize, in the case of an industry dominated by foreign competitive firms producing the importable good domestically, there are additional gains for the importing country participating in the union, aside from the standard trade creation gains. These additional benefits can be called a "foreign profit diversion effect" which arises from the transfer of a fraction of the foreign company rents to the consumers, and should be considered together with the more traditional trade creation and diversion effects in order to obtain the net benefits for the host country.[22/] The latter effects, by themselves, are not sufficient to determine the net benefits from forming a customs union in the presence of foreign firms. If there is no foreign capital used in any other industry in a country, except in the importable good industry, then the three effects considered so far will jointly determine completely the overall gains and losses from integration for that country. If in addition, however, there are also foreign firms in that country which export to the protected market of the partner country as a consequence of the formation of a customs union, then an opposite foreign profit creation effect will arise. In this case, to estimate a country's overall gains or losses from the participation of all foreign firms in the common market in which the country becomes engaged, we should add the foreign profit diversion and creation effects to the standard trade effects.

22/ The term "profit", rather than "foreign investment" diversion seems more appropriate, because there could be no changes in foreign capital and even in output (Sa^f in Figure III-2 could be a vertical line) and there would still be (and even a larger) rent or profit transfer between foreign firms and host countries (a gain for the latter). Focusing on profit diversion and creation is also more consistent with Johnson's suggestion that rather than talk about trade diversion and creation it would be less confusing to talk of "terms of trade" creation (fall) and diversion (improvement). In fact, the profit diversion concept is equivalent to a real improvement in the "terms of investment" for the host country, or an implicit "net-of-foreign profits" terms of trade improvement on the goods produced by foreign firms, which, under our assumptions about capital mobility implies a gain for the countries.

To study the FP creation effect we must concentrate on the exporting industry. Since we have argued that the most reasonable assumption to make is that foreign capital is likely to be reallocated across integrating countries but within the same industry, we shall study the FP-creation effect in the same industry X on which we have been concentrating thus far, but looking at the situation in its exporting partner country (B).[23/] The foreign capital that is no longer used in A because domestic production had fallen there, will be used in country B to increase production and exports to A. Thus, the joint welfare effects of those changes in the integrating countries can be studied without the need to take into consideration of the specific changes in capital stocks, because the aggregate stock in the two countries as a group will not necessarily change.

b) Regional exporting industries: The Foreign Profit Creation Effect

The foreign profit (FP) creation effect arises from increases in rents or profits of foreign firms that have a regional comparative advantage, so they expand production to start exporting (or increasing their initial exports) to the other partner countries within the protected common market.

23/ Obviously if one is interested in the total welfare effects on an isolated country of forming a customs union in the presence of foreign firms, one should study the FP creation effect in its exporting industry e.g. industry Y in the case of country A.

That effect is illustrated in Figure III-3, which is identical to the one used in the last section, except that the changes in prices and output in country B are considered explicitly. Since this country becomes the regional exporter after the customs union is formed, by assumption its relevant industry's marginal costs of production must be lower than in country A. They are represented by line Sb^f in the figure and we suppose also that there are only foreign firm in the industry producing X in country B. Assuming for simplicity that the demand function is the same in both countries, the initial price in country B(Pb) will be lower than that in A.

Assuming no transport costs, the (horizontal) sum of the supplies (i.e. the relevant marginal costs of production) in country B (Sb^f) and country A (Sa^f) determine the aggregate supply for the whole common market $S_r^f = Sb^f + Sa^f$. If producers behave competitively the regional price after the customs union is formed is determined at the level Pr where S^fr intersects the region's demand function (Dr = Da + Db).

The increase in rents or profits which generates the FP-creation effect results from the rise in the relative price of the goods that foreign firms export to the common market. That price rise will tend to increase total output (in order to export), but also to reduce the quantity of the exportable good consumed domestically in the exporting

country.[24] Therefore, diagramatically, the FP-creation effect will be equivalent to the area P_bVYP_r in Fig. III-3. Assuming no taxes or externalities, that area measures the additional rents or profits obtained by foreign firms as a consequence of the formation of the customs union. Since part of that area implies a fall in the host country's consumer surplus, the FP-creation effect implies a loss for the latter: a re-distribution of income from the host country to the foreign investors whose rents (producer's surplus) increase.

If taxes are paid by the foreign firms, or if they generate positive externalities for the host country, then the loss for the latter will be smaller and may eventually imply even a gain.[25] The latter may occur if both, the taxes paid and the firms' exports are sufficiently high, as compared to domestic consumption, so that the participation of the host country in the additional rents earned by the firms will exceed the loss of consumer's surplus. In this case, the host country's welfare depends

---

24/ Recall that these changes in output levels and trade also have welfare effects derived from a better or worse resource allocation, and they are dealt with in this model through the trade creation and diversion effects. Here we are concentrating for the moment only on the income distribution effects.

25/ However, the foreign regional exporting firms may never end up worse off (even if profit taxes are close to 100%) because if profits were to fall they would not increase production in order to export. Losses may result only for import substituting foreign firms such as those analyzed in the last section.

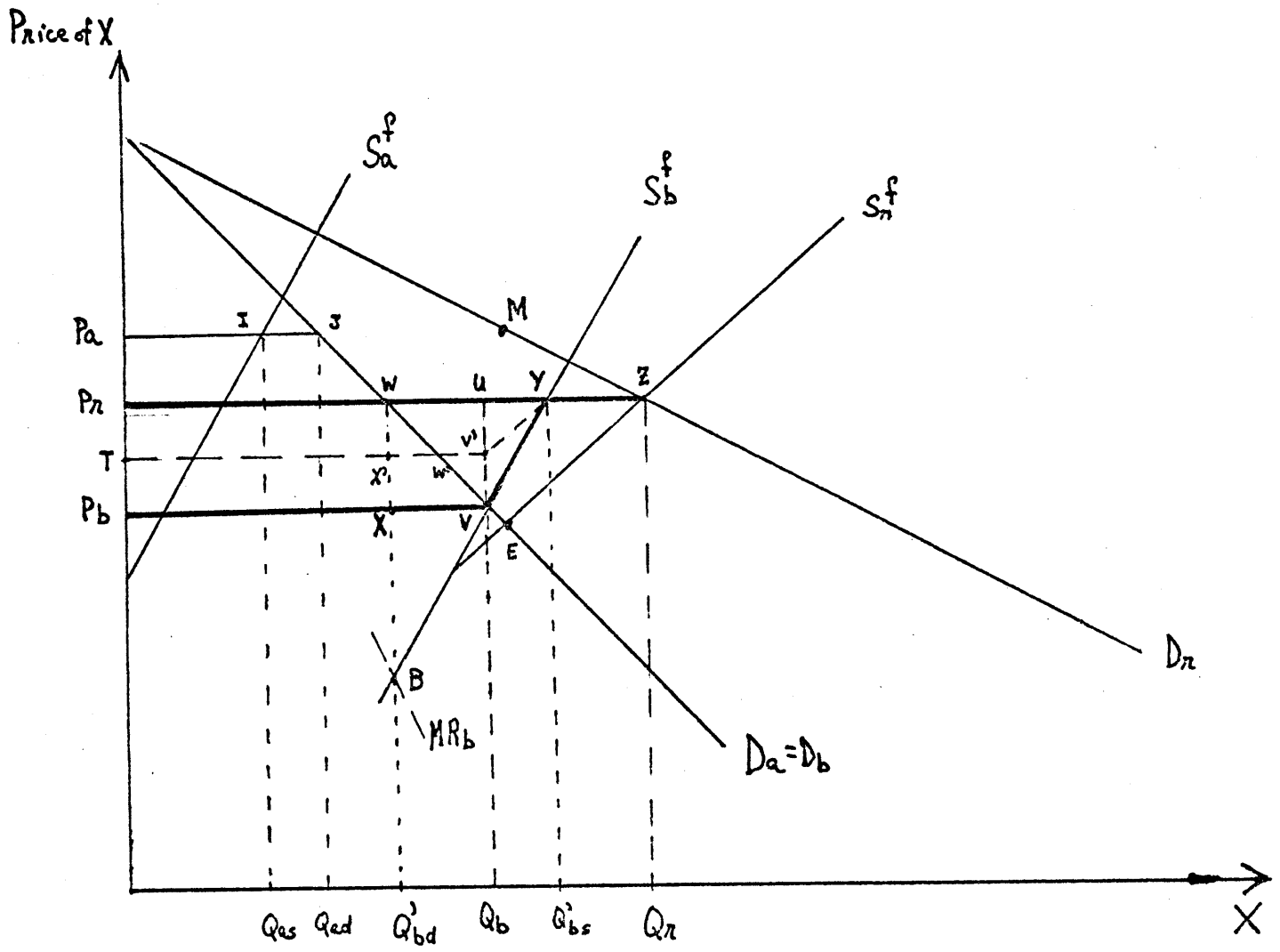

Price of X
S_a^f
S_b^f
S_n^f
M
I
J
W
U
Y
Z
P_a
P_n
T
P_b
V'
X'_1
W'
X_1
V
E
B
MR_b
D_n
$D_a = D_b$
Q_{as}
Q_{ad}
Q'_{bd}
Q_b
Q'_{bs}
Q_n
X

Figure III-3

on the net FP-creation effect. For a given tax rate, that net effect is in turn, determined by the size of two critical components of FP-creation.

The FP-creation effect has two components: the additional profits coming from the units of the commodity consumed in the host country after integration (the area PbXWPr in Fig. III-3) and the additional profits on the exports made to the common market (the area WX Y). We shall define the former as the "consumption component" of the FP-creation effect, which always entails a welfare loss for the exporting host country: under increasing MC conditions, it implies a transfer of income (consumers' surplus) from the country to the foreign investor.[25/]

The "export component" of FP-creation implies a gain (and cannot ever imply a loss) for the host country to the extent that the country participates in the profits and rents earned by the foreign firms and/or the extent to which there are positive externalities generated by exporting to the common market.[26/] Thus, given a positive tax rate, the net welfare

---

25/ The crucial fact to consider is that the counterpart of that increase in prices is a larger repatriation of rent or profits per unit of the good produced, and not merely an internal transfer between consumer and producers, as in the case of national firms, (plus the probably smaller dead weight loss arising from the fall in consumption in that country). Indeed, a good way to look at that profit creation effect is to think of it as equivalent to impossing a tariff, the revenue from which is not given back by the government to the domestic consumer, but rather "thrown away".

26/ The presence of high transport costs on regional exports would diminish the export component of profit creation (the only source of gain for the host country) while it will not affect the consumption component (the source of welfare losses).

effect (aside from trade specialization effects) of changes in foreign firm's production as a consequence of the formation of a customs union will depend on the size of each of those two components separately.[27/]

Consider two extreme cases: If there are no net positive externalities and the exporting host country does not impose taxes on foreign firms (so the country does not share part of the export component of the FP-creation effect), it will necessarily lose from the participation of foreign firms in regional exports generated as a consequence of the formation of the common market. The reason is that, on the one hand, it would obtain no benefits from the additional exports to the common market because the area under the MC function is defined to measure exactly the opportunity cost of domestic resources. On the other hand, it will lose from the consumption component of the FP-creation effect (the fall in consumer surplus transfered to the investor).

At the other extreme case, if the host country with foreign firms in its exporting industry places a 100% tax on the foreign firm's profit it will necessarily gain because the "consumption component" of the FP-creation effect would now represent merely an internal redistribution of income between the government and the consumers and the "export component" of FP-creation would imply a net gain for the host country, since it would capture all the profits from the sales to the common market (the area WXVY

27/ There may be, however, a gain arising from a better allocation of domestic resources, but that effect would be captured by the trade creation effect and is not related directly to the presence of foreign firms.

in Fig. III-3). This result is not surprising since a 100% profit tax implies that the foreign owned firm would, in practice, be identical to a national firm; no additional rents and profits would be transfered abroad so the formation of the customs union would imply no international income distribution effects associated with FDI.

Within those two extremes cases of zero and 100% profit tax, there is a range of negative to (eventually) positive welfare effects derived from the participation of foreign firms in the host country's exports to the common market. In general, for a given gross FP-creation effect, the higher is the host country participation in the foreign companies' rents (for example through taxes and other means) the larger will be its gains (or smaller the losses) from the presence of foreign firms taking advantage of export opportunities. The reasons are quite evident at this stage: a higher tax rate will reduce the loss from the transfer of domestic consumers surplus to foreign investors and increasing the tax revenues due to the exports to the common market.

We have shown how critical is the size of the "consumption" and "export" components of FP-creation when there is a tax or other form in which the host country participates in the firm's benefits from the custom union. A simple visual inspection of Fig. III-3 shows that the sizes of those two components, as well as the whole FP-creation effect, are a function of the elasticities of supply and demand of the exported commodity.

For a given rise in the exportable good price and a given host country share in the foreign firms rents (i.e. tax rate), the host country will gain more (or lose less), the higher the elasticities of demand and supply of that good. The common sense explantaion of this result is that higher elasticities of those two functions imply a higher fraction of exports in relation to domestic production for a given price increase; therefore, they imply a higher export component of FP-creation (the only source of gains for the host country if taxes are levied)in relation to the consumption component of FP-creation (a necessary loss for the host country).

Looking at the problem from another angle, given the supply and demand elasticities as well as the country's exportable good price increase, it is possible to determine the minimum tax rate that would allow that country to obtain a net benefit from regional exports by foreign firms. This is the form in which we have chosen to present--in an appendix to this chapter--the exact relation between the minimum profit tax rate and the supply and demand elasticities.[28/] In general, the lower these elasticities,

---

28/ Assuming linear demand and supply functions the condition for the host country to gain turns out to be that

$$t > \frac{1 - \frac{1}{2} N \cdot p}{1 + \frac{1}{2} E \cdot p}$$

where: t = profit tax rate
N = elasticity of domestic demand (defined positive)
E = elasticity of supply of the exportable good.
p = percentage rise in the price of the commodity

Recall that all the above discussion,and the elasticity condition just mentioned,refer to a tax on pure rents or profits, which is assumed not to affect output. The obvious short coming of this simplifying assumption is that it implies that if the host country wants to maximize its national income, the optimal tax is 100%. If we assume that profit taxes also affect output, or a product tax is levied instead, there would be some lower optimal tax rate which would maximize the host country gain.

the higher will be the tax rate required on the exporting foreign firms for the host country to avoid lossing (or to eventually gain) from the FP creation effect.

A sensitivity analysis using reasonable values of those elasticities shows that the conditions necessary for FP-creation to imply a gain for the host country are extremely strong (see Appendix Table 1).[29/] Fig. III-3 provides a diagramatic demonstration of a case in which the host country would lose from exports by foreign firms to the protected common market notwithstanding a 50% tax on their profits.[30/] In this case, the additional net rents earned by foreign exporting firms will be equivalent to the area PrYV'T, where UV' is half the segment UV. The tax also reduces the host country loss from the FP-creation effect. Tax receipts will now amount to the area PbVYV'T. Part of this tax revenue, however,--the area PbVW'T--simply compensates for the consumer surplus loss which the country suffers.

29/ For example, with an elasticity of demand of one and tax rate of 50% of the foreign firms profits, a net gain for the host country from the FP creation effect after a rise in 10% of the price of its exportable good requires a supply elasticity of that good greater than 18. If it is only 4, under the same conditions, the tax rate must be at least 80%.

30/ That particular tax rate is chosen because the "fade-out" formula of the Andean Foreign Investment Code, which forces to transform majority foreign owned subsidiaries into 50/50 joint ventures, implies or is equivalent (in present value terms) to a maximum profit tax rate of 50%. See Chapter VI, Section 3, below.

Gross gains will, therefore, amount only to W'VYV', which corresponds to the host country net share in the "export component" of the FP-creation effect. This is the value that has to be compared with the loss in consumer surplus not compensated by the tax: the "consumption component" of the net FP-creation effect equivalent to the area PrWW'T.[31/] Since in Fig. III-3 this latter area is larger than the former, that case implies an overall loss for the host country with foreign firms exporting good X.

To summarize, the key result form the analysis in this section is that --contrary to the popular notion that a country will always gain from the opportunity to expand exports due to the formation of a customs union-- we have shown that it is more likely to lose when the exporting firms are foreign owned. In addition, the crucial policy implication of that result, is that those loses will be smaller--or may eventually involve a gain--only if there are taxes or other means designed for the host country to participate in the additional rent earned by foreign firms exporting to the common market.

31/ With a 50% tax and linear demand and supply, the small triangle WX'W' --which measures part of the consumer surplus loss for the host country-- is identical to the triangle W'V'Y--which measures part of the tax revenue captured by the latter--so they will cancel each other. Hence, the condition for a net gain is, in this case, that half the rise in the price of the commodity times the level of consumption after integration (the shaded rectangle PrWX'T) be smaller than half the net foreign firms' profits on the additional output produced in order to export to the common market (the shaded triangle V'YV).

c) Distribution of costs and benefits of integration between host countries as a group and foreign firms.

So far we have considered the welfare effects for each partner country considered separately. We have said, though, that the overall net gains or losses from the presence of foreign firms in a custom union do not come only from their activity as exporters of a good in a given country (the FP-creation effect) but also as producers of that same good in the importing country (the FP-diversion effect), as well as from the resource allocation gains or losses (the trade creation and diversion effects). The joint analysis of all these effects can be considered within our model by looking now at the importing and exporting country together, under the assumption that there are foreign firms only in the industry X on which we have concentrated.

In general, the joint welfare effects will depend on: (a) the traditional conditions determining the trade creation and diversion effects; and (b) on the variables we have shown to determine the FP-diversion and creation effect; in particular, the initial level of production by foreign firms in the importing country. We shall first consider briefly this latter factor, which is likely to have great importance in the Andean Group.

(i) If all regional exports of X by country B replace imports of X by country A formerly obtained more cheaply from third countries and there is no domestic production of X in the importing country, then there will be no gain for the latter from FP-diversion, there will be a loss from trade

diversion and probably also a loss for the exporting partner country from a positive FP-creation effect.

(ii) If regional exports of X do substitute for domestic production of X in country A but only production by national firms, then there will still be no gain from FP-diversion, but there will be some from trade creation.[32/] Finally,

(iii) If, on the contrary, all regional exports of X by foreign firms in country B substitute production by other foreign companies in the importing partner country (A), then at least the latter will gain from a positive FP-diversion effect plus the standard trade creation. Since FP-diversion in A will compensate the probably negative FP-creation effect in the exporting country (B), the joint losses for the group will be lower than in the other cases and, if FP-diversion is sufficiently large, the overall welfare effect of the customs union may be a net gain.

Assuming that there are foreign firms producing in the traded good industry in both countries, the costs and benefits from the countries' integration in the presence of foreign firms depends of the size of the FP-creation and diversion effects. In turn, these effects are likely in practices to depend on three main sets of variables: (a) the tariff levels before integration in the partner countries, which will be effecting the rents and volume of domestic production by foreign firms as compared with imports from third countries; (b) The elasticity of supply of the traded good within the com-

---

32/ Trade creation and diversion in country B could also be studied in its exporting industry X, so Fig. III-3 may indeed represent all the welfare effects of integration in a two sector model under the presence of foreign firms. For a longer discussion about this point see the concluding remarks below.

mom market; and (c) the size of the market (demand) of the exporting compared to the importing country. The importance of these variables can be readily seen in Fig. III-3; hence we shall describe in words only a few extreme cases.

The initial tariff level set by country A on the commodity (X) which it ends up importing from the common market determines the extent to which the price of X will fall after integration, as well as the level of imports to be expected initially from third countries. In terms of the situation represented in Fig. III-3, the tariff on X determines the length of the segments Pa-Pr and IJ, respectively. The lower that initial tariff, ceteris paribus, the more the countries will lose (or the less they will gain) from the participation of foreign firms in the common market because FP-diversion will be smaller and trade diversion higher. The opposite will be true if that tariff were higher.

On the other hand, ceteris paribus, the lower the elasticity of supply of the traded commodity within the common market, the more likely it is for both host countries to end up worse off. In the extreme case of a perfectly inelastic supply in both countries, the price of X in the importing country (A) is likely to fall only slightly (or remain the same). Hence, there would be a smaller (or no) gain from either foreign profit diversion or trade creation effects in that country (while it may be lossing from trade diversion if it was initially importing some output from lower cost third countries). In the exporting country, however, an inelastic supply of X makes the welfare-decreasing foreign profit creation effect greater or

more likely. This results from the fact that the price charged by the foreign exporting firms goes up while exports to the regional market increase only at the expense of lower consumption in the exporting country. In other words, the export component of FP-creation effect will tend to be smaller compared to its consumption component. In those conditions, foreign profits will most likely exceed the loss in consumer surplus in the exporting country, unless the taxes on profits are relatively high and regional exports increase because domestic demands falls considerably (i.e. unless demand elasticity is very high).[33/]

Notice that the main factor which can contribute to increase the elasticity of supply of X in country B--and, thus, increase its gains from integration--would be the entrance of new firms into B's industry. The common sense explanation of this result is clear: the competition generated by that entrance of new firms will tend to reduce the rents of the foreign firms initially supplying X in B.

Finally, the size of the common market compared to the exporting country's domestic market is also important. The gross gains from the host's sharing in the profit creation effect will be larger, compared to the consumer surplus loss in the domestic market, the larger is the partner country's market. In other words, the area VVY will become larger compared to the area PrTX'W in Figure III-3).

33/ See exact conditions in Appendix to this chapter, and the simulations in the table at the end of it. For the exporting host country to gain with a zero supply elasticity of exportables (rather than 6) and a price increase of 20%, it requires either an 80% profit tax rate (rather than 50%) or an elasticity of demand of 5 (rather than 2).

3. Concluding remarks

In the analysis carried out so far we have concentrated on the welfare effects of the presence of foreign firms in one industry (X), in which there is regional trade,and assuming there is no FDI in other industries (commodity Y ,in our two sector model). If there are foreign firms in the latter,the same analysis must be repeated for industry Y [34/] .

The crucial policy implication of all this analysis is that, if there are reasons to expect that the overall FP-creation effect is likely to be larger the FP-diversion effect of a customs union, the host countries are not likely to gain from its establishment, except if they implement policies to share part of the additional rents earned by the foreign firms exporting to the common market.

Notice,however,that the mere fact that foreign firms would become more concentrated in regional exports does not necessarily imply less gains for the host countries as agroup (implicitly derived from FP-creation). The reason,is that those exports could be benefiting the same countries as importers (from FP-diversion by reducing the foreign investors' rents and profits by even more than

---

34/ The trade creation and diversion effects in each country,however, should not be estimated also in the other industry. If all cost and demand functions are correctly derived from a general equilibrium model that would imply double counting, because in equilibrium the value of imports should equal that of exports.

the increase of those rents in each countries' export industries. But the reciprocal statement will always be true: if foreign firms are less concentrated in regional exports,that is,if more of the regional exports are made by national firms -given some presence of foreign firms in the countries - the formation of the common market will be more likely to increase their welfare because it will have a positive FP-diversion effect with a lower FP-creation effect.

The main reasons that are likely to make the FP-diversion effect smaller than FP-creation in the small-sized and semi-industrialized Andean countries is the structure of the common external tariff and the monopolistic power of foreign firms.The effect of the former has been already pointed out :if the industries in which FDI is concentrated are granted a relatively higher external tariff protection,the counterpart of FP-creation is not likely to be as much FP-diversion as trade diversion. Hence,this will be one of the main hypothesis that we will attempt to verify in the empirical part of this study in order to assess the necesity of a FDI policy seeking to participate in the FP creation effect of the custom union.

The second practical condition likely to make the FP-creation effect larger than the FP diversion effect is the presence of monopolistic rather than competitive foreign firms. In the standard customs union theory we have been using so far, prices were determined by the intersection of the regional demand and supply in competitive

markets. This is likely to be a very unrealistic assumption for industries dominated by subsidiaries of modern multinational corporations. Monopoly power is typically another source of higher profits for foreign firms and closely related with the rents they obtain from their exclusively owned assets,such as for example the brand names of differentiated products.

Under the same costs and demand conditions in a given industry,the FP-creation and diversion effect of integration under monopoly would be different from those under competition. To start with, the initial price/output equilibrium in the industry would be different. A monopoly in country B would have been fixing a higher price of X (Pr rather than Pa, in Fig. III-3) and would have had a lower level of production given by the point at which his marginal cost of production equals his marginal revenue (point B in the diagram) . Hence,he would have been earning higher profits (equivalent to the area PbXUPr). The initial industry equilibrium in country A, however,would have been in the same position as before,because the monopoly would have been forced to behave as a competitive industry due to the initial competition from third country imports.

Now let this industry be integrated by eliminating tariffs between the partner countries and let one of the monopolistic firms eliminate its rival (or let producers collude- as they would automatically if they are subsidiaries of the same multinational corpo-

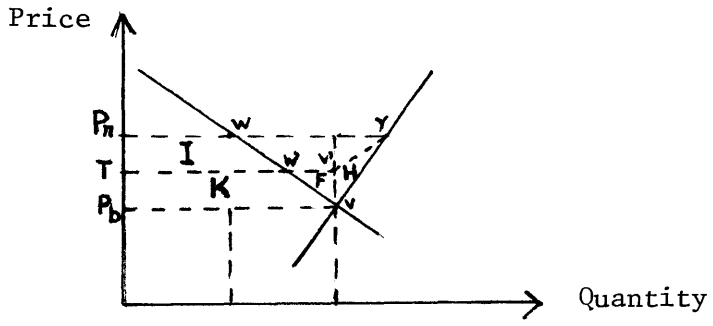
ration) . In this case, in terms of figure III-3 ,the common market monopoly equilibrium will be at point E where the regional marginal revenue intersect the monopolist's marginal cost function. The price charged to consumers will be given at point M on the region's demand Dr. Hence, in this case integration will imply practically no gains for the host countries and higher profits for the foreign firms: there would be no profit diversion and a higher profit creation effect.

The possibility of that outcome depends on the industry's market structure and conduct which,in turn,depends mainly on cost conditions and barriers to entry,the level of the external tariff and the institutional relation among firms. Rather than complicating our model by allowing for different shapes of cost and demand functions,it seems more relevant to concentrate on the welfare effects of different market structures which may result as a consequence of economic integration. This is the topic considered in the next chapter,before attempting to provide some empirical verification of the importance of monopolistic market conditions within the Andean Group.

APPENDIX TO CHAPTER III

VARIABLES AFFECTING HOST-COUNTRY GAINS OR LOSSES FROM THE FOREIGN PROFIT CREATION EFFECT

Following the discussion in the text (pp.88 to 93), what we need to measure is the difference between the areas (F + H) - I in the following figure:



I = Host country net loss in consumer's surplus when taxes are Pbt per unit (equivalent to the area PrWW'T in figure III-3 in the text and also reproduced here).

F = Host country Net gain from profit taxes on the <u>initial</u> level of production

H = Host country Gain from profits on additional production exported to country A (Areas F + H are equal to the area W'VYV' analyzed in the text).

1. Assuming that demand and supply functions are linear, the Net Gain from <u>initial</u> production is $G' = F - I$, where

$$G' = F - I = (T + K) - (I + K) \qquad (1)$$

$$= (t\ \Delta P\ Q_o) - (\Delta P\ Q_1 + \frac{1}{2}\ \Delta P\ \Delta Q)$$

$$= (t\ \Delta P\ Q_o) - (\Delta P\ Q_1 + \frac{1}{2}\ \Delta P\ Q_o - \frac{1}{2}\ \Delta P\ Q_1)$$

$$= \quad t\ \Delta P\ Q_o - \frac{1}{2}\Delta PQ_1 - \frac{1}{2}\Delta PQ_o$$

$$G' = \Delta PQ_o\ (t - \frac{1}{2} - \frac{1}{2}\frac{Q_1}{Q_o} = \Delta PQ_o\ (t - 1 + \frac{1}{2}\ \frac{\Delta Q}{Q_o}) \qquad (2)$$

Since $N = \frac{\Delta Q}{Q} \Big/ \frac{\Delta P}{P}$, then

$$G' = \Delta P.\ Q_o\ (t - 1 + \frac{1}{2}\ N\ \frac{\Delta P}{P}) \qquad (3)$$

Therefore, $G' > 0$ implies

$$t - 1 + \frac{1}{2}\ N\ \frac{\Delta P}{P} > 0$$

$$t > 1 - \frac{1}{2}\ N\ \frac{\Delta P}{P} \qquad (4)$$

2. The gains from the participation on foreign profit creation on additional production (G") will be always positive and is directly proportional to the elasticity of supply

$$G'' = t\ \frac{1}{2}\ \Delta P\ \ \Delta Q''$$

where $\Delta Q''$ is given by that elasticity of supply: $\varepsilon = \frac{\Delta Q}{Q} \Big/ \frac{\Delta P}{P}$

$$G'' = t\ \frac{1}{2}\ \Delta P\ \ Q_o\ \ \frac{\Delta P}{P}\ \ \varepsilon\ \ = \Delta P\ Q_o \left[t\ \frac{1}{2}\ \varepsilon\ \frac{\Delta P}{P}\right] \qquad (5)$$

This expression can be added directly to equation (3) giving, the total net gains for the host (exporting) country.

$$G = G' + G'' = \Delta P\ Q_o \left[t - 1 + (N + t\ \varepsilon)\ \frac{1}{2}\ \frac{\Delta P}{P}\right]$$

Therefore $G > o$ implies

$$t\,(1 + \tfrac{1}{2}\,\varepsilon\ \ p) + (\tfrac{1}{2}pN - 1) > o$$

where $p = \frac{\Delta P}{P}$. Thus,

$$t > (1 - \tfrac{1}{2}N\,p)/(1 + \tfrac{1}{2}\,\varepsilon p) \qquad (6)$$

Alternatively, a net gain for the exporting host country can be represented as requiring a minimum elasticity of exportables:

$$\varepsilon > 2(1 - t)/t\ p - N/t \qquad (6')$$

The following table shows that the elasticity conditions for a host country to gain from the FP-creation effect, even with reasonably high profit taxes, are very strong.

APPENDIX TABLE 1

Elasticity conditions for a zero host country loss from FP - creation effect.

$$\varepsilon = 2(1 - t) / tp - N/t$$

Case No.	t	p	N	ε
1	.3	.1	1	43
2	.5	.1	1	18
3	.8	.1	1	4
4	.3	.1	2	40
5	.5	.1	2	16
6	.8	.1	2	25
7	.3	.2	2	17
8	.5	.2	2	6
9	.8	.2	2	0
10	.5	.2	5	0

REFERENCES CHAPTER III

- Bhagwati, J. (1968) "Trade Liberalization Among LDCs, Trade Theory and GATT Rules", in Wolfe, J.N. (Ed.) Value, Capital and Growth, Chicago: Edinburgh University Press.

- _____ (1971) "Customs Union and Welfare Improvement". Economic Journal, No. 81 (Sept.), pp. 580-87.

- Bishop, R.L. (no date) Manuscript, Book II, Chapter 3, mimeo, Department of Economics, M.I.T., Cambridge, Mass.

- Caves, R. (1974) "Multinational Firms, Competition and Productivity in Host Country Industries", Economica, Vol. 41 (May), pp. 176-193.

- Floto, E. (1974) "Private Foreign Investment in the Andean Countries". Paper presented at the Symposium on Foreign Investment in Latin America, University of Cambridge, England.

- Friedman, M. (1962) Price Theory: A Provisional Text, Chicago: Aldine Publishing Co.

- Johnson, H.G. (1958) "The Gains from Freer Trade with Europe: An Estimate", Manchester School of Economic and Social Studies. No. 26, pp. 247-55.

- _____(1962) "The Economic Theory of Customs Union", in Money, Trade and Economic Growth, Harvard University Press, Cambridge, Mass. pp. 46-73.

- _____(1965) "An Economic Theory of Proteccionism, Tariff Bargaining and the Formation of Customs Unions", Journal of Political Economy, Vol. 73, pp. 256-83. Also in Robson (1971).

- Krauss, M.B. (1972) "Recent Developments in the Customs Union Theory: An Interpretative Survey". Journal of Economic Literature, Vol. 10, No. 2 (June) pp. 413-432.

- MacDougall, G.A.D. (1958) "The Benefits and Costs of Private Investment from Abroad: A Theoretical Approach". In Bhagwati, (Ed.) (1968) International Trade, Baltimore, Maryland: Penguin Books, pp. 341-369.

- May, H. (1970) "The Effects of U.S. Investment in Latin America," New York: Council for Latin America, Inc.

- Mishan, E.J. (1968) "What is Producers' Surplus". American Economic Review, Vol. 58, No. 5, pp. 1269-82.

- Pou, Pedro (1974) "Efectos de algunas Distorsiones sobre los beneficios Originados en una Unión Aduanera", Revista de la Integración, Vol. VII, No. 15, Buenos Aires, pp. 27-52.

- Robinson, J. (1941) "Rising Supply Price", in Stigler and Boulding, (Eds.) Readings in Price Theory, Chicago: Richard D. Irwin, Inc. 1952.

- Robson, P. (1971) (Ed.) International Economic Integration, Middlesex, England: Penguin Books.

- Stopford J. and H.G. Wells (1972) Managing the Multinational Enterprise, New York: Basic Books.

- Viner, J. (1931) "Cost Curves and Supply Curves". In Stigler and Boulding (Eds.), Readings in Price Theory, Chicago: Richard D. Irwin, Inc. 1952.

CHAPTER IV

MARKET STRUCTURES AND ECONOMIC INTEGRATION

The analysis presented so far assumes perfect competition in the final good markets and fails to take account of one of the most salient characteristics of FDI and of the potential effects of integration. Perfect competition is not the most typical feature of industries where multinational corporations predominate, as it has been increasingly recognized in the literature and as we shall later show empirically to be the case in the Andean Countries.[1] Therefore, it is vitaly important to analyze the welfare implications of economic integration affecting foreign firms operating under non-competitive or monopolistic conditions.

One of the most significant effects arising from the economic integration of small LDCs is a change in the degree of competition and structure.[2] To the extent that, a subs-

---

1/ The seminal work that has emphasized this aspect of FDI is Hymer's (1960) Doctoral Dissertation and later Kindleberger (1969); Vernon (1971); Caves (1971,1974) and Dunning (1958). Carlos Diaz-Alejandro (1970,p.319), in particular has written: "Much (direct foreign investment) in Latin America has occurred in areas and sectors where markets and competition are weak. (Pure competitive models) would miss most of what the argument is about".

2/ It is very surprising that there are so few empirical studies about this aspect in the literature. Certainly, the industrial economics of integration and foreign firm behavior must be suggested strongly as one of the most important areas for further research. The most explicit non-empirical studies suggesting the relevance of common markets in affecting competition are Scitovsky (1958) and Mikesell (1963).

tantial part of the profits earned by foreign firms come from monopolistic positions in these markets, the changes in market structures induced by integration are likely to have also important effects on the companies'profits and on the host country gains from the formation of a customs union. Thus,market structure is both a variable affected by integration, and a condition determining the absolute size and distribution of the gains from integration between host countries and foreign investors. In general, the cost and benefits for host countries from the operation of foreign firms as a consequence of the formation of a customs union -the FP-creation and diversion effects- do not depend merely on cost and demand conditions per se but on the prices the firms set. This is determined by the industries'market structure and conduct. Under the same cost and demand conditions in two industries, if the common market structure turns out to be monopolistic in one and competitive in another, the price of output will tend to be higher and production lower in the former than in the latter. Therefore,the FP-creation effect will be larger and the FP-diversion effect smaller under the monopolistic rather than competitive market structure. Hence the gains for the host countries will be smaller than in competitive conditions, and vice versa.

The concepts of competition and monopoly will be used here in their generic sense,and not necessarily refe-

ring in particular to the presence of several or only one producer in a given industry. There could be a number of producers but giving rise to a "monopolistic market" when they collude to set a monopolistic price, or there could be only one firm in an industry but that sets a competitive price. In general, however the fundamental conclusion of the whole Industrial Organization literature is that those situations are unlikely. It is more common that a market structure characterized by high concentration of production in a few firms, high barriers to entry and product differentiation will be associated with monopolistic pricing. Thus, we emphasize market structures only in so far as it is the single most important,yet simple,variable which determines the firm monopolistic or competitive pricing decisions in an industry.[3/] Monopoly and perfect competition are two extreme types of market structure,however, in between there is a continous degree of more or less monopolistic or competitive markets. For simplicity,though,we shall concentrate in those extreme types.

Assuming two countries integrating their markets in one commodity,(industry) one can distinguish at least four extreme combinations of national and regional market structures :[4/]

3/ See Caves (1964),p.16

4/ There are certainly many more possible combinations if one allows for different degrees of competition and oligopolistic market situations.

(1) Competition in both national markets before integration and in the common market once it is established;
(2) Initial monopoly in one country and competition in the other,with competition resulting in the common market;
(3) Monopolies in both countries with competition resulting in the common market, or-strictly speaking- with a regional duopoly reaching a competitive equilibrium,and
(4) Initial monopoly in both countries giving rise to a monopolistic common market with either one sole producer in the whole region or a monopolistic collusion of firms in each country.

In the previous chapter we have analyzed explicitly the first case mentioned above.Implicitly,however, we have also dealt with cases (2) and (3) ,which share some basic common characteristics with case (1). In fact, the integration of monopolistic markets dominated by foreign firms,imply that no only rents on specific factors owned exclusively by them will be diverted or created, but the same thing will happen with monopolistic profits. Case (4), however, presents more distinctive characteristics which makes it interesting to concentrate on it in order to make comparisons with the competitive case.

In this chapter we shall be concerned specifically with two main aspects of the relations between market struc-

tures and conduct and economic integration. The first considered in Section 1, analyzes the main welfare effects of different market structures and conduct. The second aspect, examined in Section 2 is the analysis of the factors which appear to be most important in determining an industry's market structure and conduct after it becomes integrated. Those factors are : (a) the nature of each national market before integration; (b) the opportunity available to develop trade within each industry in the common market, which is mainly related, in turn, to transport costs and tariff levels; (c) cost condition in each industry (especially of economies of scale as a barrier to entry), the cost differences among partner countries (the regional comparative advantages) and the size of the industry's market in different countries; and (d) the institutional relationship among firms which affect their conduct. Finally, Section 3 sumarizes the discussion by providing a simple taxonomy of market structure within a common market and the condition with which they are most likely to be associated.

1.-Host country gains and losses from different market behavior of foreign firms

To illustrate the welfare effects of different market structures and conduct in industries dominated by foreign enterprises, it is convenient to start assuming that : (a)

there are only two producers -each of whom initially concentrates all production in his separate market before integration and is in a position to supply all or part of the common market at some price after integration; (b) monopolies are protected by high barriers to entry of new firms in their national markets; (c) both firms produce the same undifferentiated product; and (d) there are no other variables (like tariffs or other government regulations) that constrain their output and price decisions and there are no imports from third countries either before or after integration. In other words,pre and post common market tariffs are sufficiently high as to prevent those imports and allow the domestic producers to supply all quantity demand at their profit maximizing price. In addition, in order to concentrate on monopoly profits only, we assume that, (e) unit and marginal costs of production are constant. Finally, (f) we start assuming that the monopolistic foreign firms are independent of each other and (g) there are no taxes on profits, and the operation of foreign enterprises generate no net externalities.

The situation of an industry where all domestic production is initially controlled by a monopoly in two countries (A and B) that decide to form a customs union is presented graphically in figure IV-I .

To keep the graphical analysis simple -but without loss of generality- assume that the demand function in the two countries is exactly the same (Da= Db) . The marginal revenue function corresponding to that demand is represented by line MR. Therefore, if average and marginal costs in country A are given by the horizontal line Ca, the initial output produced in that country will be Qa sold at a price Pa. Monopolistic rents earned by the foreign firm before integration are equivalent to the area CaFGPa. Assume that country B has lower costs for this product given by line Cb. Therefore, the profit maximizing output for the monopoly in that country will be Qb ,for which it will charge a price Pb, lower than P_a.

The formation of a customs union will imply that each producer can eventually sell in all the common market. Assuming no transport cost,there are two extreme possible price and quantity equilibrium in the market or industry after integration: the first is the <u>competitive</u> solution, represented in Figure IV-I by the equilibrium at point <u>C</u> , with production Q_f^c sold at a price equal to Cb (the long run unit costs of production in the country with comparative advantage (B) . The second extreme solution is a <u>monopolistic</u> equilibrium, at point <u>M</u> ,where the cost of the lower cost producer equals the regional marginal revenue (given by line Da, in the case represented in this figure). Thus the regional monopolist

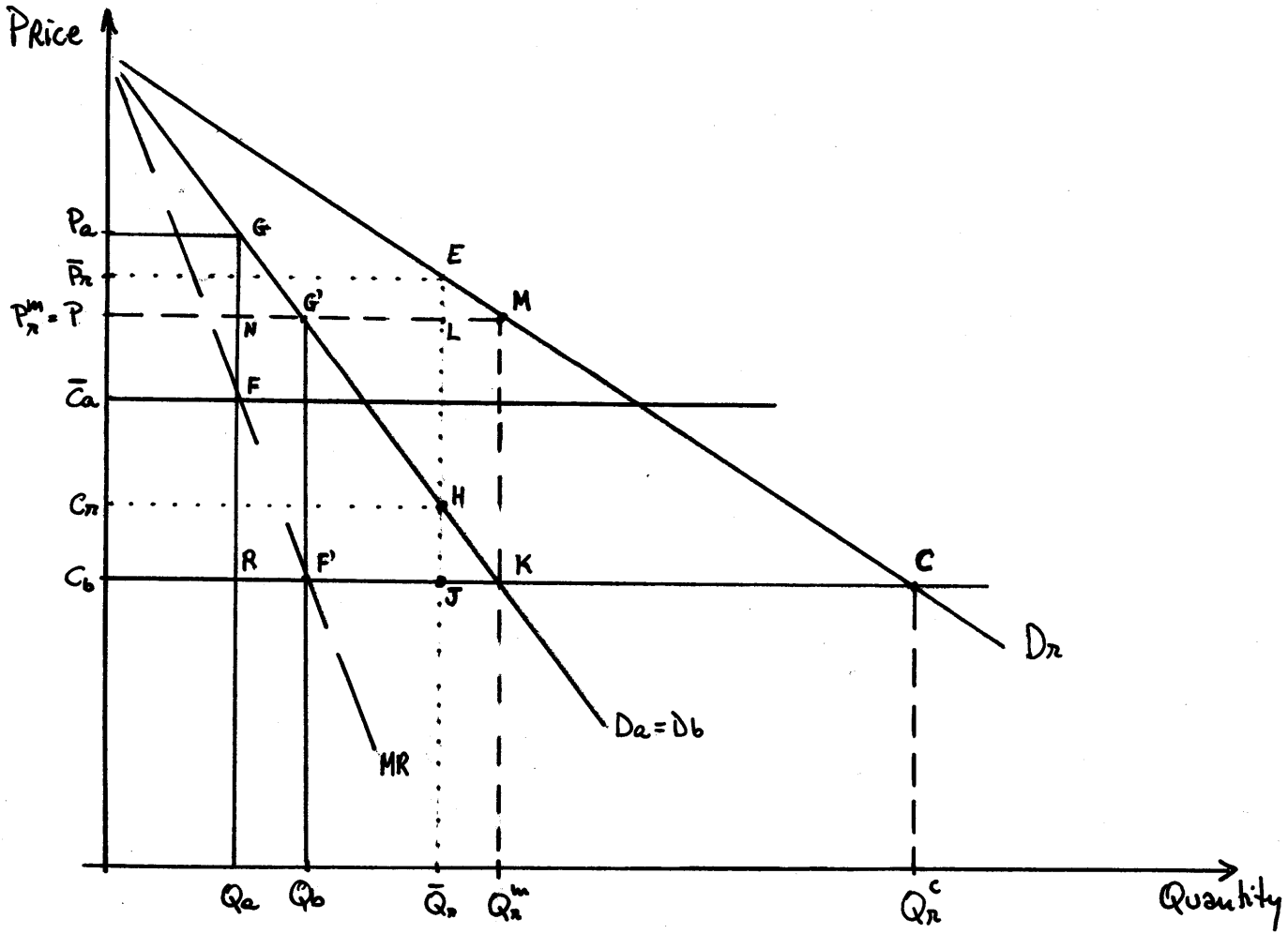

Price
P_a
$\bar{P}_n$
$P_n^m = P$
$\bar{C}_a$
C_n
C_b
G
E
G'
M
N
L
F
H
R
F'
K
C
J
D_n
$D_a = D_b$
MR
Q_a
Q_b
$\bar{Q}_n$
Q_n^m
Q_n^c
Quantity

Figure IV-1

would rise the price to Pr^m and reduce production to Qr^m . 5/

Now we can study the welfare effects of these two types of market conduct within a common market. Under the assumptions spelled out in this and the previous chapter, the gains for the host countries can be measured by the increase in consumer's surplus resulting from the fall in the commodity's price. Part of this gain is derived from the reduction in the monopoly rents that were formerly transfered abroad, and part results from the real reduction in costs of production derived from specialization and trade within the common market.

If we are not concerned with the distribution of integration benefits between the host partner countries, but rather between both of them and foreign investors, it is convenient to define an average price at which the total quantity produced and demanded in both countries was sold before integration. That price is $\overline{Pr}$ in Figure IV-1 for

---

5/ Notice that if the monopolists in each country are independent of each other the lower cost producer may not be able to charge that absolute profit maximizing price except if the other producer's minimum unit costs are above that price,so this would not be possible in the case illustrated in Fig.IV-I.But if both firms are subsidiaries of the same multinational corporation (which would be the real maximizing unit) then that would necessarily be the price set in the common market. This is the kind of condition determining the common market's final price that will be discussed in the next section.

the initial quantity $\bar{Q}r$ produced in the whole region before forming the customs union. Similarly we can think of an average cost of production given by line $\bar{C}r$.

Thus, in the case of foreign firms in industries that are made competitive by integration, the gain for both countries will correspond to the area $CbCE\bar{P}r$. That is equivalent to all the area under the common market demand between the average price before integration ($\bar{P}r$) and the competitive price after integration (given by the unit cost of production in country B, Cb). The foreign firms will lose all the monopoly rents they were formerly earning in each isolated national market,the sum of which is given by the area $\bar{C}rHE\bar{P}r$.

The host country gains come from three separate effects:
a) The elimination of monopoly profits formerly transfered a - broad by the foreign firms : the foreign profit diversion effect equal to the area $\bar{C}rHE\bar{P}r$ in Figure IV-I.
b) The gains from trade specialization,i.e. a trade creation effect derived from production at lower costs within the common market,given by the area $CbJH\bar{C}r$;and finally ,
c) the elimination of the "dead weight loss" imposed by the former national monopolies, represented by the triangle EJC [6/] .

6/Effect (b) corresponds in fact to the net production component of the trade creation effect in country A. Effect (c) is a measure

Thus, the sum of those affects that result from the competition generated within foreign firms in the common market is the overall result from trade effects and foreign profit diversion effects of the customs union.

The host countries' benefits from the formation of a common market in an industry that ends up being dominated by a foreign monopoly will necessarily be lower than in the competitive case just analyzed. Under a monopolistic common market the countries will benefit from a smaller reduction in the price of the commodity. That price change will be merely a fraction of the average reduction in the costs of production as a consequence of integration.

In terms of Figure IV-I, the host countries' joint gain amount to the consumers' surplus area $Pr^{m}MEPr$. The monopolistic rents or profits of both foreign firms (considered as a group, or of the multinational corporation with two subsidiaries initially located in each country) would increase to $CbKMPr^{m}$.

... of the traditional consumption component of the trade creation effect in the importing country (A), plus what can be called a "competition effect" that benefits both countries. In the case illustrated here, there is no trade diversion because there were no imports from lower cost third countries before the customs union was formed. There is no FP-creation effect benefiting the exporting firm either, because competition wipes out all monopolistic profits and we have assumed no rents on specific factor owned exclusively by foreign firms (the latter is reflected implicitly by the fact that the firms' cost curves are horizontal).

Both firms taken together will nece ssarily gain because "average" costs will go down (from $\overline{Cr}$ to Cb) by more than the "average" price for consumers in both countries.[7]

It is interesting to note that if the demand for the product is linear and the unit costs are constant, the gain from integration for the host countries will be exactly half the gain of the foreign firms. This is because the reduction in "average" unit costs is translated into only half that reduction in the good's price since the slope of the marginal revenue function (MR) is half the slope of demand.[8]

7/ If the two firms are independent, we cannot know a priori which one will isolatedly gain or lose in the common market compared to their situation before integration. In the case of monopolists affected by changes in trade impediments we cannot unambiguously predict the direction of trade (Vicas and Deutssh (1964); Finger (1971). That depends on the collusive agreement reached or on how they share production. Therefore, the FP creation effect cannot be "attributed" unambiguosly to each country. If the firm in country A does not vary its level of production, all the expansion of production will come from B and the FP-creation effect will be equivalent to the area RF'G'N. In this case it has only an "export-component" because the domestic price in country B does not change. The FP-diversion effect in A will amount to the area PaGNPr. Notice that if the foreign monopoly in A ceases production altogether (as will tend to happen if both firms are subsidiaries of the same MNC), then the profits for the exporting firm alone (and for the MNC as a whole) will increase by an additional volume equivalent to the areas PbNCbR and CaFCbR, respectively.

8/ In terms of Figure IV-I, the segment EL -which measures the commodity price reduction resulting from integration- is half the distance JH -which measures the cost reduction resulting from integration. An exact proof of this result as well as the variations introduced by other forms of cost and demand functions are presented in a mathematical appendix...

To conclude,there are two general differences between economic integration afecting monopolistic as opossed to competitive industries. The first is that trade does nod need to actually take place for some price changes and FP creation and diversion effects to take place. In terms of Fig.IV-I , the mere "threat" of country B'S producer to start selling in A at a common market price between P_r^m and Pb is likely to force the monopolistic firm in A to respond by increasing its output; hence "potential" competition will lower country A's price with each producer still supplying domestically all its own market. A second very important difference,is that foreign profit diversion may occur with an increase rather than a fall in production and,what is more important, in foreign capital investment. The expansion of production and investment by the initialy monopolistic firm(s) will be larger the more competitive the common market turns after integration.

... to this chapter.There we also discuss the effects of different elasticities and slopes of demand and supply curves on the distribution of integration gains between foreign firms and host countries, first under competitive and then under monopolistic conditions.

2.- Market Structures and Economic Integration

In the previous section we analyzed the welfare effects of different price and output decisions ultimately adopted by a set of foreign firms. Now we want to concentrate on the circumstances that are most likely to determine those market structures. The significance of market structure lies precisely in the way it induces firms to behave, so by studying the main determinants of market structures it is possible to set bounds on the prices and outputs resulting in industries dominated by foreign firms and to predict the gains and loses from FDI in those industries after the customs union is formed.

We shall study separately each of the five main factors mentioned at the outset although it is clear that they are all closely interrelated. Those five factors are associated with the seven assumptions under which the theoretical analysis of the previous section was carried out, so--in fact--we shall be relaxing each assumption one by one.

a) National Market Structures Before Integration and Barriers to Entry.

If an industry was competitive in each country before integration, it will tend to (but not necessarily) remain competitive at the regional level. But the opposite is not likely to be true: if a national industry is initially a monopoly, it may not remain so.

Assuming that trade can be developed in an industry and that tariffs are pasive or redundant, so they do not influence the prices resulting

from different market structures.[9/] There are four main factors which would condition the relations between an industry's initial market structure in each country and in the common market. Those factors would be: (i) the comparative cost advantage of the country with a competitive market, (ii) the barriers to the entry of new firms in that country, (iii) the relation between optimum plant sizes (or the shape of the firms' cost functions) and market sizes, and (iv) the ability to differentiate products.

Which country has a "regional" comparative advantage in a particular industry is critical in determining its common market structure. If the country with a comparative advantage has a competitive market structure before integration, then it is most likely that the common market will be also competitive. Assuming constant costs of production and no transport costs, the regional price will be set at the same level prevailing before integration in the exporting country. In terms of Fig. IV-1, if the market of the commodity considered had been competive in B, the common market price would have remained constant at the level Cb.[10/]

9/ See below for the discussion about tariffs.

10/ If we assume that the shapes of each firm's costs functions are similar in both countries which is the most reasonable assumption to make because those shapes are given mainly by technical conditions, then that result would require the size of the market in country B to be larger, in order to allow for several competitive producers to be located in B and only one in A. For a more extensive analysis of the effects of different shapes of cost functions, see below.

On the other hand, if the country with a comparative advantage in a given industry has a monopolistic market structure before integration, the common market's structure depends on the barriers to the entry of new firms into that country's market and the degree of that comparative advantage or the form of the firm's cost functions.

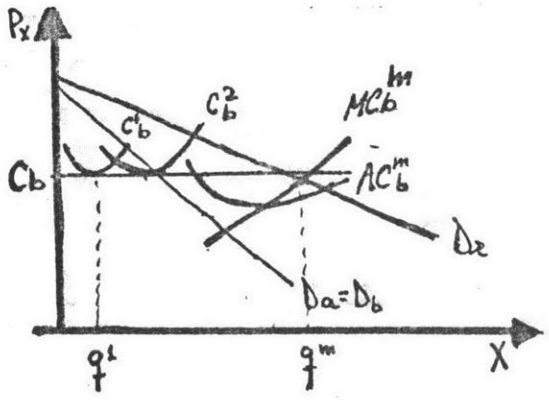
If barriers to the entry of new firms to the potentially exporting country are low, then one should expect new firms to locate there in order to supply the whole common market and this would increase competition. In terms of Fig. IV-1, if the monopolistic firm in the high cost country A moves to country B and enterprises are independent so they would not collude, then in the long run competition will reduce the price to a level close to Cb if both firms are of similar efficiency.

Assuming increasing U-shaped costs, the regional market will be monopolistic only if comparative advantage is so strong that the minimum unit cost of domestic production in the importing country is still above the cost at which the exporting monopolist could supply the whole common market. When costs are constant or decreasing, it is much easier to end up with a monopolistic regional market; in the former case it is sufficient for the monopolist to set a price somewhat below that prevailing initially in the country that does not have a comparative advantage in order to expell its foreign competitors from the market. In terms of our example if Fig. IV-1, when we know that country B has a monopolistic market, we can predict that it is most likely that the common market price will be

set a little below Ca, rather than at Cb as was the case when producers in country B were competitive.

The shape of cost functions are critical in a different sense also. Techniques of production of some commodities may be such that for relatively low levels of production (such as those that could be sold in each isolated market before integration) the optimal size plants may be so small as to allow for the presence of several competitive firms in the industry. For higher levels of porduction, however, (such as those that could be sold in the whole common market) unit or average costs may rise very sharply if the small-size plants continue to be used, so it may become efficient to have fewer or only one larger size plant. Therefore, an industry with a competitive market before integration in the country with a regional comparative advantage, may become less competitive or monopolistic in the common market.[11/]

11/ To show that possibility graphically, the unit costs of production Cb in Fig. IV-1 could be reinterpreted as an industry unit cost resulting from the presence of two competitive firms producing with relatively small size plants which imply unit cost functions represented by the curves C^1b and C^2b, respectively, in the following figure:



For a higher level of production such as q^m in the figure, which can be sold only by producing for the whole common market, the optimal size plant's unit costs may be given by AC^mb. Hence a competitive national markets will change into a monopolistic market, but the regional price will necessarily not exceed the initial price in the country with comparative advantage.

That case would be typical in an industry like automobile production, where the economies of scale are not significant for relatively low levels of production, but become so after a minimum optimal scale is surpassed.[12/] It is true however, that this case could be considered as one in which the "nature" of the good being produced is different: at low levels of production the firm would be merely assembling imported auto parts, while at higher levels of production firms would be indeed producing domestically a larger part of the total value of the final good.[13/]

12/ There is evidence about this phenomenon in Chile, with the interesting additional characteristic that the initial assambly of automobiles was started by national firms under licensing aggreements, and after a minimum size market was available, the multinationals entered into the industry with direct investment.

13/ This point was suggested to me by Professor Eckaus in personal conversation.

A last condition affecting the relation between national and common market structures is product differentiation. If the original monopolies in each country can differentiate their products they will partially avoid competition in the common market; the firm without comparative advantage will be less likely to reduce production, and both firms are more likely to set prices closer to their original monopolistic levels compared to those which they would have to set in the absence of product differentiation.

Finally, it should be kept in mind that several intermediate market structures are possible between the extremes of perfect competition and monopoly, and collusion is always possible. Therefore, even if the common market winds up with a larger number of firms, they may not neccessarily behave more competitively than before integration.

(b) Regional trade and tariffs

The actual emergence of regional trade is an obvious necessary condition for market structures to be altered by economic integration[14/]. Regional trade opportunities depend, first, on the level of transport costs. Communications and transport costs are high within the Andean Group[15/], but one must be careful not to put too much emphasis on their level compared only to production costs and to transport costs of imports from third countries. Transport cost should be appraised especially in relation to the level of

---

14/ Recall, however, that in the case of monopolies the mere "opportunity" to trade is crucial: prices and levels of domestic production may be altered without actual flow of good between the borders. See above p.

15/ See Morawetz (1974), especially Chapter 2.

the common external tariff. The latter determines the level of protection of regional trade and production as compared with importing from third countries. Therefore, a sufficiently high CET, as it can be expected in the Andean Group,[16/] can compensate for the higher intra-Andean (regional) transport costs, and thus allow for higher regional trade.

The second, and possibly the most critical variable affecting the opportunities for trade within a region and its market structures, is the level of import tariffs in each country before and after integration.[17/] Obviously, if the tariff on the good produced in an industry is sufficiently low, domestic producers in a country or in the whole common market will be unable to affect the goods domestic price or exercise any monopoly power even if there is only one producer of the good in the industry. This is equivalent to saying that imports can always be sufficiently high as to push towards competitive pricing.

Our analysis so far has implicity assumed that import restrictions were sufficiently high as to permit the establishment of whatever market structure and price are determined by the free interaction of the firms alone. This is usually the case when there are absolute prohibitions to import a commodity that is also produced domestically or when tariffs and other import restrictions are redundant. It is the case too when tariffs are

---

16/ The proposal CET for the Andean Common market is 42%. See below, Chapter V.

17/ We mean implicit effective tariffs which take into consideration all import restrictions like quotas, deposits and other such measures.

"made-to-measure" for the final good produced, both at the national and regional level. The latter implies that the tariff rate applicable to each industry would determine a maximum domestic price which would allow competitive domestic firms a monopoly earning its maximum profits or rents to supply the whole domestic market.[18/]

This situation with respect to tariffs has probably been common in the manufacturing industries of the Andean Countries. In the first place, imports have usually been restricted by relatively high quotas or simply by absolute prohibitions. In the second place, this situation is the logical consequence of import restrictions which are originally imposed for infant industry arguments and which are not later eliminated -although the firms may have reduced their costs of production below the initial (tariff determining) level. This may also be the result of historically expanding demand functions in industries with economies of scale or decreasing costs, which would lead to domestic prices somewhat below the maximum level initially determined by the tariff-inclusive international price.[19/] Finally, redundant or made-to-measure tariffs are a common consequence of the bargaining process between a host-country government and a foreign firm offering to invest in manufacturing. The latter usually "negotiates" a level of

---

18/ In this sense, our definition of the "made-to-measure tariff" is different from the concept as introduced in the literature by Corden (1974) pp. 220-23. He also defines it as the tariff level that would allow domestic producers to supply the whole domestic market, but he adds the condition that monopoly profits are avoided. We do not include this additional condition, principally because if the made-to-measure tariff is set (as Corden emphasizes) with information about costs provided by the firms, then they are likely to count as costs several items which in practice may be forms of disguising profits, and thus mislead the tariff setting authorities.

19/ An illuminating discussion of these and other related issues can be found in Corden (1974), pp. 210-219.

protection which allows for a maximum profit or rent on investment.

With respect to the welfare effects of the common market structure, however, the crucial variable is the level of the Common External Tariff (CET). Only if it still redundant or made-to-measure will it not affect the common market pricing decisions; any lower level will set a limit to the maximum price that a regional monopolist may fix.

If production costs are constant or decreasing, it would be sufficient for the CET to be set at the level prevailing before integration in the country producing the good domestically under the lower tariff in order to allow a foreign monopolist with a regional comparative advantage to retain its monopolistic price/cost margin in the whole common market.[20/]

Tariffs are one of the most critical variables affecting the host countries' welfare through their influence on the prices of commodities produced by foreign firms. Thus, they should be used as an important regulatory policy (together with taxes and other FDI policies) by host countries seeking to increase their gains from the operation of foreign firms. Tariffs are especially useful if -due to cost and other structural conditions- there are monopolistic foreign firms which end up predominating in the common market. The effects of tariffs in this context will be analyzed below when discussing the policy alternatives available for host countries to deal with FDI.

20/ In Fig. IV-1, for instance, with the tariff rate implicit in price Pb, a monopolist in country B could set a price a little below Ca and become the only producer in the regional market, with a price/cost margin equal to Ca-Cb.

c.- Cost conditions

Two main aspects of cost conditions are relevant for determining market structures. One is the cost differentials among partner countries for the same level of production. The second is the shape of cost functions: essentially whether average and marginal cost are increasing or decreasing and within what range of production levels in relation to the quantity demanded in each country and in the whole regional market. This second aspect is related with the size of the optimum plants as compared with market sizes. Several of those relations have already been discussed. Here we shall concentrate particularly on the effects of decreasing costs.[21/]

We can distinguish,two types of effects of having decreasing rather than increasing costs of production in a given industry. On the one hand ,this condition affects directly the market structures in the sense that,when costs are decreasing for levels of production so large as to supply the whole common market, then it is more likely that, (a) the industry with decreasing costs would tend to be a monopoly in each coun-

---

21/ Decreasing cost could result from either economies of scale -which appear to be very significant in many industries within the small Andean countries (Teitel (1975), Meller (1975)- or from more intensive use of available capacity (Schydlowsky (forthcoming) .

try to start with; and (b) the industry's regional market would more likely end up being monopolistic. On the other hand, under decreasing costs conditions,or with strong economies of scale, the welfare effects for the host countries of changes in production and investment by foreign firms will be different that under increasing costs.

Decreasing cost imply that a monopolistic market structure is more likely to result within the custom union because,first, price warfare between two or a few producer in different countries will tend to leave only the lower cost firm in the market and, secondly,because economies of scale act as a barrier to the entry of new producers (Bain,1956; Caves,1964).

In relation to welfare effects of having decreasing costs, if two regional industries are known to be dominated by monopolies setting their unrestricted profit maximizing price, the host countries are likely to benefit more from the formation of a customs union in the case of the decreasing rather than the increasing or constant cost industry.[22] The basic reason is that the domestic price in the exporting country would fall rather than increase;hence the foreign profit

---

22/ See Corden (1972) for a theoretical analysis of the effects of a customs union under decreasing costs of production. There he shows also that the standard trade gains from integration tend to be higher than under constant or increasing costs.

creation effect will not involve a consumption loss for that country.[23]

However in the presence of economies of scale it is more probable that an industry will become monopolistic at a regional level, then the overall gains from integration in that industry, compared with one with constant or increasing costs, will not necessarily be greater. The point is simply that, under a given monopolistic or competitive market structure, decreasing costs are "better" than increasing costs; but if we consider that an industry with decreasing costs is more likely to imply monopolistic pricing, then it cannot be predicted unambiguosly that the gains for the countries will be larger under the decreasing cost conditions. In other words, economies of scale can induce a "worse" market structure, so the overall effect of integration under the different cost conditions has to be evaluated considering the interaction of costs and market structures.[24]

---

[23] See the mathematical appendix to this chapter for an analysis of the welfare effects of decreasing costs.

[24] Assuming that economies of scale impose barriers to the entry of new firms, the situation can be clarified with the help of Fig. IV-I. When an industry has decreasing costs in both countries, but comparatively, costs per unit in one are lower than in another, the monopolistic common market price is likely to be set only a little below the unit costs at which the higher cost country could supply the whole market. That price will exactly prevent the production by the firm in country A, whilethe producer in B will be protected by the barriers to entry arising from economies of scale. A price that

Problems related to economies of scale suggest the importance of another factor normally ignored in the traditional trade theory. This is the absolute size of national markets.[25] If it is reasonable to assume that: (a)the size of the optimal plants and,thus,the shape of domestic cost functions to produce a given good are similar in the various countries (which is likely in the case of standardized manufactured products) and (b) capital markets are imperfect and there are relatively high fixed cost in setting up new firms,then the size of each countries'market becomes an important variable in determining the union's market structures.[26]

When there are economies of scale that are not exhausted even at levels of output which allow to supply the

---

fulfills that condition would be that given by point I' on the regional demand curve in Fig.IV-I. That would be the lower price actually set in the common market under decreasing costs. If costs had been constant,however,there would have been no barriers to entry from economies of scale so the price could have been driven down by competition to Cb (at point C); for instance,through the shift of the firm in country A into country B.Therefore,when the costs of a given commodity in the common market are constant,its price may be lower than when the cost are decreasing and,hence,the gains from integration for the host countries may be higher.

25/Certainly economies of scale are not the only factor that make the national market sizes important in international trade.Linder(1967) has associated it with the spill over of domestic production into markets of foreign countries with similar income levels,and Vernon (1966) with the nature of technological innovation and the introduction of new products in his "Product-Cycle Hypothesis" of trade.For a good summary of these "hetherodox" theories of trade,see Kindleberger (1973), pp. 53-68.

26/For a very interesting theoretical analysis about monopo-

whole common market,then the firm or firms in the country with higher initial level of domestic production will be in a better position to control all production in the regional market.Not only will their unit costs be initially lower -which may allow the firms to undercut the price of its competitors in the other partner countries, -but they also may be earning higher profits which can be reinvested in order to expand capacity and become a monopolist at the common market level.Retained earnings as a source of investment funds tend to be more important,the less developed are the domestic capital markets and the higher the risks of investing capital from abroad.

---

listic pricing resulting from the "irreversibile" nature of investment commitments,see a recent contribution by Spence (1976). His hypothesis is certainly more relevant in the case of an investor making his commitment abroad rather than in an industry in his own country.

d.- Institutional relations between firms

In this category of factors influencing the union's market structures we could consider a number of relations between enterprises ranging from informal price consultation to perfect joint profit maximization. There is one factor, however, of such obvious importance in the case of modern manufacturing foreign companies that we shall concentrate all our attention on it. We refer to the ownership relations between foreign firms, and particularly the extent to which they are subsidiaries controled by the same multinational corporation (MNC) producing the same commodity in all or several of the integrating countries. In this case the subsidiaries located in different partner countries will behave as simple plants of only one profit maximizing enterprise. In other words, all subsidiaries will maximize their joint profits and act collusively rather than competitively in the common market.

Close institutional relationships between established firms in a given industry within the integrating countries does not necessarily imply that such an industry will be monopolistic in the common market as a whole. At least one condition for that outcome, is that the subsidiary in the country with a regional comparative advantage must be a monopoly at the national level. What is true, however, is that if in

each national market before integration there are monopolistic firms which are subsidiaries of the same MNC, then it is almost certain that such industry will end up with a monopolistic common market structure. The reason is simply that those subsidiaries will not compete among themselves, but rather set their joint profit maximizing monopolistic price and output. Production may be shared among the subsidiaries or may concentrate in the lower cost firm, either closing the other plants or -more likely- converting them into the production of related commodities.[27] In other words,the MNC would tend to move towards an internal specialization of production which will reduce its average costs but not necessarily transfering that efficiency gain to consumer in the host country: they will rather be transfered abroad as higher monopoly rents since they may retain their monopolistic prices.[28] In synthe-

---

27/ This would certainly be easier for multi-product firms than for specialized firms, and the former tends to be a typical characteristic of multinational corporations. Intra-firm specialization can be horizontal (for example, an enterprise producing consumer durable-goods, such as Westinghouse can specialize in producing refrigerators in Colombia and stoves in Peru) or vertical (an automobile manufacturer, such as Ford, producing the engines in one country and the electric components in another). Internal specialization is also more convenient when economies of scales in each product are more significant.For empirical evidence about the importance of"intra-industry" specialization within the European Common Market, see Grubel (1967) and Grubel and Lloyd (1971).

28/In this case -as well as in any other in which a monopoly is established at the common market level- the MNC may also find it profitable to engage in price discrimination among national markets. This certainly requires, though, some kind of especial control of retail distribution which will impede arbitrage by independent importers located in each country. See, Tironi (1975).

sis,the main impact of close institutional relations among firms in differnt countries within a common market is to re - duce the relative size of the foreign profit diversion effect of the custom union.

3. Summary: A taxonomy of market structures in a customs union

The fundamental conclusion from the analysis about market structures in this chapter is that competition is an important variable determining the gains that host countries can derive from economic integration, especially within initially monopolistic industries dominated by foreign firms. Hence, competition may be partially considered as a"supplement" to a FDI policy aimed at securing a larger share of the gains from economic integration for the host countries. Nonetheless "free" market is not a synonym for "competitive" market. Therefore, effective FDI policies should be designed to actively promote competition as well as to secure economic results that maximize the host countries welfare in industries in which non-competitive market structures cannot be avoided. One of the first steps in the design of such FDI policies is to detect the conditions under which an industry's regional market is likely to be competitive or monopolistic. This was the purpuse of the analysis of this chapter which

we shall now summarize in simple terms with the aid of Table 1.

Table 1 presents a simple taxonomy of national and regional market structures. It is simplified in several respects, the most important being that we assume only two countries (A and B, the latter assumed to have a regional comparative advantage); only three possible kinds of common market structures (competition, oligopoly and monopoly); and only general qualitative aspects of three other variables: economies of scale (increasing or decreasing cost functions), smaller or larger market sizes of the exporting country and independent or "sister" foreign firm.[29/]

Table 1 provides the most likely combinations of national market structures in two countries before integration (columns 2 and 3), shape of the industry's cost functions (col.4), comparative market sizes (col. 5),[30/] and institutional relations between firms (col. 6) which would be associated with each of the types of common market structure defined in column 1.[31/]

29/ We call "sister" firms those which have the same "parent" corporation which owns them.

30/ The comparative market sizes are considered here not mainly as a variable which is important in "determining" the common market structure, but as a variable likely to be associa-

TABLE 1

A TAXONOMY OF COMMON MARKET STRUCTURES AND THEIR RELATIONS *

WITH COST FUNCTIONS, MARKET SIZES AND INSTITUTIONAL VARIABLES

(Country B assumed to have a comparative advantage)

Common Market Structure	National market structures before integration		Economies of scale (decreasing unit costs)	Comparative Size of exporting country's market.	Institutional relations between firms in A and B
	Country A	Country B			
(1)	(2)	(3)	(4)	(5)	(6)
1. Comp.	Comp.	Comp.	No	Irrel.	Irrel.
2. Comp.	Monop.	Comp.	No	Larger	Irrel.
3a.Comp. a/	Comp.	Monop.	No	Smaller	Irrel.
3b.Oligo			No	Similar	Irrel.
3c.Monop.			No	Larger	Irrel.
			Yes	Similar	Irrel.
4a.Comp.	Monop.	Monop.	No	Similar	Independ.
4b.Oligo.			No	Similar	Independ.
4c.Monop.			Yes	Larger	Irrel.
			No	Similar	Irrel.
			Irrel.	Irrel.	Sisters

*Simbols:

Col.(1) to (3) Comp. = competitive, Monop. = monopolistic, Oligo = oligopolistic

Col.(4) No = no economies of scale (increasing costs), Yes=economies of scale

Col.(5) to (6) Idependen. = firms are independen of each other

Sisters = firms are subsidiaries of the same parent corporation.

Irrel.= means that the corresponding variable is irrelevant for determining the common market structure under consideration (in Col. 1) when the other variables assume the characteristics shown in the table. For instance, when there is competition in all markets before integration (the case represented in line 1), the common market will tend to be competitive independently of the each country's market sizes and relationships between firms.

Note : a/ The cases represented in lines 2) and 3) are different because of the assumption that country B enjoys a comparative advantage in production. Thus, in case 2) integration will to give rise to a competitive regional market; in case 3c) however, a regional monopoly is more likely to be established if country's B's costs advantage is sufficient to allow him to displace the competitors in Country A.

Thus in the cases represented by lines 2, 3a, and 4a, the host countries are likely to gain more from integration due to the greater competition it would induce. In the last of those cases, for instance, that result would be most likely when the monopolistic producers in each country who did not have economies of scale in production, were of similar size and independent from each other.

In the cases represented by lines 3c and 4c the host countries will gain less than in the others from economic integration. There are several combination of factors that could lead to that result. The most important appear to be the presence of significant economies of scale in the industry under consideration and strong institutional relationships between the monopolistic firms.

The conditions under which a customs union gives rise to more competitive common market structures cannot be taken for granted, especially in the industries in which multinational corporations concentrate within small less developed

---

ted with the national market structures before integration. As discussed above, in the same industry we should expect a smaller national market to be more monopolistic.

31/ Obviously, that taxonomy applies only to industries producing commodities which fulfill the requirement of being tradable in the common market (i.e. for which transport costs are not prohitive) and which have external tariffs high enough as not to constrain the firms' pricing decisions (i.e. they

countries. Hence, in the general empirical study that follows, the nature of market structures will have to be an important variable in the analysis.

---

are either made up-to-measure, redundant or infinite, as in the case of absolute prohibitions to import). It also assumes that there are high barriers to the entry of new firms into the country with comparative advantage and for this reason, the national market sizes are also important.

MATHEMATICAL APENDIX TO CHAPTER IV [1/]

Relations between the changes in consumer's prices and cost reductions

We wish to estimate by how much will prices fall as a consequence of a discrete reduction in production cost brought about by the specialization that results from the formation of a customs union in an industry controlled by foreign firms. Then we shall determine the gains for host countries and firms.

a) Regional monopoly

Assume that there was initially one multinational corporation with one monopolistic subsidiary in each of two partner countries A and B before integration. We can therefore consider that initially it has an "average" total cost function in both countries $\overline{C}(q) = q_a/q_t\ C(q_a)+q_b/q_t\ C(q_b)$. The possibility to concentrate production in the subsidiary with a lower cost given by a function C(q) will allow the corporation to increase its overall profits. Assume for simplicity that the reduction in costs per unit of out put can be represented by a constant value c per unit of output. Therefore

$$\frac{\overline{C}}{q}(q) - \frac{C}{q}(q) = c$$

$$\overline{C}(q) - C(q) = c \times q.$$

$$C(q) = \overline{C}(q) - c \times q \qquad (1)$$

Equation (1) simply says that if after integration a given good is produced in the lower cost country it will cost c dollars less per unit than the average cost in all the countries before integration.

1/ Refer to Figure IV-1 in the Text.

Therefore, the multinational corporation will now maximize its profits from selling at the new costs in all the common market. It will then maximize a function

$$\Pi = q \cdot p(q) - \overline{C}(q) - c \cdot q$$
$$s.t: q = q(L, K). \qquad (2)$$

where $q \cdot p(q) = R(q)$ are the total revenues of selling in the common market, the demand function is $p(q)$; $\overline{C}(q) - c \cdot q$ are the new costs and $q(L, K)$ is the firms' production function.

Derivating (2) with respect to q we obtain the first and second order condition for maximizing profits.

$$F.O.C.: L(q) = \frac{d\Pi}{dq} = R' - C' - c = 0 \qquad (3)$$

$$S.O.C.: \quad \frac{d\Pi^2}{dq^2} = R'' - C'' < 0 \qquad (4)$$

In order to obtain the effect of the change in cost per unit of output on the price and quantity produced we obtain the derivative of the latter variables with respect to c, subject to the fulfillment of the FOC represented in eq. (3)

Thus

$$\frac{dq}{dc} = \frac{\frac{\partial L}{\partial c}}{\frac{\partial L}{\partial q}} = \frac{1}{R'' - C''} < 0 \qquad (5)$$

$$\frac{dp}{dc} = \frac{dp}{dq} \frac{dq}{dc} = \frac{p'}{R'' - C''} > 0 \qquad (6)$$

Where R'' and C'' are the slopes of the marginal revenue and cost functions, respectively.

A negative sign of dq/dc implies that if the reduction in costs in larger, output will increase more. From the second order conditions we know the signs of those expressions.

From the well know relations between a marginal and average function, we know that on the demand side

$$R = p\,(q).\,q$$

$$\frac{\partial R}{\partial q} = R' = p + qp' \quad ; \quad R'' = 2p' + qp'' \quad ; \quad p' < 0 \qquad (7)$$

Where:

$p'' = 0$ if the demand is linear

$p'' > 0$ if the demand curve is concave

$p'' < 0$ if the demand curve is convex

Therefore, equation (6) can be written as

$$\frac{dp}{dc} = \frac{p'}{2p' + qp'' - C''} > 0 \qquad (8)$$

This is the critical expression that provides the relations between changes in prices for consumers (the gains from integration for the host country) and the changes in costs arising from specialization, as a function of the elasticity of demand 1/ and the slope of the MC function.

1/ Elasticity of demand is $\frac{p}{p'\,q} = n$ so $p' = \frac{1}{n} \cdot p/q$

If demand is linear $(p'' = 0)$ and marginal costs are constant $(C'' = 0)$ the fall in price of out put will be exactly half the fall in costs of production, the difference resulting in greater profits for the monopolist.

With given demands, prices will fall by relatively less when costs are increasing, rather than constant and viceversa. As long as the slope of the MC function is positive, dp/dc in equation 8 will be smaller as C" gets higher. If C" is negative, i.e. there are economies of scale, prices will fall more than if MC are constant and that fall will be geater, the stronger are the economies of scale.

If the demand function is convex (from the origin) the latter effects would be weakened (prices would fall by less), but if it is concave, ceteris paribus, those prices will fall relatively more.

The change in the monopolist's profits can be obtained directly from equation (2):

$$\frac{d\Pi}{dc} = -q < 0 \qquad (9)$$

Finally, the change in consumer's surplus measures the gain for the host country under the assumptions we have made. That gain is

$$G = \int_{Pa}^{P_r} q(p)\, dp \qquad (10)$$

Therefore:

$$\frac{dG}{dp} = -q$$

and

$$\frac{dG}{dc} = \frac{dG}{dp} \cdot \frac{dp}{dc} = \frac{\overset{(+)}{q}\ \overset{(-)}{p'}}{\underset{(-)}{R''-C''}} < 0 \qquad (11)$$

Dividing equation (10) by (9) we obtain the charge in the gain for the host country consumers as a proportion of gains for foreign firms resulting from higher profits:

$$\frac{dG}{d\pi} = \frac{p'}{(R''-C'')} \qquad (12)$$

The latter expression is easy to interpret.

The gains for the host country will be larger than those of the foreign firm as long as $\frac{dG}{d\Pi}$ as greater than one. This implies

$$C'' < p' + q\,p'' \qquad (13)$$

Thus, when the dmand is linear ($p'' = o$) or convex ($p'' < o$) the host country may gain more only if cost are decreasing, because the RHS of equation (13) in that case will be negative; however, even if marginal costs are decreasing, in order for the countries to gain relatively more than the foreign firm,we need MC to be falling faster than prices in the case of a linear or convex demand. A concave demand would again relax that condition somewhat.

b) Competition in all markets

If the producers were perfectly competitive, the results presented above must be modified. The presentation of this case becomes very simple since we know that firms will be equating MC to price. In other words:

$$R' = p \quad \text{and} \quad R'' = p'$$

Substituting in equation (6) it is immediatly clear that prices for consumer will change exactly as much as the fall in costs when the marginal costs of production are constant because

$$\frac{dp}{dc} = \frac{p'}{p'-c''} > 0 \tag{14}$$

Expressing the change in competitive prices in proportion to changes in monopolistic price we can get a general expression for that ratio as a function of the slope of the demand and cost function.

$$\frac{dp}{dc} \text{ (compet)} : \frac{dp}{dc} \text{ (monop)} = 1 + \frac{p' + qp''}{p' - C''} \tag{15}$$

so when MC are constant and demand is linear ($C'' = o$; $p'' = 0$), the fall in prices under competition will be twice that fall under monopoly for the same absolute reduction costs per unit.

The gain in consumer's surplus will clearly now be

$$\frac{dG}{dc} = -q$$

so the countries will gain from the whole absolute reduction in costs per unit of output.

REFERENCES CHAPTER IV

- Bain, J.S. (1956) Barriers to New Competition. Cambridge, Mass: Harvard University Press.

- _____ (1968) Industrial Organization (2nd. Ed.) New York: Wiles and Sons.

- Caves, R. (1966) "International Investment and International Trade in the Product Cycle," Quarterly Journal of Economics, 80 (May), pp. 190-207.

- _____ (1971) "International Corporations: The Industrial Economics of Foreign Investment", Economica, 38 (February), pp. 1-27.

- _____ (1974) "Causes of Direct Investment: Foreign Firms Shares in Canadian and U.K. Manufacturing Industries", Review of Economics and Statistics, Vol. 50 (August), pp. 279-293.

- Corden (1972) "Economies of Scale and Customs Union Theory", Journal of Political Economy, 80, No. 3 (March).

- _____ (1974) Trade Policy and Economic Welfare, Oxford: Clarendon Press.

- Dunning, J.H (1958) American Investment in British Manufacturing Industry, London: Allen and Unwin.

- Finger, J.M. (1971) "Protection and Domestic Output", Journal of International Economics, 1 (August), pp. 345-351.

- Grubel, H.G. (1967) "Intra-Industry Specialization and the Pattern of Trade", Canadian Journal of Economics and Political Science, 33 (August), pp. 374-88.

- Grubel, H.G. and Lloyd (1971) "The Empirical Measurement of Intra-Industry Trade", Economic Record, 47 (December), pp. 404-17.

- Haldi, J. and D. Whitcomb (1967) "Economies of Scale in Industrial Plants, Journal of Political Economy, Vol. 75, No. 4. (August) Part 1, pp. 375-385.

- Hymer, S. (1960) "The International Operation of National Firms: A Study on Direct Investment", Doctoral Dissertation, M.I.T., Cambridge, Mass.

- Kindlerberger, C.P. (1969) American Business Abroad, New Haven: Yale University Press.

- _____ (1973) International Economics (5th. Ed.), Homewood, Illinois: Richard D. Irwin, Inc.

- Linder, S.B. (1967) Trade and Trade Policy for Development, New York: Praeger Inc.

- Meller, P. (1975) "Production Functions for Industrial Establishments of Different Sizes: The Chilean Case." Annals of Economic and Social Measurement, Vol. No. 4/4 pp. 595-633.

- Mikesell, R.F. (1963) "The Theory of Common Markets and Developing Countries", in Robson (Ed.) (1971), International Economic Integration, Middlesex, England: Penguin Books.

- Scherer, F.M. (1971) Industrial Market Structures and Economic Performance, Chicago: Rand Mc Nally.

- Schydlowsky, D.M. (forthcoming) Capacity Utilization in Latin America. Research Project in Progress, CLADS, Boston Unicersity, Boston, Mass.

- Scitovsky, T. (1958) Economic Theory and Western European Integration, California: Stanford University Press.

- Spence, Michael (1976) "Entry, Investment and Oligopolist Pricing". Discussion Paper No. 466, Harvard Institute of Economic Research, Harvard University, Cambridge, Mass.

- Tironi, E. (1975) "Aspectos Teóricos del Comportamiento de Corporaciones Transnacionales Frente a un Proceso de Integración", Revista de la Integración, Vol. 8, No. 19-20 (May-September), pp. 81-133.

- Teitel, Simon (1975) "Economics of Scale, and Size of Plants: The Evidence and Implication for Development", Journal of Common Market Studies, Vol. XIII, pp. 92-115.

- Vernon, R. (1966) "International Investment and International Trade in the Product Cycle", Quarterly Journal of Economics, 80 (May) pp. 190-207.

- _____ (1971) Sovereignty at Bay. The Multinational Spread of U.S. Industry, New York: Basic Books.

CHAPTER V

FOREIGN DIRECT INVESTMENT IN MANUFACTURES IN THE ANDEAN GROUP

The purpose of this chapter is to verify empirically whether some of the basic conditions which justify a specific FDI policy in a process of economic integration do or do not prevail in the case of the Andean Group. The specific policy to which we refer goes beyond the mere establishment of any common policy by the partner countries; we refer to a differentiated policy, more or less restrictive towards foreign than towards national firms within the common market.

The main conditions which justify such a policy have been derived from the theoretical analysis of the previous chapters. Although those conditions are many and closely related, we will have to study a few of them separately. First, as shown more directly in Section 2 of Chapter II, the need for a compensating policy towards foreign firms depends on the extent of their initial participation in the total capital investment (or production) within the integrating countries. Given some inelasticity in the supply of "foreign assets", the higher is the initial participation of foreign firms in national markets, the larger will be the restribution of income to the already established foreign companies : they will increase their rents and profits as a consequence of the opportunity to expand production and exports to the common market.[1/] In other words, ceteris paribus the size of the foreign profit creation and diversion effects will be relatively larger than the trade effects of integration.

1/ See, in particular, Figure II-1, p.

Second, the need for a compensatory policy towards FDI is greater, the higher is the tariff protection granted to industries in which foreign firms predominate,[2] or the larger is those firms' share of production and exports within the relatively more heavily protected industries. These conditions imply a comparatively larger foreign profit creation than diversion effect. Hence, in this case, a policy oriented towards some form of participation by the host countries in the additional rents and profits earned by foreign firms, due to the firms' extended oportunities to export to the common market, will become more desirable. In the Andean Common Market as a whole, the net FP-diversion effect is not likely to be as great as the FP-creation effect, mainly because the counterpart of FP-creation is not as likely to be FP-diversion as <u>trade</u> diversion (regional exports by foreign firms substituting for imports previously bought in third countries).[3] We shall therefore concentrate on the FP-creation effect, a proxy forwhich is given by the extent of the participation of foreign firms in regional exports and the regional tariff protection granted to them.

Third, we have shown theoretically that the gains from the effect of integration on market structures can be quite significant.[4] The obvious condition for the host countries to gain from that effect is that national markets be predominantly monopolistic to start with. But a second critical

---

2/ Under that condition, ceteris paribus, and in the absence of a compensating FDI policy, integration is more likely to give rise to immiserization. See Section 2, Chapter II above.

3/ See especially, Section 3 of Chapter III.

4/ See Section 2 of Chapter IV.

condition is that firms in the partner countries must be independent of one another. Many monopolistic foreign firms, however, may be subsidiaries of the same parent corporation and will not, therefore compete within the common market. Thus, the need for some FDI policy within the integrated region will be greater in those industries in which regionally monopolistic market conditions are most likely to prevail.

The reader should be warned not to expect definite conclusions or precise estimations from the analysis in this chapter, but only general trends and rough characterizations of the conditions under which FDI operates in the Andean Group. The available statistical data are very far from the ones we would ideally want in order to test several of our hypothesis; also the information from the various countries is evidently heterogeneous. Nevertheless, an effort was made to minimize the "manipulation" of the available statistics as much as possible. We prefered to present most of the basic data free of imputations and averaging, thus avoiding dangerous generalizations. This may make the reading of this chapter more tedious due to the many qualifications about the data used and the statements based on it, but we hope, thereby, to provide a more sound empirical background on which to base the design of effective policy recommendations.

In ection 1 we study the first of the conditions discussed above, the extent of the participation of foreign firms in the domestic production in the major Andean countries. In Section 2 we concentrate on the expected participation of foreign companies in regional exports and in the industries most likely to be strongly fostered by the Andean integration

process, especially due to higher levels of tariff protection. In Section 3 we present empirical evidence on the degree of market concentration prevailing in the manufacturing sector before integration. In Section 4 we study the institutional links existing among foreign subsidiaries located in different partner countries and, hence, the extent to which more competition can indeed be expected to arise as a consequence of the formation of the customs union. Finally, we end with a general summary of the economic conditions under which foreign firms are most likely to operate in the Andean Common Market in the absence of a specific policy toward them. Only then shall we be able to analyze the need, extent, and nature of an effective policy under those conditions.

1. Foreign Direct Investment in Manufactures

Direct Foreign investment in the manufacturing sector of the Andean countries - and most of Latin America - has been closely related to the process of import substitution. Hence it is useful to start with a brief description of this process.

The manufacturing sector

The economic development of the majority of the Andean countries during the last thirty years has been based mainly on the development of industry through import substitution. This process was first initiated during the Great Depression in the 1930's, but proceeded at a more accelerated pace in the period during and immediately after the Second World War.[5/] Import substitution was initially restricted to consumer goods that were easier to produce domestically. During the 1960's, however, the process had advanced to a second phase in which there was also import substitution of several intermediate goods and some capital goods, especially basic chemicals and transportation equipment. Thus, by 1972 about 20 per cent of GNP was generated in the manufacturing sector of the Andean countries,[6/] but - as can be seen in Table 1 - more than half of value added in manufactures was still generated by the consumer goods sectors.

5/ For an account of the import substitution process in Latin America refer mainly to CEPAL (UN Economic Commission for Latin America) Yearly Latin America Economic Surveys . A good synthesis of the rationale behind that process can be found in Prebisch(1959) and Hirschman(1968).

6/ Thoroughout all this study manufactures are defined exclusive of petroleum and copper refining activity.

In this chapter we will be primarily concerned with Colombia, Chile and Peru, which jointly account for about two thirds of the Andean region's GNP and three quarters of its industrial production and exports.[7/] In general, all three have followed quite similar industrialization patterns. The main difference among them is the greater development of the capital goods industries, especially metal products, electrical supplies and transport equipment, in Chile. This and other differences in the industrial structures of those three countries arise from differences in comparative advantage (or the availability of specific resources) and from the pattern of tariff protection in the past. With respect to comparative advantages, it is worth noting the availability of cane sugar in Colombia and Peru, which partially explains the relatively larger size of their food sector); Chile's forest endowment, which allows that country to export wood and paper pulp; Colombia's and Peru's larger supplies of petroleum; and, finally, the availability of copper in Chile and Peru, which has allowed the development of a copper manufacturing industries in those countries.

The other important determinant of the countries' industrial structure and FDI has been the pattern of tariff protection. For instance, the larger relative size of Chile's metal-mechanical sector noted above is partially a consequence of the traditionally higher relative protection from imports of those industries compared to the rest of the manufacturing industries. Nominal average tariffs as those reported in Table 1 may not, however, reflect as clearly that fact due to a number of limitations.

7/ Venezuela has been left aside principally because it only recently joined the Andean Group (more than 3 years after it was formed) and because its economy is very "distorted" by the size of its petroleum sector. Bolivia and Ecuador do not have statistics about FDI in manufactures.

The official tariff rates tend, in fact, to underestimate the real protection of domestic production from imports on several counts. First, there is the well known difference between nominal and effective protection, the latter being normally higher than the former because of widespread exceptions from nominal rates on capital goods. Second, and more important, is the fact that tariffs have indeed not been the most important means of restricting imports. Quotas, absolute prohibitions to import, deposits, and other non-tariff measures have traditionally been much more significant.[8/] Third, average tariffs consider equally the rates applied on actually imported commodities as well as those rates applied on commodities produced domestically and of which no imports are made Rates on goods actually produced domestically in the Andean countries tend to be significantly higher than on those not produced.

With all the previous qualifications in mind, it can still be observed in Table 2 that measured nominal tariff protection was relatively high in the main Andean Countries. As late as mid-1975, after Colombia and Chile had started a process of strong tariff reductions,[9/] the average rates for those countries were 40 and 65 per cent respectively, while for Peru the average rate reached 75 per cent. In addition, the dispersion of the tariff rates is significant in all countries. This is noticeable even at the high level of aggregation presented in Table 2. Thus, it is clear that the process of industrialization in the Andean Group has been directly associated with a policy of high protection of the local markets for national as well as foreign producers.

8/ For the case of Colombia, see Diaz-Alejandro (1973a) and of Chile, see Ffrench-Davis (1973)

9/ See Diaz-Alejandro (1973b)

TABLE 1

INDUSTRIAL STRUCTURE AND TARIFF PROTECTION IN SELECTED ANDEAN COUNTRIES a/

(Percentage of Value Added in total manufacturing and percentages tariffs rates)

	COLOMBIA		CHILE		PERU	
	Industrial structure	Nominal tariffs	Industrial structure	Nominal tariffs	Industrial structure	Nominal tariffs
Consumer products	53.0	48.1	47.8	72.4	50.8	98.0
31 Food, beverage, tobacco	30.4	38	17.9	57	35.1	75
32 Textile, apparel, footwear	21.2	62	22.9	89	12.9	161
33 Wood products, furniture	1.4	47	7.0	65	2.8	96
Intermediate products	21.6	27.5	21.4	58.2	19.8	63.6
34 Paper and related	3.3	31	6.3	65	2.3	78
35 Chemicals, rubber	13.0	22	10.8	52	14.1	52
36 Ceramics, glass, cement	5.3	39	4.3	64	4.4	79
Metal and Mechanics	14.4	29.1	28.0	55.2	18.5	60.9
37 Iron and steel	2.6	22	6.4	39	5.8	65
37 Non-ferrous metals	.4					
38 Metal products	4.0	31	6.2	60	3.1	59
38 Machinery	2.6		3.0		2.6	
38 Electrical equipment	2.3		4.8		3.0	
38 Transport equipment	2.5		7.6		4.0	
Others	11.2	na	3.0	na	12.2	
Petroleum refinery	5.0	na	na	na	8.1	
39 Other	6.2	na	3.0	na	4.1	
Total	100.	40.1	100.0	64.5	100.0	75.3

a/ Industrial structures are as of 1972 in the case of Colombia, 1967 for Chile and 1971 for Peru. Tariffs are as of August 1975 and are simple averages of oficial ad-valorem tariffs on individual commodities within each industry. Sectoral tariffs are averages weighted by the shares of production in each industry. Actual tariffs may differ because of exemptions and especific tariffs.

Sources: U.N. The Growth of World Industry, Vol. 1, 1973 edition

Chile; CORFO, "Datos básicos del sector industrial". Publication Nº 13A/70, 1970 Tariffs from JUNAC, "Situación arancelaria en los Países Andinos,: J/PE45 September 1975, Table 4 p. 13

The data on FDI

Historically, until immediately after the Second World War, FDI in the Andean Group was concentrated mainly in the consumer goods sector as a consequence of the emphasis the countries placed on that sector during the first phase of their import substitution development strategy. The entrance of foreign firms and investment was significantly accelerated at the end of the war, and especially during the 1960's. This more recent foreign investment in manufacturing, though, is associated with the second phase of import substitution, in which production was relatively more concentrated in the intermediate goods sector: rubber, paper, chemicals and, later, electrical and transport equipment.

Adequate statistics on foreign direct investment in the Andean Countries are very scarce, notwithstanding the important efforts made recently by some governments to overcome this deficiency. It is particularly difficult to find homogeneous data across countries. The most widely used statistics are those collected by the investing countries -mainly the United States and United Kingdom- but they cover only a fraction of total foreign investment in the Andean countries. On the other hand, most of the statistical series traditionally collected refer to flows or stocks of capital. For the most part, this is probably a consequence of the traditional concern with only the immediate balance of payment effects of foreign direct investment. One of the most important shortcomings of this narrow view is that it makes the comparison of foreign firms and investment with national firms and investment in the host countries very difficult.

For the purposes of this study we will concentrate on data concerning the value of production or sales of firms with foreign capital[10/], although most of them (as shown below) have more than 50% of their capital controlled by foreign investors. According to the official definitions used in the Andean countries we shall refer to the latter as "foreign" firms[11/]. The information about sales by firms with foreign capital is presented in Table 2, and comes from different surveys carried out in each of the three most industrialized Andean nations.

The sources of information and the coverage of the samples differ among countries, so it is important to mention those differences explicity before engaging in comparisons. The statistics available in Colombia, the country with most complete and ready available data, come from two surveys. The first was conducted by the Registry of Corporations in Colombia (Superintendencia de Sociedades) in 1971 and comprised 707 corporations with foreign capital or branches of foreign firms. The value of output of those firms and its distribution amont the nine main two-digit ISIC classification of industrial sectors is presented in Columns (1) and (2) of Table 2. The

---

10/ Alternatively, one would like to consider the value added by foreign firms, especially when one is concerned with the effects of their behavior on the host countries' national income. Unfortunately there are no data about that aspect in the Andean countries, except for a small sample of foreign firms in Colombia.

11/ The law on FDI in all of the Andean countries (Decision 24) defines "foreign firms" as all those with more than 50% of their capital owned by foreigners, "joint ventures" as those with between 20% and 50% of foreign owned capital, and "national firm" as those with less than 20% of capital owned by foreign investors.

second source of information in Colombia is the Central Bank (Banco de la Republica). The Foreign Exchange Office of that Bank has published a comprehensive 160 page report on the activities of 264 foreign firms with foreign capital in 1971. The results from that survey in terms of the value of output of firms with foreign capital is presented in columns (3) and (4) of Table 2.

The difference between the results of the two samples is great; the larger one reports more than twice the sales reported by the smaller sample. This implies that the share of production by firms with foreign capital in Colombia would amount to 56% of total domestic production of manufactures, (see Table 3). This result initially cast doubt on the reliability of the large sample. Deeper investigation, however, especially a sector by sector comparison with independent estimates of sales by majority owned affiliates of U.S. corporations in Colombia, shows that the large sample estimates seem to be more reliable than those of the smaller sample.[12/] Thus, most of the difference between the samples comes, presumably, from the wider coverage of the large one.[13/] Unfortunately, we cannot simply set the small sample aside

---

12/ For example, according to the U.S. Department of Commerce statistics, sales by majority owned affiliates of U.S. corporations in the food sector-one of those in which larger differences between the two Colombian samples appear -were 182 million dollars in 1971, compared to only 125 million reported by all firms in the small sample since in this sector non-American investors predominate in all the other Andean Countries as well, then the 594 million dollar reported in the large sample is perfectly reasonable. For information about sales of U.S. affiliates 1971, see Survey of Current Business, August, 1974.

13/ The results reported in the small sample are biased in favor of the chemical and rubber industry, and against food and textiles. This arises from a bias in the small sample coverage, since 113 of the 264 firms surveyed belong to the chemical sector (48 of which are in the pharmaceutical industry) while there are only 28 firms producing in the food sector and 14 in textile sector. Notice that in terms of sales, there are almost no differences between the results of the two samples in the chemican and rubber sectors, while there are 3 to 1 differences in the consumer good sectors.

and use the larger one, because the latter provides no additional information about other characteristics of foreign firms in which we are interested. For example from the small sample we know that only 6.6% of the output of all companies with foreign capital comes from firms with less than 20% of capital owned by foreign investors. "Joint ventures" -(i.e. firms with more than 20 and less than 50% share of foreign capital-) account for 12.4% of this production, with over 80% being produced by the majority owned foreign firms.

The data on production by firms with foreign capital in Chile was obtained from a sample of the six largest firms in each of 78 four-digit ISIC industries, excluding firms whose sales were under $200,000 in 1967. All the basic statistical information come from the 1967 Census of manufactures, and the industries considered account for 93 % of the total value of industrial production in Chile, excluding petroleum and copper refining. The sample included 450 industrial manufacturing facilities, 92 of which belonged to firms with more than 20 % of the capital stock owned by foreign investors. Hence, the sales by firms with foreign capital in Chile correspond only to "joint ventures" or strictly foreign firms.[14/]

14/ In this country, where traditionally the presence of manufacturing investment had been less significant, the government regulations on FDI stricter and the State's participation in the economy more important than in the other Andean countries, the output of majority-owned "foreign firms" in the manufacturing sector accounts almost two thirds of total output by all firms with some foreign capital and "joint ventures" for almost one fifth. Of the remaining 18% of production in the sample which comes from enterprises with a minority of foreign capital, almost one half comes from the only steelmill in the country which is controlled by the State.

The information from Chile is more out of date than Colombia's Peru's Notice t at the latest set of data available is for years 1967 to 1970.[15/] Paradoxically, however, this is not so unfortunate for the purpose of this study, because the changes in the property structure during President Allende's Government (1970-1973), especially those involving foreign owned industrial firms, were subsequently reversed and the firms returned to their former shareholders. Therefore, the foreign ownership pattern today (1976) is probably more similar to that of 1967-70 than to that of 1971 or 1973.

In the case of Peru, the information concerns all firms with some foreign capital and comes from an industrial survey of all establishments employing 20 or more workers carried out in 1971 by the Ministry of Industry and Trade.[16/] There were 1376 establishments in that category, 251 of which had some foreign capital. Only in the case of Peru is there no information distinguishing between production by firms with a majority of foreign capital and all other firms, but as in the other two countries, we should expect

---

15/ Strictly speaking, the information available about the firm's ownership is as of 1970, while that about sales is for 1967. The most significant omission coming from the use of 1967 data is the exclusion of Dow Chemical investments in Chile that were completed later. The two Dow subsidiaries in Chile are practically absolutely monopolies in their specific industries: petrochemicals and industrial chemicals. Other important studies about FDI in Chile for the late sixties, but which do not report data on sales, are those of Pacheco (1970) and Bitar (1972).

16/ Plants with 20 or more workers account for approximately 90% of industrial production in Peru; Ministerio de Industria y Comercio (1973) p. 17 The production of fish meal, coming from an important Peruvian natural resource, is not included in the industrial sector.

TABLE 2

ANDEAN GROUP: VALUE OF OUTPUT OF FIRMS WITH FOREIGN CAPITAL

BY INDUSTRY AND COUNTRY

(Values (V) in million of dollars of each year and shares (S) in percentages) [1/]

	Colombia 1971 [2/]				Chile 1967		Peru 1971	
	V1 (1)	S1 (2)	V2 (3)	S2 (4)	V (5)	S (6)	V (7)	S (8)
Consumer Goods								
31 Food, beverages and tobacco	593.8	30.1	124.8	13.6	212.4	31.2	231.0	29.0
32 Textile, apparel, footwear	393.2	19.9	30.1	3.3	47.9	7.0	123.1	15.5
33 Wood products, furniture	38.3	1.9	9.3	1.0	2.1	3	5.1	.6
Intermediate products								
34 Paper and related	111.5	5.7	93.6	10.2	19.0	2.8	73.6	9.2
35 Chemical and rubber	371.6	18.8	360.9	39.2	125.0	18.4	179.2	22.5
36 Ceramics, glass, cement	147.3	7.5	58.0	6.3	35.8	5.3	31.2	3.9
Metal and mechanics								
37 Iron, steel, non ferrous metals	89.7	.5	33.0	3.6	49.5	7.3	7.2	0.9
38 Metal products, machinery and transport equipment	308.2	15.6	205.8	22.4	153.4	22.6	141.9	17.8
Other								
39 Other manufactures	6.2	.3	4.8	.5	-.-	-.-	4.4	.6
Total	1,972.0	100.0	920.2	100.0	645.1	100.0	796.5	100.0
Adjusted Total					(738.8) [3/]		(922.7) [4/]	

1/ Figures converted to dollars at the annual official principal exchange rate. They were 20.09 pesos per dollar fo Colombia, 5.19 escudos for Chile and 38.7 soles per dollar for Peru.

2/ For Colombia there are two samples of firms with foreign capital. The first, reported in Columns (1) and (2) is based on 707 firms, while a second one, reported in Columns (3) and (4) is based on only 264 firms.

3/ Value of output by all firms with foreign capital including the joint minority foreign and State owned steelmill plant.

4/ Value of output by all firms with foreign capital including 118 million dollars output in copper refining (Cerro de Pasco Co.) and approximately 10 million dollars in petroleum refining .

Sources: Colombia: Banco de la República, Incidencia de la Inversión Extranjera en el Producto Bruto interno manufacturero. Bogotá, Colombia 1975.
Chile: Author's calculations based on CORFO, División de planificación industrial, "Principales empresas manufactureras", mimeo. Publicación Nº 58 a 171, Santiago, 1971 and "Participación del capital extranjero en las sociedades anónimas industriales", Publicación Nº 14/A70, 1970.
Perú: Ministerio de Industria y Comercio "Industrial Survey 1971".

that minority owned foreign firms account for only a small share of output.[17]

Production by foreign firms

The data in Table 2 shows, first of all, very similar distributions of production by foreign firms among the industrial sectors in all three countries. The largest fraction tends to concentrate in the food, beverage and tobacco industries. A smaller portion is in chemicals and metal products, machinery and transport equipment, while there is even less production by foreign firms in wood products and furniture, and basic metals.[18]

Comparisons among countries should be made carefully, because of the different coverage of the available samples.[19] Nevertheless, some sufficiently evident points can be stressed. First, in absolute values, manufacturing production by firms with foreign capital has been highest in Colombia, lower in Peru and lowest in Chile. Second in some key sectors like chemicals and transport equipment the output by foreign firms in

---

17/ An additional source of information which reinforces that statement about the importance of majority-owned foreign firms in Peru by the early seventies, is the Curham and Vaupel (1969) report on 187 U. S. multinational corporations. According to their sample, (table 3, Sec. 1 pp. 386) there was a higher proportion of majority owned subsidiaries of U.S. corporations in Peru than in Colombia (there is no separate data about Chile in that report, and that is why we could not use it more extensively). Since 1971, however, there have been several firms in Peru that have changed from majority-owned enterprises into joint-ventures.

18/ Notice that the pattern of production by foreign firm in Colombia reported in the large sample is more consistent thatn the small sample results available from the surveys made in the other countries and with the structural characteristics of Colombia.

19/ Notice also that the information for Chile in Table 3 is for 1967, rather than 1971 as for the other countries, and figures are reported in nominal dollar of each year.

most sectors, with the notable exception of the metal and mechanical goods sector.

From the point of view of the effects of economic integration on foreign investment and the welfare consequence of this process, it is much more important to observe the share of production by foreign firms in total domestic production in each sector. The results of these comparisons for the three countries under study are presented in Table 3. Since in absolute terms the value of industrial output is very similar in Colombia and Chile, it comes as no surprise that the share of production by foreign firms in total industrial output is much higher in the former country than in the latter. In Colombia that share is about 56 % In Chile it is only 19 % and would reach 22 % if one considers the firms with a minority of foreign capital. Peru is in an intermediate situation; the share of foreign firms' production in its total manufacturing output is 41 %. Thus, the share of production by foreign firms in the three principal Andean countries can be estimated at an average of approximately of their total manufacturing production.[20/] Colombia was significantly larger than those in Peru and Chile, even considering the small sample of Colombian foreign firms. Third compared to the other countries, Chile had lower production generated by foreign firms.

_/ The share of foreign firms in value added in manufactures could be still higher than in sales, if foreign firms in Peru and Chile are similar to those in Colombia. In fact, according to the data in the Colombian survey, (Banco de la Republica, 1975, Table PBI-VII) the former share was 29% compared to 26% in total sales. Moreover, the share in value added was higher in each of the nine 2-digit industrial sectors.

That figure confirms the extraordinary importance of the distributive impact which economic integration is likely to have in the absence of some specific FDI policy to deal with that phenomenon. Unfortunately, there are no readily available figures with which we might try to compare the situation in the Andean Group with that in the European Common Market or other integration processes. Most probably, the significance of this FDI is much greater in the Andean nations than in Europe. It is worth noting that in the case of the United States, where there is an increasing concern about the importance of FDI in its economy, the sales by manufacturing firms with more than 10% of foreign capital can be estimated at only about 10 % of total manufacturing output.[21/]

In addition, however, the importance of production by manufacturing enterprises with foreign capital as compared to national firms is not the same in all industries. In the Andean Group at present,it is clearly greater in those industries that produce intermediate and capital goods than in the consumer good sectors. In Colombia and Peru over one half of the output of chemical products, for example, is produced by foreign firms. In Chile it is only 40 per cent, but this share is more than twice the average participation of foreign firms in the country's industrial production.[22/] In all countries the share of foreign firms' production is also

---

21/ Estimate based on the complete U.S. 1974 Census of FDI, as reported in the Survey of Current Business, May, 1976.

22/ Recall also that the Chilean sample excludes the main enterprises with foreign capital in the chemical sector, which started production after 1967. See footnote in page above.

TABLE 3

SHARE OF PRODUCTION BY FIRMS WITH FOREIGN CAPITAL IN TOTAL DOMESTIC PRODUCTION: BY SECTOR AND COUNTRY (PERCENTAGES)

	Colombia 1971 Large Sample	Chile 1967	Peru 1971
Consumer Goods			
31 Food, beverage and tobacco	52.9	19.7	33.8
32 Textile, apparel, footwear	60.4	8.4	34.7
33 Wood products, furniture	73.8	1.6	12.9
Intermediate products			
34 Paper and related	50.4	12.8	55.8
35 Chemical and rubber	63.0	41.4	59.6
36 Ceramics, glass, cement	82.6	39.7	32.6
Metal and Mechanics			
37 Iron, steel, non ferrous metals	60.0	30.6	17.1
38 Metal products, machinery and transport equipment	67.2	27.9	52.5
Other			
39 Other manufactures	7.5	n.a.	17.7
Total	56.3	18.6	41.0

Source: Same as Table 2 and Census of Manufactures of each country.

higher than the average in machinery, transport equipment and non-metallic minerals.

The latter results are particularly significant in the sense that the Andean integration process is oriented especially towards the intermediate and capital goods sectors. Thus, the larger development of regional trade is expected in the industries where production by foreign firms tends to predominate. A more detailed analysis of this issue is undertaken in the next section.

2. Tariffs, regional trade and foreign firms in the Andean Group

We have shown above that one of the critical conditions determining the need for a compensating policy towards FDI within a common market is the level of tariff protection under which firms with foreign investment are able to produce and export within it. That need will be greater, the higher is the level of tariff protection and the volume of trade undertaken by foreign companies before and after integration. The purpose of this section is to verify, in particular, whether the industries where foreign firms predominate are those which will tend to enjoy relatively higher tariff protection after the formation of the common market is completed, and the extent to which they are likely to participate in the production of the goods produced under that higher tariff protection.

External tariffs

The new industrial structure that will result from the Andean integra-

tion process will be determined as much by the common external tariff structure as by the internal trade liberalization program. The average CET on manufactures is expected to be slightly lower than the average tariff prevailing before integration in the six Andean countries (42% compared to 45%) per cent), but significantly lower than the average of the relatively more industrialized nations -Colombia, Peru and Chile see Table 4. Tariffs on some manufactured products in the latter group of countries, however, are expected to fall less than in others, thus granting a relatively higher protection to domestic (regional) production in those sectors. As analyzed above,this form of developing some sectors has important implications with respect to the gains derived from the participation of foreign firms in the protected sectors. The higher the common market tariffs in industries with relatively higher FDI, the larger will be the foreign profit creation effect as compared to the FP-diversion and trade creation effects. Therefore, the lower will be the gains for the host countries, unless they seek means of participation in the FP creation effect of the custom union.

The evidence presented in Table 4 (columns 1 to 3) confirms those fears and, thus, the need for a compensating policy vis à vis foreign firms participating in the common market. Table 4 presents a general comparison of the average tariffs in each of seven industries of the three most industrialized countries in the Andean Group with the CET proposed for each industry by the Junta del Acuerdo de Cartagena.[23/] The figures show, first,

---

23/ The Junta is the technical secretariat of the Andean Pact and is required to present a CET, after consultation with the countries, in order to be approved by the States in 1977.

that in general the Andean Common Market is to be established behind a relatively high tariff wall. The 42% average CET is almost three times the average CET of the European Common Market.[24/] In addition tariff dispersion is wider, and non-tariff barriers more important, in the Andean Group.

Second, and more directly related to the hypothesis we are seeking to verify, the proposed reduction of tariff rates in the Andean Group is comparatively lower in the capital and intermediate goods sectors, especially in machinery and transport equipment (whose average tariff would rise), chemicals, and non-metallic minerals industries. These are precisely the industries in which the share of production by foreign firms is highest (see col. 7). Thus, in general,these firms are being granted a wider market under tariff protection relatively greater than that which they were enjoying before the formation of the common market.

The next aspect that we have to consider is to what extend foreign firms have indeed taken advantage and would continue to take advantage of the opportunities to increase production and export within the common market.

24/ On the EEC tariff structure, see Travis (1964), p. 209.

Table 4

Regional Exports of Manufactures, Tariffs and Foreign Firms in Colombia, Peru and Chile (1971-1974)

Industries	Tariffs: Average 1975 (%) (1)	Tariffs: Proposed CET (%) (2)	Tariffs: Proposed Reduction (1-2)/(1) (%) (3)	Regional Exports a/: Total Value (mil. $) (4)	Regional Exports a/: Non-traditional b/ Value (mil. $) (5)	Regional Exports a/: Non-traditional b/ Comp. (%) (6)	Share of foreign firm's production c/ (%) (7)
31. Food, beverages & Tobacco	57	32	44	41.0	6.9	5.2	35.5
32. Textiles	104	45	56	19.9	19.9	15.0	34.5
33. Wood Products	60	40	42	1.1	1.1	.8	29.4
34. Paper Products	58	39	33	30.7	6.6	5.0	39.7
35. Chemical and Rubber	42	30	29	50.9	50.9	38.5	54.7
36. Ceramic, glass and Cement	61	38	37	8.7	8.7	6.6	51.6
37. Basic Metals	42	32	24	42.3	5.3	4.0	35.9
38. Metal products Machinery, and Transp. Equip.	50	58	-16	27.8	27.8	21.1	49.2
39. Others	n.a.	46	n.a.	4.9	4.9	3.7	12.6
Total	60	42	30	227.3	132.2	100.0	38.6

Notes: a/ Exports of Colombia, Peru and Chile to the Common Market including those to Venezuela. Exports of petroleum excluded.
b/ Manufactured exports excluding meat products, sugar, paper and copper products.
c/ Simple average of the share of production by foreign firms in the selected Andean countries. See Table 3 above.

Sources: Col (1) JUNAC "Situación arancelaria de los países andinos", mimeo J/PE45, Lima, Perú 1975.
Col (2) JUNAC "Propuesta 70 sobre Arancel Externo Común", mimeo, Lima, Perú 1976
Col (4)-(5) JUNAC, "Comercio Exterior global e intrasubregional", mimeo, Lima, Perú, 1976.
Col (7) Table 3, above.

The participation of foreign firms in regional exports

There is, as a rule, no simple way to exactly predict the expected participation of foreign firms in regional exports once the common market is completed. It is even more difficult to estimate what that participation would have been in the absence of a specific policy towards FDI in the common market. In fact, since its inception the Andean Group has applied such a policy. The best available alternative, however, is to look at the past experience of the participation of foreign firms in regional exports[25]; but this has to be done keeping in mind at least three crucial qualifications.

First, reductions in tariffs and other restrictions on imports coming from the other partner countries were started only in 1970. Tariff cuts have reduced the rates applied on the partners by 10 percentage points each year. Therefore, by the end of 1974, for instance, only a third of the automatic trade liberalization program had been completed. But this is not all; the latter program indeed applies to fewer than two thirds of all tariff schedule items. Most of the remaining commodities have not yet been the object of tariff reductions; they are reserved to be produced and exported exclusively by specific countries, under a liberalization

---

25/ There is significant evidence about foreign firms taking advantage great of the opportunities to export within a customs union in the case of other integration processes, such as LAFTA and the Central American Common Market. See Isla and Campos (1974); INTAL (1972), Lizama (1966).

calendar and a common external tariff to be defined in their corresponding "Sectorial Industrial Development Programs" (SIDP).[26] As of 1974, the latest year for which trade statistics are available, only one of those programs had been completely approved. This is the program for the fabricated metals industry which only covers approximately 4% of the items in the Andean Commodity Clasification. Second, the common external tariff has not so far been implemented and regional exports are being made under a minimum CET. Finally, a very important factor which impairs the projections of future regional trade based on past commerce is the abnormality of the economic conditions during the period 1971-1974 of a country as important within the Andean Group as Chile.

In spite of these problems, regional trade has expanded significantly since the common market started to take form. Between 1969 and 1974 regional exports of industrial goods grew at an exponential rate of 11% per year, almost twice the rate at which regional exports of agricultural and mining products have grown.[27] The non-traditional

---

26/ All this information is based on Statistics collected by the Junta del Acuerdo de Cartagena (JUNAC 1976) and excluded trade with Venezuela.

27/ For a complete description of the trade liberalization mechanism contemplated in the Cartagena Agreement, see Aninat (1975).

manufactured exports have grown even faster.[28] In 1974, the volume of trade of new industrial products more than doubled that of 1973.[29]

The recent growth of regional trade has brought about a drastic change in the composition of Andean exports. The share of manufactured commodities increased from about half of total exports in 1969 to almost two-thirds in 1974. New industrial products increased their share from about 10% to almost 40% during the same period.

28/ The most conspicuous traditional exports are meats, coffee and sugar in the case of Colombia; sugar and copper in the case of Peru; tin in Bolivia; and copper and paper in Chile. Petroleum has been excluded.

29/ Most of this expansion comes from the recuperation of the level of exports that Chile had had in the past, but there are still likely to continue increasing fast in the future.

Regional manufactured exports are not distributed evenly across countries and sectors. Colombia accounted for approximately 53% of the total by 1974 with Peru and Chile accounting for about 20% each; the participation of Colombia in non-traditional exports is even higher. The distribution by industries of those countries' manufactures exports is presented in columns 4 to 6 of Table 4.

By sectors, the value of regional exports was highest in the chemical sector followed by those in the basic metals and food sectors. However, the latter two industries include most of the traditional exports within the Andean Countries: meats, sugar, paper, and refined or manufactured copper products. If we exclude them from our analysis, we can get a clearer picture of the structure of trade that is most likely to prevail in the future as a consequence of the formation of the Andean Common Market. 30/

Of the new products that have started to be traded within the region, chemicals, non-metallic minerals, machinery, electrical goods and transport equipment account for two thirds of the total non-traditional regional exports. Hence, those are the industries in which not only domestic production but also regional trade is being most strongly favored by the Andean integration process. Again, these also happen to be the industries that we have singled out as having a relatively higher share of production carried out by foreign firms.

30/ Traditional exports are distributed more or less evenly by the three countries: Colombia exports about 32 million dollars of sugar and meat, Chile exported about 35 million in paper and copper manufactures, and Peru exported about 25 millions of dollars in copper. JUNAC (1976), Table 8.

Unfortunately, only Colombia has undertaken a detailed study of the export performance of foreign firms. It is based on the small sample of 264 firms that we have used in the previous section, which is for as late as year 1971 — only one year after the internal trade liberalization program was started . Even though only a small number of the total number of foreign firms in the country were included in that sample, they still accounted for over a fifth of Colombia's total manufactured exports.[31] What is more important for our purposes, however, is that half of all Colombian exports of manufactured goods by those foreign firms went to the Andean countries, so they, in fact, supplied 47% of Colombian manufactured exports going to the regional market. Notice that they supplied that 47% although they had a share of only 26% in total Colombian manufacturing production. The average share of foreign firms in Colombian regional exports, though, disguises the significant differences in their sectoral participation in regional exports. In 1971 they took no part in exports within the traditional consumer good industries, but they exported 78% of all non-metallic mineral products, 70% of chemicals, 50% of paper products and 43% of regional exports of machinery, electrical and transport equipment. This compares with shares of foreign firms in all domestic production of those industries of only 33, 61, 42 and 45 per cent respectively. Therefore, direct estimations of foreign firms' export performance in Colombia show that they have a higher propensity to export goods produced within the industries expected to develop faster as a result of the

---

31/ Banco de la Republica (1973), pp. 36-38 and Table 9-A The figures for the Colombia exports come from JUNAC (1976), Tables 7-13. It is worth noting also that 93% of those exports are made by firms with more than 50% of the capital stock controlled by foreign investors. Firms with a minority of foreign capital (les than 20%) account for only 1.4% of exports. Op. cit. Table 5-A.

Andean integration process.[32] Unfortunately, there is no way to draw analogous conclusions about that same aspect in the other Andean countries. But, since we know the average participation of foreign subsidiaries in total output of each industry in at least a few nations we can estimate roughly what their aggregate participation would be in all regional exports.

A simple and very conservative way of making that estimate is by weighting the ratio of production by foreign firms in each industry's output by the share of those industries in the new regional exports developed until 1974, rather than by the share of each industry in the total manufacturing output in the Andean countries. This calculation yields an estimated share of exports by foreign firms in regional exports of approximately 47%. This share is over one-fifth higher than the average participation of foreign firms in all the Andean industrial output.[33] The difference between them reflects only the fact that foreign investment in the Andean Group is considerably more important in industries such as chemical and rubber, metal products machinery, and transport equipment, which are also those industries which were relatively more important in the trade flows developed within the Andean customs union until 1974. This has not been the case

---

32/ This implies also that the 47% share of foreign firms in Colombian manufactured exports in 1971 is likely to have increased significantly by 1974 and to continue increasing in the future. In fact, this is partially supported by the evidence that in 1971 the foreign firms' exports increased by 40% with respect to the previous year; far above the average for all the country's manufactured exports. See Banco de la Republica (1973), p. 36.

33/ The 47% figure is simply the product of columns 6 and 7 of Table 4

in the more traditional consumer good industries, mainly food, beverages, tobacco and wood products. Notice that the estimated share calculated here does not reflect the possibly much higher "propensity" to export by foreign than national firms within each individual industry.

In summary the empirical evidence available shows that other two of the main conditions which call for some specific FDI policy in an integration process are also likely to prevail in the Andean Group. In general, in the absence of that policy, the aggregate foreign profit creation effect would tend to be higher than the FP diversion effect because, in the first place, the level of tariff protection to be granted to industries where FDI predominates is higher than to the rest. In the second place, the participation of foreign subsidiaries in the industries more strongly promoted by integration and in regional exports, in particular, would tend to be much higher than their (already high, in absolute terms) participation in total manufacturing output. Hence, it becomes more necessary than otherwise to design means by which the host countries may share part of the rents and profits earned by foreign companies taking advantage of the increased trade opportunities in the protected common market.

33/ divided by 100, while thepreviously estimated 39 percent share of foreign companies in the total output of manufactures is implicitly an average of those shares in each industrial sector, weighted by the participation of the sectors in the total value of production of manufactures in the countries.

3. Market Structures in the Andean Countries[34/]

To the extent that competition is weaker in the industries where foreign companies predominate, there is a greater need for a specific FDI policy which differentiates between the treatment given to foreign and national firms in a common market . If foreign firms tend to be "natural" monopolies, a maximization of the host countries' income would require policies to either actively promote competition or to extract some of the monopolistic rents and transfer them to the countries. In other words, under monopolistic condition the FP diversion effect of integration will tend to be weaker than the FP creation effect, so the countries will gain more from the customs union only if they seek a larger participation in the FP creation effects.

The purpose of this section is to estimate roughly the extent to which foreign firms have tended to be monopolistic in the Andean countries. We begin by providing a picture of the market structures in the economies as wholes and then compare it to market structures in the industries where foreign firms predominate. In general, we should expect the overall market concentration in manufactures to be high due to the industrialization based on excesively high import restrictions in the small national markets.

The measurement of the degree of competition in an industry's market has always been a difficult task. The ideal would be to measure directly the extent to which a monopolistic or competitive price is

---

34/ I gratefully acknowledge the assistance of Carlos Carillo for some of the computation in this section.

set in each industry by estimating its Lerner Index, defined as $M=(P-MC)/P$.[35/] Unfortunately, it is virtually impossible to derive marginal cost estimates from available data and even prices of specific commodities are seldom available in LDC's such as the Andeans. A related approach based on net profits of firms or industries is also difficult to use because of the unreliability of profit data. This is especially true in the case of foreign firms or multinational corporations which have ways of disguising real profits.

The measure most widely used as a proxy for the presence or absence of monopolistic rents in the market concentration ratio.[36/] This ratio is defined as the percentage of total industry sales (or physical output, or employment, or assets) contributed by the few largest firms or plants when ranked in order of market shares. The most common variante of this measure is the percentage of total industry sales made by the leading four firms. This is the one we shall use in this section.

35/ Where P is price and MC stands for marginal cost. For a survey of alternative measures of monopoly power, see Miller, J.P. (1955) and Scitovsky, T. (1955).

36/ A positive correlation between market concentration ratios and profit margins as a proxy of monopolistic pricing has been found in several studies, especially in the US. For one of them including a wide suvey of the literature, see Collins and Preston (1968) pp. 51-115.

The limitations of concentration ratios are several.[37] First, it shares the ambiguity of all measures of market structure which refers to the definition of an industry. The ideal would be to define an industry as all the firms producing only the same homogeneous commodity. Moreover, the specific definition of each commodity should take into consideration the substitution possibilities among them in both production and consumption.[38] In this study, as in most others on this topic, we must resort to Census of Manufactures data and classifications of industries. Furthermore, in the case of the less developed Andean Countries, published figures are disaggregated only at a four-digit level of the United Nations International Standard Industrial Classification (ISIC). This falls far short of what Bain has called a "theoretical" or "ideal" industry definition,[39] but it is the best measure available in these countries. Naturally, the higher the level of industrial aggregation, the higher is the bias of the concentration ratio in the direction of showing the industry as more "competitive" than it really is at the product level. Largest biases in this respect appear in the basic chemical and pharmaceutical, machinery, electrical, and motor vehicle producing industries. In all

---

37/ For a longer discussion about them, see Scherer (1970), Bain (1968) and Back (1972), pp. 11-41.

38/ The estimation of cross elasticities would be necessary for that purpose; but even if that were possible: How low a cross elasticity determines a different industry? Some element of arbitrariness is unavoidable in deciding.

39/ Bain (1968) p. 6-7; 124-126.

of these foreign investment predominates and also product differentiation is important.[40/]

A second limitation of concentration ratios is that, by definition, they do not take into consideration the competition from imports. This can be important in the case of small countries, but in the Andean Countries this does not appear to be so significant. As we have explained,

the mechanics of import substitution imply that as soon as domestic production of a good is started, it is usually prohibited from being imported any more, or a relatively very high tariff or a small import quota is set on it. In other words, tariffs do not tend to be exogeneous to the producer , but rather are made-to-"his"-measure. There are no comprehensive studies that could be cited in support of this interpretation, although it is a "fact of life" in many less developed countries which is well known by those most familiar with their economic environment.[41/] One important piece of evidence that can be provided, however,

---

40/ At a 4-digit disaggregation level, the basic chemical industry, for instance, appears having 39.0 per cent of output concentrated by the four largest firms in Colombia. A more disaggregated study, however, reveals that one of those four firms is an absolute monopolist in the production of both ammonia and citric acid; another is a monopolist in the production of man-made fibres and cellophane; and a third one is the only producer of urea and sells two thirds of the country's output of fertilizers; see Misas (1973). It is also worth noting that in Colombia as well as in Chile the pharmaceutical industry appears with a relatively low level of concentration (below 30 per cent of output produced by the four largest firms) while other more disaggregated studies have shown a much higher monopoly power of multinational corporations in this industry. Misas (1973), Vaitsos (1971) and CEPLA (1976).

41/ See, for instance, Hirschman (1968).

in partial support of this hypothesis is the very significant dispersion of tariff rates of individual commodities which appears to have no other rational explanation. It is typical to find Tariff Schedules in the Andean Countries where, for example, a 4 inch steel tube would have a 70% ad valorem tariff, while a 4 1/2 inch tube would have a 3% rate. The reason for the difference appears to be simply that the former is produced by a local firm, while the latter is not, so the total supply of it is imported.[42/] A second important piece of evidence relating to the lack of competition from imports faced by actual producers comes from the criteria used by governments in order to grant quotas to import. In fact, the chief criterion is the lack of availability of domestic capacity for production. Thus, to the extent that there is some unused capacity - an almost permanent situation in the Andean countries- there will be no import competition.[43/] Finally, in practice, the main importers are usually the producing firms within many LDCs.

The third limitation of concentration ratios is that they measure apparent rather than true potential competition. Two industries A and B may have the same concentration ratio but the firms in industry A may be earning a higher margin of price over unit or marginal cost than in the other if they face less serious threats of potential competitors than the firms in industry B. In this sense, the 4-firm concentration ratio should be used together with some exogenous measure of "barriers to entry of potential new competition".[44/]

42/ Hunt, Shane (1976)

43/ For evidence of underutilization of capacity in several Andean countries see Ramos (1975), Abusada (1975) and Schydlowsky (forthcoming).

44/ See Bhagwati (1970) and Bain (1956).

A final limitation of concentration ratios as a proxies for monopolistic pricing, is that, even if a few firms are responsible for a high fraction of total domestic output, they may be either competing strongly among themselves or colluding (sharing the market) so as to act implicity as one profit maximizing monopolist. At any rate, although it is difficult to make generalizations in this field, the nature of the markets where foreign firms opperate in less developed countries are too important to avoid saying anything about them for the lack of precise data.

Table 5 presents estimates of four-firm concentration ratios in the industrial sectors of Colombia, Peru and Chile.[45/] Despite their limitations as a measure of market structures and monopoly power, one can still stress at least two broad conclusions.

First, on the basis of Bain's classical definition[46/], a majority of the industries in the Andean countries as a group fall in the moderate to highly concentrated oligopoly category. On the other hand, atomistic industries would account for only about 15% of all the value of production in the Andean countries under study. Second, concentration in the Andean Countries' markets of manufactures is much higher than in more developed countries, especially the U.S.[47/]

45/ Other interesting studies about industrial market concentration are those of Espinoza (1972) and Torres (1975) for Peru, and Acevedo and Vergar (1970) for Chile. A comparative study was made by Leniz, et. al, (1974)

46/ Bain's (1968, pp 27-31; 136-144) definition of market structures, based on the four-firm concentration ratio (in percentages) are:

100 - 75: highly concentrated oligopoly
75 - 50: moderately concentrated oligopoly
50 - 25: low concentration oligopoly
25 - 0: atomistic market.

47/ For a comparative study of market concentration mainly among developed countries, see Bain (1966) and Pryor (1972). Particularly the latter shows that average concentration in manufactures in 12 developed counties are very similar, and also that they are roughly the same in any specified four digit industry.

TABLE 5

ANDEAN GROUP: LEVEL OF MARKET CONCENTRATION IN MANUFACTURES

(Number of industries, percentages of industries and output in each level)

CONCENTRATION LEVELS (Ranges of four-firm concentration ratios)	COLOMBIA			CHILE			PERU b/		
	N° of Ind.	Percent. of Ind.	Percent. of Sales	N° of Ind.	Percent. of Ind.	Percent. of Sales	N° of Ind.	Percent. of Ind.	Percent. of Sales.
A. 75% to 100%	16 a/	18 a/	24.8 a/	23	31.1	20.0	26	49.1	24.7
B. 50% to 75%	26	29	18.0	22	29.7	20.4	13	29.5	26.5
C. 25% to 50%	29	33	32.0	20	27.0	34.3	11	20.8	28.6
D. 0 to 25% by 4 larger firms	18	20	25.2	9	12.1	25.3	3	5.7	20.2
TOTAL	89	100	100.0	74	100.0	100.0	53	100.0	100.0

a/ In the case of Colombia they are the three largest firms.

b/ The information for Peru refers to concentration of production by the largest four plants. This measure underestimates the concentration by firms, since they may have more than one plant in the same industry.

Sources:

-For Colombia Misas, G. "Concentración en la industria colombiana", Boletín mensual de Estadística Nº 266, September 1973, Bogotá, Colombia.
-For Chile, estimate by the author from CORFO, "Principales empresas manufactureras". Publication Nº 58a/71, 1971 Santiago, Chile.
-For Peru, estimate by the author based on unpublished 1971 industrial survey of Peru made by the Ministry of Industry and Trade.

Comparable US estimates at a 4-digit level for 1967 shows that highly concentrated oligopolistic industries accounted for about 9 percent of all American industrial output, compared to more than 25 per cent in the Andean Group, and a similar relation existed between moderately concentrated oligopolies in the two economies.[48/]

To get an idea of the welfare effects of changes in foreign firms' production and prices as a consequence of economic integration it is important to look specifically at the market structure of the industries in which those firms are dominant. Tables 6 and 7 show the levels of market concentration in industries with different shares of output supplied by firms with foreign capital. They refer only to Chile and Peru, because no similar data are available for Colombia.[49/]

The empirical evidence shows clearly that foreign firms have typically been more monopolistic than national firms. In the case of Chile (Table 6), within the industries "dominated" by foreign firms (more than half their output controlled by them) two thirds are highly concentrated oligopolies. This is more than twice the density of that type of market for all Chilean industries. The remaining third of the industries in which foreign firms's production predominates are moderately concentrated oligopolies. There are no atomistic markets within this set of industries. As one moves to the group of industries where foreign firms' production is rela-

---

48/ Estimates from Bock (1972, p.59) based on the 1967 US. Census.

49/ The evidence available from small samples of foreign firms in Colombia shows, however, that their market concentratio ratios and monopolistic power is substantial. See especially, Chudnovsky (1974), Chapter VI, pp. 129-138.

tively less important the markets become more competitive.[50] Exactly the same pattern emerges in the case of Peru shown in Table 7.

This should be no surprise to those familiar with the modern theories of FDI[51]. Typically, foreign direct investment arises in industries which are also oligopolistic in the investor's home country since it is associated with exclusive technologies, know-how, brand names and differentiated products. A rough comparison by Hymer (1968, p. 23) of the major US firms investing abroad with the American economy at large, for example, shows that 40 per cent of them are in industries in which four leading firms account for 75% or more of the total value of shipments. For the American economy as a whole, however, the corresponding figure is much lower; only 8 per cent of the total value of shipments occurs in industries with a four-firm concentration ratio over 75 per cent.

50/ In fact, it can be derived from Table 6 that in the 54 industries in which there is relatively little or no production by foreign firms only 20% are highly concentrated oligopolies, compared to 60% in industries with significant foreign production. At the other end, more than half of the predominantly national industries have moderate oligopolies or atomistic markets markets , while within industries with significant FDI only 5% have moderate oligopolies and none has an atomistic market.

51/ See Hymer (1968), Kindleberger (1969), and Caves (1971). Similar results have been found also for FDI in developed countries, like the United Kingdom. See, Dunning (1958) pp. 156-157. For evidence about the same pattern in Mexico and Brazil, see CEPAL (1975) pp. 54-61, and Newformer and Muller (1975).

TABLE 6

CHILE: MARKET CONCENTRATION BY FIRMS WITH FOREIGN CAPITAL

CONCENTRATION LEVEL (Ranges of four-firms concentration ratios)	Industries dominated by FI a/			Ind. with significant FI b/			Other Industries		
	N° of Ind.	Percent. of Ind.	Percent. of output	N° of Ind.	Percent. of Ind.	Percent. of output	N° of Ind.	Percent. of Ind.	Percent. of output
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. 75% to 100%	6	66.7	46.7	3	27.3	18.4	4	13.8	15.0
B. 50% to 75%	3	33.3	53.4	7	63.6	64.4	8	27.6	5.6
C. 25% to 50%	-	-	-	1	9.1	17.2	14	48.3	62.3
D. 0% to 25%	-	-	-	-	-	-	3	10.3	17.1
TOTAL	9	100.0	100.0	11	100.0	100.0	29	100.0	100.0
Shares in total industrial output.			.128			.130			.443

Notes:

a/ Industries where more than 50% of the value of output is produced by firms with foreign investment.

b/ Industries where between 33.3 and 50% of output produced by firms with foreign investment.

Sources: Same as Table 5.

TABLE 7

PERU: MARKET CONCENTRATION BY PLANTS WITH FOREIGN CAPITAL

CONCENTRATION LEVEL (Ranges of four-firm concentration ratios)	Industries dominated by F a/			Ind. with significant F b/			Other Industries		
	N° of Ind. (1)	Percent. of Ind. (2)	Percent. of output (3)	N° of Ind. (4)	Percent. of Ind. (5)	Percent. of output (6)	N° of Ind. (7)	Percent. of Ind. (8)	Percent. of output (9)
A. 75% to 100%	9	64.3	59.1	3	37.5	16.4	4	21.1	13.9
B. 50% a 75%	2	14.3	4.4	3	37.5	11.7	6	36.8	33.4
C. 25% to 50%	2	14.3	19.3	1	12.5	16.1	8	36.8	46.1
D. 0% to 25%	1	7.1	17.1	1	12.5	55.7	-	5.3	6.6
TOTAL	14	100.0	100.0	8	100.0	100.0	18	100.0	100.0
Shares in total output			.359			.206			.397

Notes:

a/ Industries where more than 50% of the value of output is produced by firms with foreign investment.

b/ Industries where between 33.3 and 50% of output produced by firms with foreign investment.

Sources: The same as Table 5.

Since industries are heterogeneous in terms of their size (measured by the value of their output) to assess the economy-wide extent of concentration and make more meaningful comparison among countries, it is useful to know whether the industries dominated by foreign firms and/or selling in more concentrated markets are larger or smaller than industries with little production by foreign firms. This can be done by presenting the same results discussed above in terms of shares of soles in each category rather than simply in terms of shares of the total number of industries.[52/]

This new way of appraising the degree of market concentration in the Andean Countries does not change the essence of the results discussed so far. They permit one to show however, that the significance of market concentration in industries dominated by foreign firms in Peru is much higher than in Chile, because these industries are responsible for almost 36% of manufacturing output in Peru, compared to only 13% in Chile. The consideration of this dimension of the phenomenon suggests the convenience of using a weighted average of market concentration in the different types of industries we have distinguished.[53/]

52/ These are presented in columns (3), (6), and (9) and in the last row of Tables 6 and 7.

53/ Weighted averages of four-firm concentration ratios have been used in the Industrial Organization literature especially to measure the evolution of market concentration in the U.S. See Scherer (1970), p. 63.

It is well known how imperfect a single measure of the distribution of concentration levels in different industries can be. But, keeping in mind the limitations of such measures, it is worth indicating that the average four-firm concentration ratio in Peruvian and Chilean industries weighted by each industry's share in total sales is 53 % for Peru and 48% for Chile. The corresponding average concentration for industries dominated by foreign firms turn out to be 65 % and 78% , respectively.

Notice the much more significant difference between concentration in those two classes of industry in Chile than in Peru. The most likely explanations for this result, is that in Chile - a country that had in general a less favorable attitude towards FDI - the investor really had to have a considerable monopolistic advantage (probably world wide) in order to engage in production in that country. In Peru, on the other hand, that advantage was not so crucial; the main limiting factor for investment in this country's manufacturing sector seemed to be the relative small size of its domestic markets as compared to the optimal size of plants and the initial fixed costs required to undertake a foreign investment project. 54/

54/ Kindleberg (1969) has emphasized especially the importance of those fixed costs. But, obviously, they should be compared to each industry's market potential. In this sense, it is interesting to note as an evidence confirming the explanation we have suggested, that the average sales of Peruvian industries with no foreign firms was 211 million dollars in 1971, compared to 1,940 million dollar of average sales in industries where foreign companies were predominant (i.e. supplied more than half the industry's output).

To summarize and further confirm the tendency of foreign firms to concentrate in the more monopolistic or oligopolistic industries, a simple one equation model was set up to test the relation between the share of production by foreign firms in each industry's total output (SFFP), and the degree of market concentration in each industry (CONC). In order to take into consideration the fact that there is a minimum absolute market size that will make it worthwhile for a foreign investor to set up a firm abroad, one additional variable was introduced in the model to measure that aspect. The following empirical relation was tested.

(1) $SFFP = b_o + b_1 CONC + b_2 TPROD + u$

where: SFFP= Share of foreign firms' production in total production in each industry (in percentages)

CONC= Four-firm market concentration ratio (in percentages)

TPROD= Total production in each industry(in millions of dollars)

Expectations are that b_1 and b_2 should be positive : industries with higher market concentration would have a larger share of production by foreign firms, although that share may be smaller in industries with lower absolute values of sales in the domestic market.

It is important to stress that, in the same way as within our previous analysis we did not suggest that the "cause" of high market concentration is the presence of foreign firms our present analysis does not imply that the "cause" of a higher presence of foreign firms in an industry is only its higher concentration ratio as such. The essential notion behind this formulation is that both SFFP and CONC are closely positively correlated variables as a consequence of exogenous characteristics of the commodities in whose production foreign firms predominate. These characteristics are the ones we have stressed repeatedly along this study: products that are differentiated and sold under exclusive brand names, which use relatively intensively in production assets owned by MNCs,such as exclusive technologies, know-how and entrepeneurial capacity, all of which give rise simultaneously to their production by foreign firms and in monopolistic markets. Thus, equation (1) should not be interpreted as implying that a 1 percentage point rise in market concentration increases the share of foreign firms' production by b_1 , but that industries with a higher (or lower) concentration ratio tend to be associated with a higher (or lower) share of production by foreign firms given by the sign and size of the market concentration coeficient.

A cross-section ordinary least square econometric estimation of equation 1 for Chile and Peru gives the following results:[55/]

55/ The data necessary to estimate that equation for Colombia was not available. The figures in parenthesis immediately below the coefficients are their standard errors and the second figures below are the t-statistics.

PERU

(2) SFFP = -2.39 + .530 CONC + .005 TPROD R^2=.210
(13.39) (.169) (.002) F(2,39)= 5.178
(- .178)(3.133) (1.914) n = 42

CHILE

(3) SFFP = -7.37 + .611 CONC + .011 TPROD R^2=.316
(10.333) (.134) (.015) F(2,47)= 10.839
(-.732) (4.554) (.716) n = 50

Since equation 1 is not a complete model set up to explain the determinats of FDI, it is not surprising that the coefficient of determination (R^2) are relatively low. But the F-statistic is higher than the critical value at a 95 % confidence level, so a significant association exists among the three variables considered in the model. Notwithstanding the imperfections of the data available, which tend to bias dorwards the estimate of the degree of concentration because industries are defined very broadly, the coefficient of the concentration variable is significantly different from zero at a 5% confidence level.

The poorer fit of the estimated equation for Peru then for Chile is probably explained by the less disaggregated statistics available for Peru --which imply a worse measurement of a "true" economic industry[56/] --and by the imperfect nature of the variable TPROD (total production in each industry) as a proxy

---

56/ The hypothesis that the 4-firm concentration ratio tends to underestimate the real market power of firms in excesively broadly defined industries is further confirmed by a negative simple correlation coefficient between that ratio and the absolute size of each industry measured by its value of production (TPROD). That coefficient is also greater in Peru - whose industries are defined more broadly -than in Chile.

for the fact that there is a minimum industry market size which makes FDI a worthwhile undertaking.

To take into consideration those aspects, TPROD was substituted with a dummy variable in equation 1. The dummy is intended to reflect the fact that there is a minimum absolute level of sales that makes foreign investment profitable in any industry.[57/] Thus, it takes on a value of zero in all industries with sales above some critical level and a value of one in those below that level. There is no a priori simple criterion to determine that critical level of sales though one can expect it to be different in each country. We defined it to be the average value of production of foreign firms over all industries in each country. The new set of estimated equations are:

PERU

(4) SFFP = 37.84 + .314 CONC − 30.28 D R^2 = .422
(10.51) (.134) (6.897) F(2,39)= 14.2
(3.60) (2.339) (-4.390) n = 42

CHILE

(5) SFFP = 18.63 + .466 CONC − 26.83 D R^2 = .572
(7.59) (.101) (4.979) F(2,47)= 31.4
(2.45) (4.613) (-5.387) n = 50

where: D= 1 for industries in which sales by foreign firms are over their average sales in all industries

D= 0 for all other industries.

57/ Additional evidence for this hypothesis has been provided by Horst (1972a), who has shown that FDI in manufactures concentrates in industries marked by product differentiation and large size of firms.

The introduction of the new variable to account for the minimum scale factor in the decision to invest abroad significantly improves the fit of equations 4 and 5 as compared to those estimated previously. That variable and the market concentration ratio explain more than half the variance of the dependent variable in Chile and somewhat less in Peru.[58/]

In particular, the t-statistic of the market concentration variable is well above the critical value at a 5% confidence level. This permits reaching the conclusion that the alternative hypothesis of a positive association between the participation of foreign firms in industrial production and their market concentration cannot be rejected at a 95% confidence level.

To summarize, the evidence available in the three most industrialized Andean countries shows that the levels of market concentration in their manufacturing sectors were relatively high. Moreover, it tends to confirm the hypothesis suggested at the outset, that the degree of monopoly power in industries in which foreign firms predominate was higher than than in those in which national firms were comparatively more important.

58/ This compares favorably with other cross section studies in this area, for example, Horst's(1972), Stevens's (1973) and others (for a survey, see Spitaller (1971). Baumann (1974), estimating an equation similar to ours for Canada but using several additional variables to account for technological intensity of the industries, the age of the products sold (to measure the stage in their "life cycle"), the relative size of plants compared to those in the investing country and others, did not explain more than 50% of the variance of its dependent variable (SFFP).

These results have at least two main implications. On the one hand, the monopolistic nature of national markets before integration implies that a customs union - by fostering competition - will imply greater benefits for the partner countries than if they had initially been less monopolistic. In principle, that competition effect in itself would appear to be greater in industries where foreign firms predominate, since they were initially less competitive, aside from the fact that the competition effect has a more significant welfare effect on host countries when foreign firms are involved because it implies a redistribution of income between the foreign investors and the domestic consumers. But to the extent that monopolistic foreign firms have close relations across the partner countries, for example, because they are subsidiaries of the same MNC, they will not compete. Hence, special policies would be required on the part of host countries to either promote competition and reduce monopolistic prices or to participate in the foreign profit creation effect of the custom union.

The degree to which foreign firms have had close relations among themselves across Andean countries is the topic of the next section.

4.- Institutional relations among foreign firms

The possibilities for retaining or extending a firm's monopolistic position within a common market depend strongly on the institutional relations that exist or can be established between companies. The most important and simplest type of relation among them is the direct ownership relation, in particular, the extent to which firms located in a given country participating in the customs union have affiliates; i.e. firms that are the same multinational corporation which also have subsidiaries in one or more partner countries. Greater competition will not necessarily result from economic integration when the companies that could potentially compete are subsidiaries of the same MNC.

No information is available which enables us to identify the parent firms of all subsidiaries in the Andean Group. There are data, however, concerning the subsidiaries of U.S. corporations in the "Directory of American Firms Operating in Foreign Countries", compiled by J.L. Angel around the year 1968.[56/]

56/ This Directory is quite comprehensive. It includes almost the same number of manufacturing subsidiaries of U.S. corporations in Chile, Bolivia, Peru and Ecuador which are reported in the Census of U.S. Direct Investment Abroad, conducted by the U.S. Department of Commerce in 1966. Only in the cases of Colombia and Venezuela, the Directory reports about 80% of the firms which appear in the Census.

Naturally, the coverage of this sample in relation to the total number of foreign companies in each country will vary depending on the importance of American firms with respect to those of other nationalities. The information available shows, however, that in most countries U.S. investment accounts for a majority of total foreign investment. 57/

Working with the subset of American owned firms in the Andean Group is likely to underestimate the extent of all the companies'regional affiliations because foreign investing corporations based in home countries other than the U.S. are probably "more multinational" . For instance, we shall be excluding the consideration of foreign companies as important and extensively represented within the Andean market as Nestle, Bata, and Lever Brothers, to mention only a few.

57/ The average ratio of U.S. over total foreign investment in manufactures in the six andean countries can be estimated in about 75% . The country whith the lower share of U.S. investment is Chile with 65% and those with higher shares are Colombia and Venezuela with 80% . Estimates of CEPAL (1975) , pp. 115-137 , for 1967.

Table 8 shows data on the extent of association among firms in the Andean Region steaming from their common (U.S) "parenthood" .[58] Of the 274 parent corporations slightly fewer than half (123) have subsidiaries in more than one of the six Andean Countries. Very few, only eight, had subsidiaries in five or more countries. But this is not surprising if one consider that some of the countries in the region are very small and underdeveloped, so they have almost no foreign investment in manufactures.[59]

From the point of view of the individual host countries, as well as of the process of economic integration, it is more relevant to observe the situation of the subsidiaries; i.e. all the foreign firms located in their territory. This is shown in the right hand side of Table 8. From this perspective, the results are particularly striking and of great significance in so far as economic integration is concerned. One of every two foreign firms in an average Andean Country will have affiliates in at least two other of the five partner countries. Naturally, that ratio varies from country to country depending mainly on

---

58/ As in all the study, the analysis refers only to manufacturing. Petroleum production and refining has been excluded, as well as firms that provide services to that sector, even if they may carry out some marginal manufacturing activity localy.

59/ In fact, as will be shown later, in Bolivia there were only four industrial firms with American capital.

TABLE 8

NUMBER OF COUNTRIES IN THE ANDEAN GROUP WHERE U. S. MANUFACTURING CORPORATIONS HAVE SUBSIDIARIES 1968

(number of firms and percentages)

PARENT CORPORATIONS			SUBSIDIARIES				
Number of countries where corporation has subsidiaries	Parents in each class (Nº)	(%)	Number of countries where subsidiares have other affiliates	In each class (Nº)	(%)	Accumulated (Nº)	(%)
6	1	.4	5	6	1.2	6	1.2
5	7	2.6	4	35	6.8	41	8.0
4	20	10.2	3	112	21.8	153	29.8
3	35	12.8	2	105	20.5	258	50.3
2	52	19.0	1	104	20.3	362	70.6
1	151	55.0	0	151	29.4	513	100.0
Total	274	100.0		513	100.0		

Sources: Estimates by the author based on the Directory of American Firms Operating in Foreign Countries, compiled by J.L. Angel, 7th. Edition, Simon and Schuster, New York, 1969.

the number of foreign firms operating in them. We would expect that those nations with a relatively small number of foreign enterprises will tend to have firms with more affiliates already located in the other partner countries, and vice versa. The other affiliates will obviously tend to be concentrated in the countries with higher absolute levels of foreign investment.

Table 9 present data on the number and proportion of affiliates of firms located in each individual country. It clearly confirms the hypothesis just suggested: in countries such as Bolivia with very little foreign investment in manufactures, all of the firms located in the country have affiliates in at least one of its partner countries, and three out of four firms have "sisters" in at least three of the other five Andean countries. In Colombia which has more foreign investment, only about one of every four firms does not have any affiliates in at least two other Andean nations. Peru is in an intermediate situation; but Chile with relatively fewer foreign firms, tends to have those that were intrinsically more multina-

tional. Thus only eight of the sixty U.S. owned firms in its manufacturing sector did not have affiliates in any other Andean country, and almost half of these firms had affiliates in at least three of the five partners.[60/]

60/ Those affiliates in turn, are not evenly distributed across the other partner countries, but are concentrated in those with higher relative levels of foreign investment. In the case of Chile, for instance, three quarters of the American firms producing in the country had "sister companies" in Colombia and almost two thirds of them had sisters in Peru. Reciprocally, however, the situation is different. Only one quarter of the American firms in Colombia have affiliates in Chile, and a little over 60% of them have affiliates in Peru.

TABLE 9

SUBSIDIARIES OF U.S. CORPORATIONS IN THE ANDEAN GROUP, BY COUNTRY

(Number of firms and percentages)

Host Country	Total U.S. Subsidiaries (1)	Without Affiliates (2)	With Affiliates in at least One other Country (3)	With Affiliates in at least Two other Countries (4)	With Affiliates in at least Three other Countries (5)
Bolivia: No. of firms	4	-	4	4	3
percentage	100.0	-	100.0	100.0	66.7
Colombia: No. of firms	127	35	92	60	33
percentage	100.0	27.6	72.4	47.2	26.0
Chile: No. of firms	60	8	52	43	28
percentage	100.0	13.3	86.7	71.7	46.7
Ecuador: No. of firms	39	7	32	23	19
percentage	100.0	17.9	82.5	59.0	48.7
Peru: No. of firms	98	21	77	60	34
percentage	100.0	21.4	78.6	61.2	34.7
Venezuela: No. of firms	185	80	105	68	36
percentage	100.0	43.2	56.8	36.8	19.5
Total No. of firms	513	151	362	258	153

Source: Same as Table 8.

The ownership links among foreign firms across the Andean countries is not the same in all industries. Thus, it is important to get an idea of which are the particular industries in which a greater affiliation is found. Table 10 provides that information, distinguishing between the distribution by industries of all U.S. corporations with subsidiaries in the Andean Group (columns 1 and 2) and of corporations with three or more subsidiaries (columns 3 and 4). The comparison between those two groups of investors shows that corporations with subsidiaries in at least three of the six Andean countries tend to be more heavily concentrated in chemicals and non-metallic minerals. MNCs in food and beverage, textiles, paper, basic metals and non-electric machinery tend to be significantly less "multinational" in the Andean group. This can be appreciated better by considering the coefficient in column 5: in the first set of industries mentioned, only 1 out of 2 or 3 corporations will have subsidiaries in at least three of the Andean countries, while in the second set the number is 1 out of five.

At a more disaggregated level, the industries in which firms show a greater degree of affiliation are, in order: petrochemicals, non-metallic minerals, electrical machinery and supplies, transportation equipment, industrial chemicals, and drugs.[61/]

61/ It is worth noting that in most of those industries, economies of scale are significant and market concentration is relatively higher than in the rest. Most have a four-firm concentration ratio of 75%, thus falling in the category that Bain calls highly concentrated oligopoly.

TABLE 10

U.S. MANUFACTURING CORPORATION IN THE ANDEAN GROUP: SETORAL DISTRIBUTION

(Number of firms and percentages)

ISIC Code	INDUSTRIES	All US Corporations		Corporations with subsidiaries en three or more countries		(3)/(1)
		Nº (1)	(%) (2)	Nº (3)	(%) (4)	(5)
31	Food and Beverage	39	14.1	7	9.9	.18
32	Textiles and clothing	9	3.3	2	2.8	.22
34	Paper and paper products	11	4.0	2	2.8	.18
35	Chemical and rubber	98	35.5	33	46.5	.34
351	Industrial Chemicals	13	4.7	5	7.0	.38
3522	Pharmaceuticals	32	11.6	12	16.9	.38
352...	Other chemical products	19	6.9	4	5.6	.21
354	Petrochemical	12	4.3	7	9.9	.58
355	Rubber	6	2.2	2	2.8	.33
35...	Non-identified chemicals	16	5.8	3	4.2	.19
36	Non-metallic minerals	8	2.9	4	5.6	.50
37	Basic Metal Industries	9	3.3	2	2.8	.22
38	Metal and mechanics	64	23.2	19	26.7	.30
381	Fabricated metal (exc.mach.)	11	4.0	2	2.8	.18
382	Non-electric machinery	19	6.9	1	1.4	.05
383	Electrical appliances and machinery	27	9.8	13	18.3	.48
384	Transp. equipment	7	2.5	3	4.2	.43
39	Other manufactures and not identified firms	38	13.7	2	2.8	.05
	TOTAL	276 [a/]	100.0	71	100.0	.26

a/ Two additional corporations appear in this total, compared to that of Table 8, because W.R. Grace was clasified as selling in three different sectors.

Sources: Same as Table 8.

The identification by name of some of the 44 American Corporations that are included in those six industries with subsidiaries already closely related by common ownership can further help to visualize their importance and the degree of market power they enjoy:[62]

a.- Petrochemicals:	-Dow Chemicals (5)[63] -Exxon (5) -Du Pont (4)
b.- Non -Metallic Minerals:	-Johns Mansville (4) -Owen-Illinois (3)
c.- Electrical appliances and machinery:	-General Electric(3) - ITT (5) -Westinghouse (4) -Singer (5)
d.- Transport Equiptment :	-General Motors (3) -Ford Motor Co. (3) -Chrysler (3)
e.- Industrial Chemicals:	-Liquid Carbonic (4) -W.R. Grace (6) [64]
f.- Pharmaceuticals :	-Sydney Ross (4) -Parke-Davis (4) -Pfizer (4) - Squibb (4) - Wyeth (4)

62/ See Tironi (1975), for a study covering a broader sample of firms -identifying their market shares and including the non-American- but only in Chile and Peru.

63/ The figure in parenthesis is the number of andean countries where the corporation has subsidiaries.

64/ This is one of the most diversified firms in the Andean Region. It produced also paper and food products, aside from a wide range of chemicals.

The available data is too crude and aggregated to attempt statistical manipulations in order to calculate some meaningfull concentration ratios for the regional market. But to provide some feeling for what these figures mean,consider a simple hypothetical example. If we divide the Andean countries into two similar groups,each of which has four independent foreign firms of similar size with a 4-firm concentration ratio of X% in a given industry,then the regional market will have a 1/2 X% four-firm concentration ratio if all of them continue to have similar output levels. At the other extreme,if each of them is a subsidiary of the same corporation in both groups of countries, obviously the concentration ratio will remain at X%. Now,if half of the subsidiaries are affiliates or half of the parents have subsidiaries in both countries (an affiliation ratio of .5 as in petrochemicals, non-metalic minerals and electrical appliances,for instance) then the common market concentration ratio will be 3/4 X% ;twice the concentration ratio that would have existed if firms were independent.

Finally,it is necessary to point out that direct ownership association is not the only relationship among companies which permits the retention of monopolistic positions or the avoidance of competition within the common market. Implicit or explicit market sharing aggreements are the most important additional means of obtaining the same result. Those aggreement may have existed within the national markets and could be extended

across them. But the presence of only one additional independent producer in one of the partner countries is likely to drastically upset those aggreement and make it difficult to reach new ones.[65]

To summarize, in the previous section we showed that as a consequence of the small size of Andean national markets and the high tariff protection of domestic manufactures most industrial markets tend to be highly concentrated oligopolies or monopolies. Moreover, industries in which production by firms with foreign capital is predominant tend to have an even higher level of market concentration. In this section, it has been shown, in addition that a majority of those firms are subsidiaries of the same multinational corporations which have similar affiliates in the other Andean Countries (see again the last column in Table 10). Thus if most of them tended to enjoy a similar monopolistic power in the national markets in which they have so far operated,

---

65/ A very interesting example is provided by the tire industry. In the only Andean country with information on this matter, Peru, there seems to be a monopolistic market sharing aggreement between B.F. Goodrich and Goodyear, the only two firms in the country (one produces only tires for automobils, and the other for trucks, buses and machinery ; Torres (1975)). Those two firms are the only ones in Colombia also, so it is reasonable to expect that they would try to extend their aggreement to the two countries after integration. But General Tire is also present in Chile. Its subsidiary -General Insa- is an absolute monopoly in that country, so when the three countries integrate the prediction of the most likely Andean tire market structure becomes much more uncertain. This is type of industrial organization problem which deserves more emphasis in the research about customs unions in developing countries.

then they are in a particularly advantageous position to retain that power for their parent corporations within the common market as a whole.

That advantage is more noticeable in some specific manufacturing industries which we have already repeatedly mentioned: petrochemicals, non-metallic mineral products, electric goods, industrial chemicals, pharmaceutical, and motor vehicles. These industries represent only six out of the 16 for which the data could be disaggregated in Table 11 and accounted for roughly 20 to 25% of manufacturing output in the Andean Countries by 1971. But these figures may grossly underestimate those industries' future significance in the Andean countries, because the Andean process of economic integration is oriented towards a relatively greater expansion of production and trade in them, as we have already shown above.

5. CONCLUSIONS

The general conclusion from the analysis in this chapter is that most of the conditions which make necessary some restriction of the participation of foreign firms in the Andean Common market seem to be met. The most important of those conditions is probably the fact that the common external tariff behind which the custom union is being set up, and regional production

and trade is being stimulated, is relatively high and especially biased in favor of the industries in which foreign firms predominate. This means that -in the absence of a compensating FDI policy-the Andean integration process would imply, in general, a relatively larger subsidation of foreign than national firms. The effect of economic integration is likely to be trade diversion with relatively strong foreign profit creation effects.

A second critical condition is whether the formation of the Andean Common market is likely to provide an increase in competition that will improve efficiency and allow the transfer of some of the rents earned by foreign firms to consumers in the host countries. The evidence on this point is much harder to find. On the one hand, the degree of market concentration was shown to be so much higher in the Andean countries than in countries with larger markets, such as the U.S. ; one could expect a significant gain from integration through the injection of greater competition. But again this is not likelyto affect equally national and foreign firms. We have shown that almost half of the latter have affiliates in at least two of the other Andean countries, presumably producing the same or very similar commodities. Thus they are not likely to compete among themselves, and to the extent that before integration they already had some monopoly power in each national market, they will tend to keep that power within the whole common market.

The industries in which regional monopolization of production by foreign firms is most likely, according to the evidence we have provided here, are: petrochemicals and industrial chemicals, non-metallic minerals (glass, cement, and clay products) and transport equiptment. Hence in those sectors, at least, some policy directed towards the introduction of more competition or the transfer of some of the monopolistic rents earned by the foreign firms to the consumers of the host country becomes indispensable.

REFERENCES

CHAPTER V

Abusada,R. (1976) "Capital Utilization: A Study of Peruvian Manufacturing", Unpublished Doctoral Disertation, Cornell University,Ithaca, New York.

Angel,J.L. (1969) Directory of American Firms Operating in Foreign Countries , New York : Simon and Schuster.

Acevedo,E. and M.Vergara (1970) "Algunos antecedentes sobre concentracion, participacion extranjera y transferencia de tecnologia en la industria manufacturera en Chile", B.A. Thesis, Departamento de Industrias, Universidad de Chile, Santiago.

Aninat,A. (1975) "El programa de liberación comercial y arancelaria del Acuerdo de Cartagena", mimeo,CINDA, Santiago,Chile.

Bhagwati,J.(1970) "Oligopoly Theory, Entry Prevention and Growth", Oxford Economic Papers.

Bain,Joe (1956) Barriers to New Competition,Harvard University press, Cambridge,Mass.

_____ (1966) International Differences in Industrial Structure, New Haven, Conn. : Yale University Press.

_____ (1968) Industrial Organization (2nd. Ed.) New York, Wiley.

Banco de la Republica (1975) Incidencia de la Inversion Extranjera en el Producto Bruto Interno Manufacturero, Oficina de Cambios, Bogota, Colombia.

_____(1973) Exportaciones manufacturadas de empresas con inversion extranjera directa, Oficina de Cambios, Bogota, Colombia.

Baumann,H.G. (1974) "The Determinant of the Pattern of Foreign Direct Investment: Some Hypothesis Reconsidered" , mimeo, University of Western Ontario, Canada.

Bitar,Sergio (1972) "La presencia de la empresa extranjera en la industria chilena," Estudios de Planificacion No.21 CEPLAN , Santiago.

Bock,Betty (1972) Concentration, Oligopoly and Profit: Concept vs. Data , New York, The Conference Board.

Caves,R. (1971) "International Corporations: The Industrial Economics of Foreign Investment", Economica Vol.38, (Feb.), pp. 1-27

Cepla (1975) "La industria farmaceutica en Chile" mimeo, Departamento de Industrias, Universidad de Chile, Santiago.

Cepal (1975) "La presencia de las empresas transnacionales en la industria manufacturera de America Latina" , mimeo, IDE/129, Santiago, Chile.

Corfo (1970) "Participacion del capital extranjero en las sociedades anonimas industriales", Publicacion No.14 A/70, Division de Planificacion Industrial, Santiago, Chile.

_____ (1971) "Principales empresas manufactureras," Publicacion N.58 a/71, Division de Planificacion Industrial, Santiago, Chile.

Collins,N. and L.M. Preston (1968) Concentration and Price Cost Margins in Manufacturing Industries. Berkeley , California: University of California Press.

Chudnovsky,Daniel (1974) Empresas Multinacionales y Ganancias Monopolicas. Siglo XXI Editores, Buenos Aires.

Dane (1972) Industria Manufacturera Nacional 1969, Bogota, Colombia: Departamento Nacional de Estadisticas.

Diaz-Alejandro,C.(1973a) "Los mecanismos de control de importaciones: El sistema durante 1971 y un recuento de su evolucion", mimeo, Fedesarrollo, Bogota,Colombia

_____ (1973b) "El cambio de una politica de sustitucion de importaciones a una de promocion de exportaciones en Colombia", mimeo, Fedesarrollo, Bogota, Colombia.

Dunning,J. (1958) American Investment in British Manufacturing, London: Allen and Unwin.

Espinoza,H. and J.Osorio (1972) El poder economico en laindustria, Lima, Peru: Universidad Nacional Federico Villaroel.

Fajnzylber,F. (1975) "Las empresas transnacionales y el sistema industrial de Mejico", El Trimestre Economico, Vol.XLII, No. 168, pp. 903-31.

Ffrench-Davis,R.(1973) Politicas economicas en Chile:1952-1970 Santiago, Chile: Ceplan-U.C.

Hirschman, A.O. (1968) "The Political Economy of Import-Substituting Industrialization in Latin America", Quarterly Journal of Economics, Vol. LXXXII, N.1,(Feb.), pp.1-32.

Horst,Thomas (1972 a) "Firm and Industry Determinants of the Decision to Invest Abroad: An Empirical Study", Review of Economics and Statistics,Vol. LIV (August), pp.258-266.

_____ (1972 b) "The Industry Composition of U.S. Exports and Subsidiary Sales in the Canadian Market", American Economic Review, 62 (March), pp.37-45.

Hunt,S. (1976) "Industrial Policy in Venezuela", mimeo,CLADS, Boston University, Boston.

Hymer,S. (1968) "National Policies Towards Multinational Corporations", mimeo, Yale University, New Haven.

Isla,E. and J.Campos (1974) "Acuerdos de complementacion: su aprovechamiento por las empresas nacionales", Revista de la Integracion No.17 INTAL, Buenos Aires.

INTAL (1972) El proceso de integracion en America Latina, INTAL,Buenos Aires,Argentina

JUNAC (1975) "Situacion arancelaria de los paises andinos", mimeo J/PE 45, Junta del Acuerdo de Cartagena, Lima, Peru.

_____ (1976a) "Propuesta 70 sobre arancel externo común", mimeo, JUNAC, Lima, Peru.

_____ (1976b) "Comercio exterior global e intrasubregional", mimeo, JUNAC, Lima, Peru.

Kindleberger. Charles P. (1969) American Business Abroad, New Haven, Yale University Press.

Leniz,S. ,P.Meller and C.Swinburn (1974) "Comparaciones internacionales de concentracion industrial en America Latina", mimeo, Instituto de Economia, Universidad Catolica,Santiago.

Lizana,E .(1966) "El problema de las inversiones extranjeras en Centroamerica," Revista del Banco Central de Costa Rica N.67 (Sept.)

Millan,P. (1975) "The Intensive Use of Capital in Industrial Plants: Multiple Shifts as an Economic Option". Unpublished Doctoral Dissertation, Harvard University, Cambridge, Mass.

Miller,J.P. (1955) "Measures of Monopoly Power and Concentration: Their Economic Significance". In NBER Conference Report, Business Concentration and Price Policy, Princeton, New Jersey: Princeton University Press.

Ministerio de Industria y Comercio (1973) Evolución de la Industria Manufacturera Peruana: 1968-70, Editorial Universo, Lima.

Misas,Gabriel (1973) "Contribución al estudio del grado de concentración en la industria colombiana", Boletín Mensual de Estadisticas N.266, Bogota, Colombia,(September), pp. 99-152.

Newfarmer,R.S. and W.F. Muller (1975) "Multinational Corporation in Brazil and Mexico: Structural Sources of Economic and Noneconomic Power", Report to the Subcommittee on Multinational Corporations, United States Senate, Washington,D.C.

Pacheco,Luis (1970) La inversión extranjera en la industria chilena, División de Planificación Industrial, Corfo, Santiago.

Prebisch, R. (1950) The Economic Development of Latin America and its Principal Problems. New York: United Nations, Department of Economic Affairs.

Pryor,F.L. (1972) "An International Comparison of Concentration Ratios", The Review of Economic and Statistic, Vol. (May).

Ramos,J. (1975) "La ampliacion de turnos en la industria chilena." Discussion Papers Series N.12 (April), Center for Latin American Development Studies, Boston University, Boston.

Scherer,F.M. (1970) Industrial Market Structure and Economic Performance. Chicago: Rand McNally & Co.

Schydlowsky,D. (Ed.) (forthcoming) Capacity Utilization in Latin America, CLADS, Boston University, Boston.

Scitovsky,T. (1955) "Economic Theory and the Measurement of Concentration ", In NBER, Business Concentration and Price Policy, New Jersey: Princeton University Press.

Spence,Michael (1976) "Entry, Investment and Oligopolist Pricing". Discussion Paper No.466, Harvard Institute of Economic Research, Harvard University, Cambridge, Mass.

Spitaller,E. (1971) "A Survey of Recent Quantitative Studies of Long-Term Capital Movements." IMF Staff Papers, Vol. XXV (February), pp. 189-203.

Stevens,G. (1973) "The Multinational Firm and the Determinants of Investment", International Finance Discussion Papers N.29, Board of Governors, Federal Reserve System, Washington D.C.

Swann,D. and Mc Lachlan (1967) Concentration or Competition: As European Dilemma, London, Chatham House.

Tironi,E. (1975) "Empresas extranjeras industriales en el Grupo Andino : el caso de Peru y Chile", mimeo, CEPLAN, Santiago, Chile.

Torres,Jorge A. (1975) Estructura Economica de la Industria en el Peru, Editorial Horizonte, Lima.

Travis,W.P. (1964) The Theory of Trade and Protection. Cambridge, Mass : Harvard University Press.

U.S. Department of Commerce (1971) U.S. Direct Investment Abroad 1966. Part I: Balance of Payment Data , Washington D.C. Bureau of Economic Analysis.

Vaitsos,C. (1970) "Transfer of Resources and the Preservation of monopoly rents". Economic Development Report N.168, Harvard University, Cambridge.

Vaupel,James W. and Curham J.P. (1969) The Making of Multinational Enterprise, Cambridge, Harvard University Graduate School of Business Administration.

CHAPTER VI

POLICIES TOWARDS FOREIGN DIRECT INVESTMENT IN THE ANDEAN GROUP

In general, the need for a foreign direct investment policy on the part of any country arises from the differences between the legitimate objectives of the host countries and those of the foreign investors.[1/] There would be no need for such a policy if under "laissez-faire" conditions, the results of the decisions of foreign investors coincidedwith the multiple objectives sought by the host countries.[2/] This is seldom the case either in the Andean Countries or in the more developed and net-foreign investing countries.

Assuming, in particular that the only objective of host countries is maximizing their national income, there are three situations in which specific FDI policy (defined as a policy different from that applied on domestic capital and investment) is justified. First if the supply of foreign capital is not perfectly elastic, there is the opportunity, to"squeeze" foreign capital monopsonistically through taxation. Second, the presence of positive or negative externalities -such as,for example, training labor that could not be trained otherwise or the transfer of locally trained managers away from the host countries, provide, respectively - additional arguments for subsidizing or further taxing foreign capital. Finally, the presence of either market distortions in the host countries (such as monopoly) or policy imposed distortions (such as tariffs) constitute a third justification of compensatory taxation of foreign capital.

1/ See Vernon (1975).
2/ See Hymer (1967 and 1968).

A first-best FDI policy would require taking into account each of those separate considerations in the relevant equilibrium situation, for example, after the formation of a common market by the host countries. That first-best policy is most likely to be unfeasible in practice, because it requires a different tax, subsidy or control of FDI on <u>each</u> "type"of capital or commodity being produced by foreign capital. Modern direct investment in manufactures is very sector-specific. Thus, for instance, an optimum tax to squeeze foreign capital monopsonistically is not likely to involve the application of a single rate of X%, but rather a structure of different rates determined by the different elasticities of supply of sector-specific capital: X_1% on "petrochemical-capital", X_2% on "motor vehicle-capital: X_3% on "pharmaceutical-capital" and so on.[3/] In addition, if there is a non-optimum heterogenous tariff structure t on petrochemicals, motor vehicles and drugs (t_1 t_2 t_3), the optimum compensatory FDI tax would involve different rates on the specific commodities produced with foreign capital (Y_1, Y_2, Y_3) as functions of the previous tariff structure t and of the optimal capital taxes X_1, X_2 and X_3.

The most important variable determining the optimum FDI tax or subsidy structure which will <u>necessarily</u> change as a consequence of the formation of a common market is the pattern of tariff protection. Integration implies that tariffs on imports (exports) from (to) other partner countries are eliminated, and a common external tariff is set <u>vis a vis</u> third countries.

3/ See Section 2 of Chapter II, above, for an analysis of this point.

The main reason why granting or extending non-optimal tariff protection to foreign-owned industries requires a compensatory FDI policy, is that tariffs are a form of subsidizing those industries and thus transfering income (consumer's surplus) to the foreign investors, i.e. tariffs have international income distribution effects as well as resource allocation effects. Thus, a feasible and not unreasonable second-best FDI policy may be simply to seek means by which the host country may share in the additional rents or profits earned by foreign firms which can take advantage of the opportunities to expand production and exports within the common market. One means of sharing in those rents is by requiring the foreign investors to establish joint ventures with national investors if they want to take advantage of intra-common market trade. This is the economic rationale behind the "fade-out" requirement of the Andean Foreign Investment Code which we shall analyze in this chapter.

Naturally, there are several other considerations to take into account in designing an adequate FDI policy. For instance, economic integration may also affect the elasticity of supply of foreign capital and this should be considered. This involves, in general, analyzing the interrelations between the specific means or policies applied to form a common market and the FDI policies; this is the topic of Section 1 of this Chapter. Section 2 presents the general characteristics and main advantages and limitations of the Common Code on Foreign Investment that is being implemented in the Andean Group (known as Decision 24), in light of the overall theoretical

and empirical findings of this study. Section 3 concentrates on the characteristics and implications of the fade-out or divestment requirement of Decision 24; and Section 4 summarizes the overall conclusions.

1. Relations between a FDI and integration policies

The main conclusions derived from our study of the nature of the Andean integration process and of the characteristics and significance of foreign firms in that process, is that a foreign direct investment policy must constitute an essential part of the overall integration policy In other words, if as early as 1974 about half of regional exports are being made by foreign firms then all integration policies should be designed and applied as part of an overall policy on foreign direct investment. The three most important integration policies that should be designed considering their effects on the gains from FDI are the external tariff policy, industrial promotion policy and the regulations on intra-common market factor mobility as a means to increase competition within the common market. In this section we shall analyze the role that they should play in relation to FDI;however it is first necessary to define more precisally the concept of a FDI policy we shall use in this chapter.

The scope of an effective FDI policy

One should distinguish between what is popularly understood as a foreign direct investment policy and a policy dealing with foreign capital stocks or, particularly with foreign firms. In theory this distinction

seems irrelevant, especially because the latter are closely related to firms' investment decisions. But in practice, at least in most Latin American countries until the late 1960's, FDI policies consisted merely in regulating balance of payment flows, e.g. restricting the exchange of foreign currency to official markets, coupled with a laissez faire attitude or no policy with respect to the operation of foreign firms in most industrial sectors.[4/] Most investment in the manufacturing sectorwas subject only to balance of payment regulations on financial flows. To give only one demonstration of that attitude, until 1969 Chile -the country which was believed to have the strictest FDI policies and the most developed infrastructure to regulate FDI- did not have any knowledge of the number and location of foreign firms in its manufacturing sector.

The traditional concept of FDI policies resulted mainly from an understanding of development as conditioned by little else than the availability of capital and foreign exchange, and partly from an understanding of foreign investment as a mere transfer of capital rather than of an indivisible package of specific assets used directly by subsidiaries of multinational corporations. Since modern FDI, especially in the manufacturing sector, corresponds to the latter kind of phenomenon and is very firm-specific, we shall concentrate on FDI policies as defining the whole set of economic conditions under which foreign firms operate. We shall, therefore, consider only indirectly the impact of those policy-affected conditions on the inflows or outflows of foreign capital.

4/ The case of foreign-owned enterprises in the mining sector was different.

Most of the debate and analysis about FDI policies in the Andean Group, as well as in other developing countries, has centered around the effects of those policies on the volume of investment flows only. Changes in the amounts of capital invested, however, tell little about their contribution to the host country economic development or national welfare unless that capital is used under some pre-specified conditions. Unless those conditions are satisfied, there are no reasons to expect that additional amounts of foreign capital will really increase a country's welfare in the long run. Therefore, it seems more relevant to concentrate on the effects of FDI policies on the permanent conditions under which foreign capital is used or under which foreign firms produce rather than on the amounts of foreign capital inflows or outflows per se . An additional reason to concentrate on the former aspect, is that the formation of a customs union has an impact on foreign capital already invested in a particular country or group of countries which is independent of its impact on additional capital inlfows or outflows.

In the case of countries that form part of a customs union there is a second crucial distinction which needs to be made with respect to the definition of FDI policies. This distinction is between the necessity of a common policy by all partner countries and the specific characteristcs of that common policy, i.e. the degree of differentiation that it implies between foreign and national (regional) firms or capital, or its "restrictiveness" or "openness" towards foreign investment. The arguments in favor of a common policy are sufficiently known and accepted by the Andean country governments so as not to require a detailed analysis here. They stem essentially from (a) the economic inefficiency of having production for exports carried out

in countries which may not really have lower relative costs of production, but merely where foreign firms get better tax and other conditions, and (b) the politically and economically destructive competition which would arise among partner countries to attract firms which could supply the whole common market from their territory.

The common external tariffs and FDI

To get back to the interrelations between integration and FDI policies, the first of the former that should be mentioned concerns tariffs vis à vis third countries. We have shown theoretically above (see especially Chapter II) that tariff protection is a second best policy to induce foreign capital inflows and may lead to actual losses from immiserization. Thus a lower common external tariff (CET) on excessivelly protected industries is likely to increase the host country gains from FDI. In this sense, countries can and should use tariffs as part of an overall FDI policy and not merely take tariffs as given and use specific FDI policies only to compensate for tariff distortions.

The principal problem with the use of tariffs as FDI policy instruments is, however, that they do not discriminate between foreign and national producers, i.e. they have identical effects on both. In general, if tariffs are imposed in answer to "infant industry" arguments -as is most frequently the case- then the objective sought is that indigenous entrepreneurs and workers "learn by doing" so that they may eventually be able to produce the protected commodities efficiently. But when industries are controleed by foreign entrepreneurs, the national producers are not likely to learn as

well and quickly,unless some additional policies (specific stimulus or restrictions) are imposed on foreign firms ir order to achieve that goal. Nevertheless, in some cases the presence of foreign companies to initiate the production of some particular commodities may be a convenient means for a host country to start learning how to produce them. In those cases FDI would be in fact giving rise to an externality to which tariff protection may contribute, although it is a second best policy to do so. Higher tariffs will be more (less) beneficial for the host, if the nature of the commodities protected is such that their production is likely to remain concentrated exclusively in the hands of foreign firms for a shorter (longer) period of time.

In the case of policies associated with the development of import-substituting manufactures, the basic question really is whether the countries should produce any of those commodities the production of which foreign firms tend to control, rather than importing or doing without them. This is usually the most relevant question for small semi-industrialized countries like the Andeans seeking to further develop their industry through import substitution, rather than the question of whether they should have more or less foreign capital within each sector. In this context a tariff policy is an adequate second-best policy to implement the decision about the sectors and/or industries that a country or group of countries may want to foster domestically and thus, implicity contributes to determine the aggregate level and structure of FDI in the host countries. 5/

5/ Obviously, the first best policy to foster the development of particular industries would be production subsidies which do not impone the consumption distortion loss of tariffs. But LDCs usually have fiscal budget restrictions which preclude the use of those policies, and, therefore, they have to rely on import restrictions.

Finally, in industries in which domestic monopolies exist -especially on the part of foreign firms - competition from imports, i.e. lower tariffs, is necessarily a first best policy. In the case of foreign firms, not only would their monopolistic rents be transfered to the national economy or to consumers, but a more efficient resource allocation will be attained even from a world point of view. Moreover, since a tariff acts analogously to the setting of a fixed maximum price to the monopolist, the result may be an expansion of domestic production and even some increased foreign capital investment rather than the opposite.

In the case in which a country still wishes to produce some commodities domestically under tariff protection with foreign firms participation, some additional policies are necessary to ensure the maximum contribution of those firm to the country's development. Particularly, if there are strong economies of scale in production and commercialization of commodities produced by foreign firms so they tend to have oligopolistic power not only in the national but also in the regional market, then the need for some direct form of government regulation becomes inescapable. Normally that regulation will have to be done through "non-market" policies -such as fixing some prices or breaking up conglomerates or monopolistics firms- because foreign firms may be superseding the market forces that would otherwise allow competitive results. A common example of this type of situation within a customs union, may be the need to regulate the operation of a multinational corporation with monopolistic subsidiaries already located in several integrating countries.

In addition, industries which tend to be monopolistic in the whole

regional market obviously cannot be regulated by individual host country policies affecting only each national market. Therefore, some regional policy or regulatory mechanism has to be used. This mechanism would have to simultaneously seek to achieve three main objectives, which may not be easy to reconcile: (a) efficient, i.e. cost minimizing, regional production; (b) "adequate" distribution of the benefits from that production among partner countries;[5/] and (c) "adequate" distribution of costs and benefit between all partner countries as a group and the foreign producers or investors. This leads to the need to formulate a regional industrial development policy taking into accounts its relations with FDI.

Industrial Development Policy and FDI

One of the ingenious mechanisms created in the Cartagena Agreement to deal with this problem is the "Sectorial Programs of Industrial Development" (SPID). This consists basically in withdrawing the decision about where to locate and develop some industries from the "market". Hence, some sectors are reserved to be jointly planned in order to grant temporarily to each country the (almost) exclusive right to manufacture some commodities on its soil while benefiting from the whole common market free of internal tariffs but protected by a common external tariff.[6/] Notice however, that such joint

---

5/ For an analysis of different concepts of "adequate" or "fair" distribution of integration gains, see Morawetz, D. (1974) pp. 72-96.

6/ A more extensive description of the SPIDs can be found in Ffrench-Davis (1975), pp. 16-21. On one of the first programs approved, see Avila, M. (1973).

planning involves only a centralized decision about the location of industries and indirectly about maximum prices that can be fixed (through the CET) but not about how much and how to produce.

As expected, the decisions on the SPID s have been neither simple nor fast. [7/] The effectiveness of this mechanism, however, has yet to be seen, especially as compared with what the countries would have done in isolation. In this context, probably one explanation why the countries have had so much dificulty in reaching adequate decisions lies in the fact that they have not realized the size of the absolute joint gains that can accrue to them vis à vis the foreign investors through the adoption of the SPIDs. They have been mainly concerned with SPIDs as a means for the distribution of the costs and benefits of integration among themselves, rather than as a powerful FDI policy.

The SPIDs force foreign investors that have a regional scope of operations to deal with only one opposing negotiating country, rather than letting the foreign investor to increase his bargaining power by playing the countries againsteach other in order to obtain better investing conditions. Thus, the SPIDs allow the host countries to reach a better bargaining position and, therefore, to derive larger benefits from foreign investment. In other words, they may thus participate in a larger share of the monopolistic profits, rents and quasi-rents earned by the foreign firms

---

7/ For an early study about the complexities of the joint industrial allocations, see Schydlowsky, D.M. (1971).

operating in the protected common market.[8/] As shown earlier, this may be a necessary condition not only for the host countries to increase their gains from the presence of foreign firms in an integration process, but even to avoid actual losses from it.

The ways in which the host countries may participate in the foreign firms' gains from integration will be discussed in the next section with reference to the specific regulations of Decision 24.

Aside from the level and structure of the common external tariffs and the joint industrial planning mechanisms, there is a third global policy with significant effects on the costs and benefits derived from economic integration in industries in which foreign investment predominates. This has to do with the degree of market competition among firms, especially among the foreign ones.

Intra-common market competition and FDI

Very little attention has been paid to this aspect within the Andean Group. But the small size of the common market relative to the optimal plant sizes of the intermediate and capital good industries that the countries wish to develop makes the degree of competition a critical variable in determining the countries' gains from integration. Some sectors like petrochemicals and

---

8/ In terms of our definitions of Chapter 3, the countries may participate more of the "foreign profit creation effect". A lower common external tariff, on the contrary, improves the country's welfare by eliminating the firms' monopolistic rents or increasing the size of the "profit diversion" effect of the customs union.

motor vehicles present such large economies of scale that they would tend to become almost absolute monopolies based on cost or efficiency considerations alone. Therefore, they should be sure candidates for SPIDs. But several other sectors tend to be also monopolistic of highly oligopolistic, although their absolute sizes do not make it convenient to set up the complex planning processes involved in an SPID. That is the case of some food processing industries, pharmaceuticals, most industrial chemicals, non-metallic minerals like asbestos products and glass, tires, some electronics, etc. An active policy on the part of national and regional policy-makers would be necessary, however, in order to ensure a sufficient degree of competition in these industries within the common market.

As shown above, before integration was started those commodities were produced in highly oligopolistic or monopolistic national markets dominated by foreign firms. Moreover,these foreign firms tended to be subsidiaries of a same multinational corporation which already had other similar subsidiaries located in several of the other partner countries. In these cases, trade liberalization as such will not necessarily generate more competition, so the monopoly power of the foreign firms as a whole will tend to remain. Hence, the cost reductions arising from trade specialization will be converted only partially into lower prices of the commodities purchased by the Andean citizens. The bulk of them may result in higher profits for the foreign firms.

One of the specific policies to deal with that situation would again be the Common External Tariff, that is, to set it up in such a way as to

bring about competition from third country imports. The limitation of that policy is also that it would equally affect foreign and national firms, although the distributional impact of tariffs on the latter is different.

A complementary policy may be to impose regional anti-trust laws directly. They may be difficult to implement, but some limited (once and for all) version of that policy could be to force the divestment of some multinationals on their subsidiaries located in more than, say three, of the partner countries. All these policies present the usual risks of possibly attaining greater competition at the expense of not getting some cost reductions from the use of optimal size plants. But recall that in the case of foreign firms not all those cost reductions from the use of optimal scale of plants mean necessarily a gain for the host country unless there is sufficient competition.

Finally, one of the most efficient means to generate more competition in the small Andean markets is to stimulate significantly the merger of national firms, especially from different member countries, in order that they may compete effectively with foreign firms. In this connection, the experience of the European Common Market, and particularly of France, should be studied carefully, especially considering that that market is significantly larger than the Andean. The French case is interesting primarily because of the active encouragement and positive sponsorship of industrial mergers by the government.[9/]

9/ An analysis of the European experience, together with strong policy recommendations in favor of mergers is found in Swann D. and D.L. McLachlan (1967), pp.38-59. See also Kindleberger (1966), p. 27.

The Andean Integration movement already has a mechanism that can be used to promote more mergers of Andean firms. It is the charter for the formation of Andean Multinationals; Decision 46 of the Comision del Acuerdo de Cartagena.[10/] Unfortunately, it has not been sufficiently considered as a means to achieve the objective suggested here. More tax and other incentives could and should be used to foster mergers, mainly in the form of Andean multinationals, and not limiting them only to the formation of enterprises producing new commodities. In fact, in the absence of these policies, these Andean corporations may, on the contrary, become the main legal form adopted by companies ultimately controlled by foreign (third country) investors.

2. The Main Features and Rationale of Decision 24

One of the most notable characteristics of the Andean integration process is the priority given to a common regulation of foreign capital, as well as to joint industrial planning, together with the more traditional trade liberalization. Even independently of its concrete results, the fact that the countries were able to agree on that common regulation (embodied in Decision 24) has had an important political impact in terms of the support given to integration by all countries.[11/]

10/ An Andean Multinational is defined as a firm with at least 15% of the capital stock owned by nationals of a partner country different from that in which it is chartered and less than 40% owned by third country investors. Such firm has automatic access to trade liberalization. For details, see, Fernandez, G. (1972)

11/ For some evidence on the political importance given to Decision 24 by the countries, see Tironi (1976). On the political philosophy and background of the decision see Barandiaran (1975) and Valencia, J. (1975)

Concern for foreign investment existed from the very beginning of the work leading to the formation of the Andean Group. As far back as 1966, in the "Declaration of Bogota" which set up the doctrinal basis of the Cartagena Agreement, the Presidents and representatives of the Presidents of Colombia, Chile, Ecuador, Peru and Venezuela stated the following: "We consider that private foreign capital may perform a considerable contribution to the economic development of Latin America, providing that it stimulates the capitalization of the country where it is located, facilitates an extensive participation of national capital in that process and does not create obstacles to regional integration."[12]

Thus, the Cartagena Agreement itself gave high priority to the establishment of a common policy towards FDI, which was decided upon by the Commission (the higher level political authority of the Andean Pact) in December 1970, and which was implemented by most countries in June of 1971.[13]

As interpreted by Felipe Salazar, the head of the Junta del Acuerdo de Cartagena (JUNAC) - the technical secretariat of the Cartagena Agreement-when Decision 24 was discussed and agreed upon by the governments, has stated that the objectives of the common treatment of foreign capital were the following:[14]

---

12 JUNAC/INTAL (1975), p. 253 p. 253 (my translation).

13 At that time, Venezuela had not signed the Cartagena Agreement, but Bolivia had. There was some delay in the implementation of Decision 24 by Colombia due to internal legal problems, so this country and Venezuela started applying fully it in 1973.

14 Salazar, F. (1975), pp. 10-11.

a) To encourage capital formation in the host countries in which FDI is located.

b) To facilitate the extensive participation of national capital in the integration process;

c) To avoid conditions under which foreign investment in the host countries would obstruct integration;

d) To coordinate FDI with the host countries' development plans;

e) To facilitate the use of modern technologies, especially avoiding limitations with respect to the marketing of products using them;

f) To give stability to foreign investment which makes a positive contribution to the host countries' development.

g) To contribute to a "fair" distribution of the gains from integration, specially in the case of the relatively less developed Andean countries.

Thus, on the whole, Decision 24 did not have as its only or main objective to merely standardize the national policies towards foreign capital among the partner countries.[15] It is a new general or global policy, affecting all kind of foreign investments. In practice, however, it was primarily oriented towards direct investment in manufactures which are to be most affected by the integration process. Thus, Decision 24 implies a uniform policy with respect to activities "more closely related" with integration, while allowing

---

15 Salazar, Op. cit. p. 1.

more flexibility for each country with respect to FDI policies towards other sectors, specially mining, petroleum and other natural resources. On the other hand, Decision 24 sets a minimum common policy that must be followed by all partner countries, leaving them free to impose additional norms.

The main features of Decision 24 are the following:[16/]

1. Each foreign investment project has to be explicitly authorized by and registered with a competent national authority. Therefore, as a general norm, there should be a selective admission pattern. Decision 24 recommends excluding FDI from specific sectors of the economies, such as extractive industries, public services, mass media communications, advertising and a few others. Reinvestment of profits in excess of 5 per cent of capital also requires explicit authorization and registration and is treated as any additional investment for repatriation and all other purposes stated in Decision 24.

2. Take-overs of existing national firms are forbidden, except in special circumstances, such as the avoidance of bankruptcy. Foreign investors may acquire minority interests in national firms, provided such acquisitions imply an increase in the firms' capital. All other regulations on this form of investment (like "fade-out") still apply.

3. Access to domestic credit, except short-term borrowing, is permitted only to national firms or joint ventures (mixed enterprises), but not to foreign enterprises. Recall that Decision 24 defines as national firms those

---

16/ A more extensive and excellent description of the Andean Investment Code, in English, can be found in Kuczynsky and Huelin (1973).

with less than 20% of foreign capital; mixed it foreign shareholders own more than 20 but not more than 49%; and foreign when they own more than 49% of the firm's capital stock.[17/]

4. As a general principle, existing or new foreign firms must "fade-out" or become mixed or national companies gradually over a period of 15 years, except in the case of those located in the relatively less developed Andean Countries (Bolivia and Ecuador) that are granted a maximum period of 20 years. Fade-out must follow a predetermined schedule; in the case of foreign owned firms already established in the relatively more advanced countries, the national capital share must be at least 15% before the end of the third year of the "transformation" period and 45% before the end of the tenth year. In the case of new firms in those countries, they must have a share of at least 15% of national capital by the time they start production. Foreign companies that do not want to "phase-out" will not have access to the market of the partner Andean countries without paying tariffs. Thus, the control of this regulation is basically in the hands of the regional importing countries.[18/] Foreign companies that export 80% or more of their production to third countries, however, are exempted from this regulation.

17/ Enterprises in which the State, or state firms, own at least 30% of its stock will also be considered "mixed", provided that the State or the state enterprise has "determinant capacity over the decisions of the enterprise" (Decision 47 of the Comision del Acuerdo de Cartagena).

18/ Already established foreign firms may start selling to the common market at reduced tariff rates starting in 1970 (that is, at the same time that regional trade liberalization is started) provided that they submit to the host country government a letter stating that they intend to become mixed or national in the future according to the schedule specified in Decision 24.

5. Free access to the official foreign exchange market for the repatriation of foreign capital, including remittances arising from the sale of capital sold to national investors as part of the fade-out program, is guaranteed. Profits may also be freely repatriated up to a maximum limit of 14% of capital in any particular year.

6. Finally, Decision 24 regulates the transfer of foreign technology and patents, royalty payments and foreign borrowing. There may be no agreements binding companies to obtain services from particular sources or limiting their right to export their products to any part of the world.

The most salient feature of Decision 24, and that which has been also more polemical, is the fade-out requirement. Before analyzing the economic implications of that and other regulations of the Andean Code, we shall briefly present the highlights of that polemic.

The immediate reaction of most foreign investors was to consider Decision 24 as "very restrictive". The attitudes varied, however, particularly according to the nationality of the investors. Americans were most opposed, while Europeans and Japanese investors tended to more readily accept it. The most outspoken and powerful critic of the Andean Code was the "Council of the Americas", an organization that represents U.S. investors in Latin America.

In February 1971, the Council of the Americas sent an extensive document to Andean governments, business organizations, U.S. Congressmen, heads of

international organizations and the press, critizicing the Andean Investment Code.[19] In essence, the Council argued that, on the one hand, Decision 24 could seriously discourage, and in many cases even eliminate all new direct investment in the Andean Countries, while on the other hand, it would clearly discard any role of foreign investment in the Andean Common Market. Therefore, the Council concluded that Decision 24 would considerably slow down the overall development process and weaken the "national private sectors".[20]

The Council's reaction was probably exaggerated and not based on rigurous studies or proven economic facts, as even several U.S. investors pointed out.[21] It is difficult and too soon to make either a projection or an overall evaluation of the impact of Decision 24, even considering only the restricted aspect of changes in foreign investment flows. Important Andean Countries, such as Chile and Peru have experienced economic and political developments quite independent of Decision 24 which have significantly affected the inflows of foreign investment. On the other hand, Venezuela adopted Decision 24 as late as 1973.

19/ See Council of the Americas (1971).

20/ It is fascinating to observe the wording of the Council of the Americas statements, specially how they seek to find allies in the national business communities and U.S. polititians, When those tactics failed, after 1973, it started stressing the different interests of the individual Andean countries with respect to FDI. That is the current tune, especially exploiting the differences of Chile with its other partners. A more thorough investigation of the role and behavior of this and other investors' organization remains to be done. For a pioneering and extremely interesting study of the pressures of foreign interests on the national governments during the formulation and implementation of Decision 24, see Wionckzek (1971).

21/ See Business Latin America (1971) pp. 121 - 123 and Díaz-Alejandro (1971) p. 5.

Nevertheless, the least that can be said, based on actual figures available, is that foreign investment has neither stopped nor grown much slower because of Decision 24. In Colombia - the country which has more up to date and complete statistics, and although there was uncertainty because the government was in practice applying the regulations of Decision 24 even while there was discussion about its legality - total foreign investment has increased substantially. The annual flow of foreign investment increased from an average of 13.1 million dollars in the priod 1968-1970 to 34.5 in the period 1971-1973; in manufacturing alone, it went up from 12.7 to 22.0 million dollars between those two periods (almost a 75% increase).[22/] Preliminary data for 1974 and 1975 indicate that the inflow of FDI to all sectors had increased substantially more, to around 60 million dollars per year.[23/]

Even in Chile, foreign investment has increased recently in spite of the country's image abroad and the long run uncertainty about the country's future, on the one hand, and the expectations that the country may succeed in avoiding the application of some norms of Decision 24, on the other, these expectations should have resulted in the delay of foreign investment projects. Notwithstanding, projects for a value of 285 million dollars have been authorized between the end of 1973 and the end of 1975. Approximately 70 million of this are in manufacturing, although most is in old firms which are catching-up with the lack of investments in the period 1971-73.[24/] It is interesting to note, however, that

---

22/ Data from Banco de la Republica, Colombia, as quoted in Caballero (1975), Table 9.

23/ See statement by the President of the Republic of Colombia in Grupo Andino Nº 52, p. 12.

24/ Comite de Inversiones Extranjeras, CORFO, press release, September 1975, and Chile Economic News Nº 59, 1976 (New York, CORFO).

about 40 of those 70 million, have been authorized in the last quarter of 1975, after the government had finally vowed to comply with the main regulations of Decision 24.[25/]

Peru has continued to receive foreign investment in spite of regulations requiring foreign as well as national firms to sell shares to their workers and/or to form joint ventures with the State. Projects most closely related with the integration process include a 16 million investment in chemicals by Bayer and an 8 million investment project by Massey-Ferguson and Perkins-Volvo for tractors and other transportation equipment. Investment in mining -specially by Japanese concerns- had also remained high.[26/]

For Ecuador and Bolivia , the smaller of the Andean Countries, the situation is more unknown, because they are just starting to collect statistics on foreign investment. It is generally agreed that Ecuador has had a boom of investment in almost all sectors, which is related to the recent discoveries of oil. There are indications of considerable participation of foreign firms in the significant expansion of Ecuadorian exports of manufactures to the Andean Group.[27/] For Bolivia there is no information about the stock of flows of FDI before 1970. The U.S. Department of Commerce 1967 Census gives a

---

25/ It is also worth pointing out that even during the Allende Government (1970-73) there was some new foreign investment in Chile, specially in the motor vehicle sector. See Pate, J. (1973) pp. 29-32.

26/ Pate, John R. (1973) pp. 8-20.

27/ See Moncada, Jose (1975) and Grupo Andino, various issues.

total of 60 million dollars of American direct investment, only 3 million of which were in manufactures. Additional investment in manufactures only during the period 1972 to 1974 was 4.4 million dollar, of which 1.2 millions probably would fall under the category of American direct investment.[28/] Finally it is worth noting that only one project set especifically for Bolivia in the Metal and Mechanics SPID - an Atlas Copco joint venture that started production by the end of 1975 - has already involved an investment of more than nine million dollars.

The only homogeneous series of data on FDI which can be used to make comparisons between the period immediately before and after the implementatin of Decision 24 (in 1971) is that of United States owned direct investment. This information, however, underestimates the increase in all FDI in the Andean countries after Decision 24 because it has been observed that U.S. investors have reacted to that decision by investing less than European and Japanese investors.[29/] Table VI-1 presents the data on the book value of the stock of U.S.direct investment in the Andean Group.

Table VI shows that, on the whole, U.S. capital in the Andean Group (AG) manufacturing sector has continued increasing after the implementation of

---

28/ Grupo Andino, Nº 52, December 1975, pp. 11-12.

29/ See Council of the Americas, Inc. (1973), and especially Pate (1973) article in that volume.

BOOK VALUE OF UNITED STATES MANUFACTURING FDI IN THE ANDEAN GROUP (1966-1974)

(Mill. dollars of each year)

	Colombia	Chile	Peru	Venezuela	Andean Group Excluding Venezuela	Total Andean Group	Changes in Stocks A.G. Excluding Venezuela	Changes in Stocks Total Andean Group
1966	194	51	93	293	338	631		
1967	192	61	88	310	351	661	3.8	4.8
1968	193	68	96	376	357	733	1,7	10.9
1969	220	65	97	413	385	798	7.8	8.9
1970	235	66	92	462	393	855	2.1	7.1
1971	256	50	92	510	398	908	1.3	6.2
1972	264	46	89	552	394	946	1.0	4.2
1973	325	50	164	523	539	1,062	36.8	12.3
1974	375	43	159	609	577	1,186	7.1	12.0

Source: U.S. Department of Commerce, Survey of Current Business, various issues.

Decision 24 by most countries in 1971 and by Venezuela in 1973. There have been only temporary suspensions of new investment during the periods of uncertainty about the application of Decision 24 in 1971-72 in Colombia and 1972-73 in Venezuela. But after those years, U.S. investment has increased sufficiently to compensate for the small investments during the uncertain years.[30/] The average annual increase in U.S. capital in the A.G. excluding Venezuela went up from 3,9% in four-year period before the implementation of Decision 24, to 11.0% in the four-year period immediately after.[31/] Therefore even if one were to consider the faster depreciation of the dollar in the latter period, still U.S. investment has continued to increase after the implementation of Decision 24.[32/]

Finally, it is worth noting that capital expenditures (in plant, property and equipment) by U.S. direct investors in the Andean Group have also continued to grow after the implementation of Decision 24. Capital expenditures per year went up from an average of 114 million dollars in the period 1967-1970, to 127 million dollars in the period 1971-1974. But, what is more important,

---

30/ Notice also the reductions of U.S. Direct Investment in Chile during the Allende government, which will very probably be significantly reversed from 1975 on.

31/ Including Venezuela, U.S. capital during those two periods went up from an average increase of 8% to 9%.

32/ We have prefered to present the statistics in Table VI-1 in dollars of each year, because the "adequate" deflator would depend on the type of comparison one is interested in. Most of the Andean countries, on the other hand, have kept their national currencies in line with the dollar.

the expected capital expenditures for 1975 and 1976 - based on bi-annual surveys carried out by the U.S. Department of Commerce- indicate that investors were expected to spend 168 million dollars in the Andean Group during 1975 (based on the June 1975 survey) and 170 million in 1976 (based on the December 1975 survey).[33/]

The rationale behind each of the main regulations of Decision 24, except the fade out requirement , seems quite clear . We shall, there - fore, discuss that aspect only briefly. The principal problems with Decision 24 arise in relation to the implementation of its

---

33/ Survey of Current Business, March 1976, pp. 20-28.

regulations; the countries have not yet issued common guidelines on the matter.[34/]

With respect to the selectivity of FDI authorization and its exclusion from certain sectors, there is nothing new or surprising either in Latin America or other less developed countries. The U.S. excludes FDI in coastal shipping some states bar it in banking and some other financiale activity, etc. The accumulation of wealth by the Arab countries has provided good examples of how widespread can be the fear of becoming "dependent", although the control which Arab investment could imply on the economies of countries such as Germany or the U.S. is several times smaller than the influence that any of the latter countries have in many developing countries.[35/]

34/ About the problems involved with different interpretations of some regulations of Decision 24, see Danino, R., (1975).

35/ On the Deutsche Bank intervention to avoid Arab participation in the stock of Daimler-Benz , see The Economist, January 18, 1975, p.75.

The registration requirement is essential as a first step towards the countries' better knowledge about the effects of FDI on their economies, the future needs of foreign exchange to service it, and the conditions under which future investment must be negociated. The exchange of this information is also vital in order for the countries to take advantage of the possibilities of a concerted action in the common market.

The main reasons to restrict take-overs of domestic firms have been , first, to prevent foreign investors from taking advantage of their relatively huge financial power in comparison to the normally depressed national stock markets, and secondly, to avoid a national "decapitalization" which may arise from the use of the proceeds of those purchases in conspicuous consumption. The limitation on local borrowing has a similar rationale, especially since domestic credit tends to be subsidized and rates of inflation are high. 36/

In relation to royalty payments, patents fees and parent company credits there is a considerable empirical evidence that they have been used primarily as methods

---

36/ Evidently, these may be second best policies compared to the imposition of optimal taxes or fixing an optimal interest rate on domestic funds. But it may not be simple to administer those taxes and discriminate with interest rates.

of transfering profits abroad avoiding to pay income taxes. In addition patents and licenses, usually were granted with restrictive clauses.[37] Therefore, Decision 24 has sought to regulate those practices.

The limitation on profit repatriation to 14% of the capital stock has lent itself to great confusion. Decision 24 does not define clearly the base on which this rate is to be applied, if it is net of taxes or not, whether it may be carried forward, etc.[38] In general, it is expounded as an absolute limit on profits by the critics of the Code as a whole, while its objective has been merely to regulate the balance of payment effects of profit repatriation. This rule also generated confusion with respect to what may be done by the firms with profits in excess of 14% that for some reason may not be reinvested.

On the whole, the 14% limit seems to do more harm than good to the Andean Countries. It is highly "visible" and emotional regulation which probably tends to discourage potentialy convenient investors, without bringing clearly compensating benefits for the host countries. The main concern should not be to put an exogenous ceiling on pro-

---

37/ See Vaitsos (1970). In Chile, for example, 91% of licenses granted to manufacturing firm restricted exports of the commodities produced with them. See Moyano (1972).

38/ Danino (1975).

fits as such, but to eliminate the conditions which give rise to "excessive", presumably monopolistic, profit rates. The use of tariffs and taxes may be the most appropiate policies to change those conditions. At any rate, the 14% rule has had a positive political effect in terms of the support of Decision 24 and the whole Andean integration movement on the part of several countries and social groups within them. Therefore it may not be wise to simply erase it once it has been established. The problem could be handled more appropiately by defining and interpreting the rule properly in the common by-laws that must be issued to implement Decision 24 as a whole.

3.- The fade-out formula of the Andean Investment Code

The fade-out regulation of Decision 24 is the most important and controversial aspect of the Andean Code. It may be considered from several different points of view: it can be seen as a form of profit tax whose rate depends on the price of the shares sold to local investors; it may be seen merely as the obligation to form joint ventures with all the implications with respect to the operation of that form of foreign investment, etc. Since the analysis of these features requires consideration of the alternatives of the parties involved -mainly, investors and host

countries- one should examine separately the main effects of this regulation on those agents. We shall concentrate on those on host countries, but a few comments about the true nature of this rule are necessary before analyzing those effects.

First, the fade-out requirement is not equivalent to a simple expropriation. The foreign investor may indeed not be required to sell any of the capital it has invested in the Andean Area. It has only to gradualy give up a majority control on the firm in which it has invested; to do this it may raise additional local investment in the form of capital stock for the equivalent of 51% of all capital.[39] Since in practice, the investor will be required to fade-out when it wants to export free of tariffs to the other partner countries, this means that the capital for the expansion of production will probably come primarily from national investors.[40]

39/ Thus, the famous commentary of the Council of the Americas that foreign investors are being asked to: "go into business to get out of business" is certainly not an accurate representation of the principle involved. Notice than the foreign investor can still retain control with 49% of the capital stock if the rest is divided between two or more national investors with similar shares.

40/ The current 14% profit remittance limitation, may, on the contrary, imply more funds available for reinvestment on the part of the foreign investor.

Second, arrangements which set a limit to foreign investment have long existed in concession contracts. The fade-out requirement is just another method of setting those limits and the form of capital repatriations. The fade-out formula has been suggested even as a program that should be encouraged by the investing country governments. This is the position taken, as a whole, in the well known paper by Hirschman on, "How to Divest in Latin America and Why".[41] His argument is based partially on political reasons, however, and in this whole study we want to concentrate on economic motives to regulate FDI.

Finally, the fade-out rule applies equally to already established foreign firms as well as to new firm set up after 1971. The former has been criticized as constituting a legislation with retroactive effects which would violate the agreements reached when capital was originally invested. The fact is, however, that divestment would be mandatory generaly only when the foreign firm wishes to sell duty-free in other partner countries, while the original investment agreement covered sales only in one host country.[42]

---

[41] Essays in International Finance, N.76, New Jersey: Princeton University, 1969.

[42] Salgado, G. (1971) p.13.

An overall assessment of the welfare effects of the fade-out formula for the Andean host countries is certainly difficult to make. It touches many different aspects of the foreign investment phenomenon simultaneously. Essentially it is one form in which the countries may participate in the foreign firms' rents or profits, and as such it must be evaluated in comparison to other equivalent alternatives, mainly taxes. But fade-out per se also affects (a) the type and volume of foreign capital transfered into the countries, (b) the value and pace of capital repatriation and (c) issues related with management control. These factors are closely interrelated and jointly determine the host country gains from FDI. We shall briefly analyze them separately.

Fade-out and foreign capital supply

It is obvious that the fade-out formula alone will screen out the joint venture-avoiding foreign investors and let in those who in principle do not object to joint ventures. Whether the former are "many" compared to the latter, whether they are the ones most likely to make a greater contribution to the host countries development and at what "price" some would eventually enter into joint ventures is hard to predict. Recent comprehensive studies tend to show that universal

aversion to joint ventures by multinational corporations sems to be a myth and that "they have also been formed to produce commodities across virtually the entire spectrum of manufactured products".[43] This implies neither that joint-venture per-se are preferible to all other forms of FDI from the host countries' point of view nor that they permit to overcome all conflict between the latter and the investors, as shall be discussed below. The point we want to emphasize at this stage is only that joint-ventures are not by themselves a significant restriction to the entrance of FDI. According to data from the Harvard Multinational Enterprise project, until the late 1960's about 40% of all entries and acquisitions of manufacturing facilities by U.S. based MNC's have involved joint ventures. In terms of industrial composition, the number of manufacturing subsidiaries entered on a whole owned basis by MNCs in the whole world outnumbered the joint venture subsidiaries in only 29 of 49 industries.[44] And the attitudes towards joint ventures seem to be changing rapidly in recent years[45].

With respect to the type of investors that tend

43/ Franko (1974), p.231. See also Stopford and Wells (1972) and Franko (1971).

44/ Vaupel and Curham (1969), pp.372-73.

45/ See Business Latin America (1971), pp. 121-23.

With respect to the type of investors that tend to reject joint ventures, the central conclusion of the studies made on that topic is that it corresponds to firms that concentrate in a particular product line, build high barriers to entry into their markets and sell under an internationally known trade mark.[46/] These characteristics do not seem to be necessarily correlated as much with the degree of technological sophistication of production as with monopoly power on the part of the foreign firms. To the extent that were true, probably less developed and small countries such as the Andeans would not be losing much from the fade-out formula in this respect, provided that national production is not encouraged through tariffs to compensate for the lack of interest of foreign investors.

The foreign investors relatively more affected with the fade-out regulation will tend to be those with higher profit rates, especially disguised in multiple forms (which would have to start sharing them), and those that have most of their assets in the form of intangibles which are unlikely to be evaluated adequately in the capital markets.

46/ Franko (1974), pp.233-35.

Whether the countries will get relatively more or less investment in more long run projects is difficult to assess. On the one hand, fewer firms may enter into long run projects because of the obligation to sell or share part of the capital stock and profits within a fixed period of time. But, on the other hand, the fade-out formula seems relatively more convenient for investors in long run projects which are indeed profitable, and the entrepreneurs do not or cannot disguise that profitability by excesively high royalties, overpricing imports, etc. Without fade-out, rational and experienced investors in Latin America knew that, in practice, if profits rates were very high they became more likely targets for expropiation, for reduction in the length of concessions or, at least, drastic regulations on their operations. In this context, the fade-out provision may imply relatively more stability for the investor.[47/]

47/ 56 percent of the foreign investors interviewed by Meeker that would accept fade-out, felt that the formula offered a worthwhile means to reduce political instability of investment in Latin America. Meeker (1971) , pp. 29-30. See also, Swansbrough (1971).

Fade-out and capital repatriation

One of the most critical variables determining the effects of this whole arrangement is the price paid by the national investors (be they private entrepreneurs or the state) for the shares that must be implicitly sold by the foreign investors. It is very unlikely that those shares would be ever traded in what could be called a "competitive" stock market, even if one were generous with the definition given to that term. The reason is simply that those markets normally do not exist in LDCs and particularly in the Andean countries. On the other hand as mentioned before, afirm may not be required actually to sell part of the capital it had originally invested, but simply to raise additional capital in the national market and give it the right to participate in profits.Thus no sales of shares may be explicitly involved, but there will still be an implicit price charged for the right to participate in future profits, i.e. of the "shares", quite independently of the value of the capital goods or funds transfered originally by the foreign investor and of the value of the goods contributed by the national investor. Probably, in most case this will involve ad hoc negotiations following the pattern of traditional mergers.

Thus, it does not seem very useful to carry any analysis in terms of comparisons with long run competitive situations and rather simply concentrate on whether, by

selling shares to local investors, the foreign investor is likely to be able to repatriate more or less than the original stock of capital invested in a predetermined period of time as is done in the traditional FDI concession contracts. The fact that foreign firms are forced by law to sell a participation in the firms' capital stock does not by itself imply that the foreign investor will get from that sale less than what it had originally invested (even measured in currency with the same purchasing power). The only thing that can be said for sure, is that the obligation imposed on foreign firms implies that the price of those rights would be lower than in the absence of the fade-out regulation.[48/] But those rights would also be worth less in the absence of integration. If a foreign firm were not to have the chance to expand sales to the common market -thus increasing the value of its future stream of profits- then it would not normally be required to fade-out.

A second important aspect of fade-out in relation to foreign capital repatriation, is whether it is worth while

---

48/ But the host-country governments can intervene to purchase the shares of foreign firms which they are interested in encouraging, or offer credit to national investors, and thus set a precedent for prospective investors. For a discussion about policies towards divestment, see Hirschman (1969), pp. 11-22.

for the host country to use scarce national resources and savings to purchase a "stock of capital that is already located and producing in the country". As it is usually phrased by the critics of Decision 24, this argument seems to imply that foreign capital would tend to remain indefinitely in the country. The crucial question is whether forced divestment necessarily implies faster repatriation than otherwise. This needs not be so, however, because if it is true -as has been often argued by the investors- that investment in Latin America is very risky (which on the whole is probably the case in most activities) , then the payoff periods that they must have normally considered should have been also "very" short.[49] Therefore, the divestment requirement is less likely to speed capital repatriations even more.

Even if foreign capital repatriations were faster, however, that does not necessarily imply that it may not be economicaly convenient for the host countries to use foreign exchange to purchase shares of established foreign firms.[50]

---

[49] Shane Hunt (1974), pp. 151, has found that payback periods of 2.5 years in automobiles, 3 years for durable goods and 3.5 years for some banking activities seem to be normal for Latin America according to several businessmen interviewed. This implies rates of "true" profits -net of taxes but including depreciation charges- of 40 to 28%. These are not excesively high rates for the region according to many other studies: Hunt (1974) Chapter III, and Hunt (1976).

[50] See Hirschman (1969), pp. 12-15.

From the purely financial point of view, the latter will be more advantageous than servicing implicitly the foreign assets longer into the future, when the domestic discount rate is lower, future earnings are higher, and foreign remittances would have otherwise been still fast.

Third, the most interesting characteristic of the Andean fade-out formula is that the foreign investor's compensation and value of capital repatriation are mainly functions of how profitable his investment project is. Ceteris paribus, the higher its long-run expected profitability, the higher is the price he will get for the shares that he must sell to national investors, given the latter's financial capacity as buyers. On the part of the foreign investor, and since fade-out is partial, this may encourage a pattern of behavior more favorable for the host countries, such as keeping up to date technologies even several years after the original investment was made.[51/]

Since there is not always an exact equivalence, however, between private profitability and the social rate of return of a given activity for the host country, this imposes an additional responsability on the latter in order to secure

---

51/ According to Meeker's (1971) study, a majority of foreign investors indicated that they would follow a policy of minimum reinvestment and lag in technological transfers when their contract for investment expires or absolute fade-out is required. When faced with partial fade-out, as in the Andean case,

the optimal policies for the operation of foreign firms in the Andean countries.[52]

Profit Taxes and Fade-Out

Fade-out may be seen also as a form of tax on the foreign firms' profits.[53] Specifically, it is a combination of taxes on foreign capital and profits. The former stems from the difference between the value of the original investment and what the investor can repatriate, and the latter results from the difference between annual profits earned by the investor with and without national investors' participation in the firm's profits. Obviously, on a present value basis both forms are equivalent at the same relevant discount rate, although the foreign and national investors' rates may be different.

Considered as a profits tax, fade-out implies a variable rate tax. The implicit rate is a function of the price paid for the shares and the participation of natio-

---

however, only 28% would follow those policies if they are allowed to remain as minority shareholders. See, Meeker(1971).

52/ For instance, if a foreign owned company is an unregulated monopoly, the private national investors would tend to pay for that company the present value of its monopolistic profits, rather than a lower price reflecting its contribution to the host country's social welfare.

53/ The obvious difference between the two, is who gets the "fade-out tax" revenue, the government or the national investors.

nal investors in the firm's total capital or profits. If, at one extreme case, nothing is paid for the shares (e.g. there is no buyer interested in them) and the foreign firm is simply required by law to transfer 51% of them to national shareholders (or to the State), then the implicit "profit tax rate" would be 51%. In the opposite extreme case, however, if shares of the foreign firm are bought by national investors at exactly the present value of the future flow of profits expected to be generated during the remaining lifetime of the firm, then the implicit tax rate would be zero.[54/]

Whether the implicit "tax rate" on each foreign firm resulting from fade-out is close or far from the optimal one for the host countries is hard to assess. As discussed at the outset, the first best taxes (or subsidies) for maximizing the gains from FDI in a common market involves taking into consideration the elasticity of supply of foreign capital, the especific externalities generated by foreign firms, market distortions, such as monopoly, and policy imposed distortions such as tariffs which are non-optimal for commodities produced by foreign firms.

54/ The graduality of the fade-out process should be kept in mind, however, in estimating the implicit "tax" on foreign firms.

It is most likely that the last two of the factors just mentioned are the more important ones justifying some form of compensatory taxation of foreign firms in the case of the Andean Group. This is due to the likelyhood of monopoly in the small Andean market and the high tariffs under which the common market is being set up. In this context, the"fade-out tax" may be a relatively efficient means to transfer a fraction of the rents going to foreign firms as a consequence of the formation of the customs union; in other words, to compensate the host countries for the possibly adverse international income distribution effect of having foreign firms participating in a common market, such as the Andean, that has to be set up behind a relatively high external tariff wall in order for national firms to be able to produce.

Thus, fade-out as a form of participating directly in the rents earned by foreign firms selling in a protected common market may allow the host countries to increase their gain from the presence of those firms in the customs union. Moreover, as shown above, that participation in what we have defined as the foreign profit-creation effect of a customs union may be a necessary condition for the host countries to gain at all from integration in industries dominated by foreign investors.

Notice, however, that fade-out alone would not be a first best policy to deal with the resource allocation distortion of foreign owned monopolies at a common market level. Moreover, monopolistic firms may even be charged a lower overall implicit "fade-out tax" than competitive firms if national investors pay for their shares a price which is relatively higher than their social value for the host-countries.[55] Therefore, in general the fade-out provision of the Andean Foreign Investment Code cannot be considered as a substitute for other policies, especially optimum tariffs, taxes or subsidies on factors of production (including technology) which would create conditions under which the private profitability of investment is equal to its social rate of return for the host country. The fade-out formula has the advantage of implying a lower rate of profit "tax" on foreign firms that remain profitable even after the fade-out deadline is met, and this means that they have an incentive to keep reinvesting part of their profits and avoid lagging in technological development.

55/ To transfer monopolistic rents from the foreign investors to the host countries, an opposite "progresive" tax on "abnormal" or monopolistic profits would be required. For strong recommendations for that kind of policy on FDI, see Streeten (1975), p. 395.

Intra-common market trade, competition and fade-out

Several negative aspects for the host countries result from the close link between fade-out and regional exporting possibilities of foreign firms within the Andean Common market. They arise from the limitation that such a link imposes on the size of the foreign profit diversion effect and from its probable effects on competition. We have shown that the former -that is, the reduction in profits of foreign firms that start facing competition from imports coming from the other partner countries- is as important as the participation in foreign profit creation as a source of gains for the host countries. In some cases, however, fade-out may reduce or simply impede the "diversion" of foreign profits. The basic reason for this is that some industries include only foreign firms with the ability to export to the other partner countries, at least in the short run or within a given range of commodity prices. And those firms will decide whether to fade-out or not on the basis of a cost-benefit analysis in which they will be comparing the costs of fade-out and the benefits derived from additional profits from sales to the common market. It may result that the present value of the net private gains from exporting cum "fading" turn out to be negative for the exporting firm although the social benefit for the host countries (even without fade-out) may

have been positive. That trade could have implied reducing the domestic price of the commodity being considered in the importing country and, thus, not only benefiting directly its consumers but also reducing the profits of foreign firms that may have been producing there.[56/]

Whether the situation just described is likely to be very widespread or not is question that remains to be answered through empirical analysis. It is less likely to arise, within a particular industry, if: (i) the partner countries markets are large compared with the local market of the potentially exporting foreign firm; because in that case the gains from exports would be larger relative to the foreign investors's loss from sharing with national investors the profits made on local sales; (ii) if the comparative advantage of the exporting firm is large compared with transport cost;[57/] and (iii) if the potentially exporting foreign firm has few or no affiliates in the partner countries' markets.

56/ Notice that foreign potentially exporting firmswill never face losses from fade-out tied to regional exports, because if they were to suffer them, they would avoid exporting and, hence, fading. Since the rest of the foreign firms are not required to fade-out by Decision 24, no one faces actual losses from that regulation. Only regionally import-competing firms may face losses from integration itself (from foreign profit diversion).

57/ Economies of scale are also important, especially if national firms can take advantage of them. In this case, there is an additional incentive for the foreign firm to fade-out.

If a potential regional exporter has "sister" companies in the other partner (importing) countries, it will take into consideration (i.e. internalize) as a cost, the reduction in profits or losses it may cause to its affiliates. That cost will depend on the share of the market of the affiliates, and on their degree of monopoly power, as well as on the difficulties of transforming plants to the production of other commodities or selling them to national investors.[58]

Thus, ceteris paribus, the more monopolistic is a multinational corporation in all the partner countries, the less likely it is to actually fade-out at least in the short run. In this sense, this regulation may be self-defeating when rigidly tied to regional exports, because the host countries would not only not participate in the profits and rents obtained by the foreign firms, but they will not gain either from the foreign profit diversion effect and, eventually, from the more traditional trade creation effect.

58/ For a more extensive discussion of these issues, see Tironi (1976)

Tying fade-out to regional exports may not always work to the advantage of the host countries.[59] The countries will naturally gain more in the cases in which there are more national than foreign firms which are in a position to export to the common market. But when those national competitors do not exist, as in many industries that for technological and other reasons are dominated by foreign investors, then additional policies may be required to deal with them in those circumstances. As pointed out before, the most important alternative or complementary policies are the use of external tariffs and the direct allocation of industries to particular countries in order to strengthen their bargaining position vis-a-vis the foreign investors.

The other possibly important drawback of phasing out is its effect on competition. We have shown in this study that the degree of market concentration -especially in industries in which foreign firms predominate- is high in natioal Andean markets. It is hard to know if that would be justified on efficiency considerations alone -that is, to allow firms to take advantage of economies of scale or building

---

59/ Hence, the extention of fade-out to all foreign firms, independently of whether they export to the common market, should not be discarded, but it would be sensible to wait and gain more experience from the application of this limited version of the fade-out principle.

optimum-size plants. Nevertheless, within the industries in which it is technically feasible and convenient to have several firms competing against each other within the common market, the fade-out rule may foster mergers which would not otherwise arise. The joint ventures that would result from free partial phasing out will probably tend to be formed mainly between already established foreign and national firms in the same industry.60/ It may be more convenient, however, to stimulate mergers among national firms which may compete in an equal standing with foreign firms already "integrated" (or affiliated) accross countries within the area. In this context, the encouragement of the formation of Andean Multinationals should be an important complementary policy with Decision 24, as well as the regulation of mergers and the spreading out of the shares sold by foreign firms among as many small Andean investors as possible. 61/

60/There is little or no information collected so far about his tendency in the Andean Group. I know of one interesting case, however,involving a formerly wholly owned subsidiary of Brown Boveri in Peru and a national company.The merger was prompted by the assignment of electrical transformers to Peru in a SPID, which the two companies produced and will now start exporting to the common market.See Pate (1973),p.33.It is also worth noting that in a study carried out by Meeker (1971),p.29,the main condition for acceptance of fade out by 90 foreign managers interviewed was the right to chose their local partners.

61/ Hirschman (1969) has argued, on the other hand, that forced divestment may foster the formation of regional companies.

Fade-out, joint ventures and management control

Fade-out involves also the formation of permanent joint ventures.There is a long literature analyzing the advantages and limitations of that form of FDI from the host countries'point of view [62]. Hence, we shall not spend too much time discussing them here, except to mention two main points. First, the fade-our requirement as a form of participation of nationals in the decision-making process of the firm may allow more rapid learning on the part of national enterpreneurs of how to produce certain goods. In this sense, it would be a more direct application of the "infant industry argument" to the case of products "imported" from foreign firms located in the same country's territory. That participation of nationals in the firm may also allow the countries to control transfer pricing procedures,excessive royalty payments and fees, which -quite on the contrary- equivalent profit taxes would encourage.

On the other hand however, there are several problems usually associated with joint ventures as such,particularly with respect to the attitudes of local partners.

62/See especially Friedman and Beguin (1971) and, for the case of Latin America, Diaz-Alejandro (1971), pp.12-19 and Rosenstein-Rodan (1974), pp. 245-268

They may not actually be interested in learning, but merely in short term profits, for which they may even be willing to seek more domestic protection from imports and more monopolistic advantages. On the other hand, joint ventures may not resolve conflicts, but merely institutionalize them.[63/] Conflicts within some range are unavoidable, however, and if that is so, it is better to have them institutionalized rather than loose or submerged until they reach unmanageable proportions.

63/ See Kindleberger C.P. (1971).

4. Conclusion

A specific policy in order to regulate the operation of foreign firms in a common market is a necessity arising from the different distributive effects which regional trade liberalization and external tariffs have on national and foreign firms. Tariff changes also have income effects which imply an internal redistribution of income in the case of national firms, but imply an international income redistribution between host countries and foreign companies when the latter participate in the common market. Therere, if that income effect tends to be negative for the host countries, it needs to be compensated for with a more restrictive policy on foreign than national enterprises. Such a compensating differential policy should constitute the core of an optimal foreign direct investment policy in a common market.

The Common Investment Code set up in the Andean Group (Decision 24) has been designed with that basic compensatory orientation and, therefore, has an important economic justification. The general conclusion of this study is, as a whole, that it should be maintained, but complemented with the design and implementation of a common external tariff policy and industrial development programas as part of an overall foreign investment policy. This approach has been very much in the spirit of those who formulated the Cartagena Agreement, but has tended to be left aside by the Andean governments when making actual decisions.

The ultimate practical effects on some of the specific regulations of Decision 24 -like the fade-out formula- remain to be seen. It is difficult to predict the most probable outcomes, because they depend on many different conditions. Those who predicted almost a complete halt of foreign investment in the Andean Region after the Common Treatment was passed in 1971, were proved definitely wrong after a few years. On the whole, it appears not to be repugnant to intelligent and experienced investors in Latin America and it is likely to be beneficial, on balance, for the Andean Countries.

One of the main advantages of Decision 24 is that -being an International Treaty- it is likely to be more stable than other national policies towards foreign investment. This has, in fact been the case during its 5 years of application. Within that period it has survived the change of many governments in the six Andean Countries (some of them ranging in orientation from the socialist to the capitalist laissez-faire extremes). High risks and uncertainty about FDI policies has probably been the most important deterrent of long-term investment which could have had an important positive impact on the host countries' development. Experience has taught the foreign investors that very favorable conditions for their

investment had the danger of being modified after a short period. Thus, they would refrain from investing as much or more than what they would under a stricter but more stable policy, or they would invest in projects in which they could recuperate their capital in the shortest period of time possible. Uncertainly with respect to investment policies is something that hurts both parties involved -the host country and the investor- without implying benefits for either of them.

Thus, what is probably doing more harm than good to the Andean Countries is the continous talking about basic changes of Decision 24 and, moreover, of the whole Integration Model. The uncertainly generated by the discussion about those aspects, especially the latter, is likely to have more impact on lowering foreign investment levels than the regulations of the Andean Code as such. Obviously no foreign investor will commit funds to establish or modify a plant in order to export to another country in the common market if he is not sure that the duty-free access to another partner country market is guaranteed for at least a number of years.

Of course, Decision 24 is not perfect, and there is no substitute for a case by case rigorous social cost-benefit analysis of each large foreign investment project. Neither is there a substitute for open an honest bargaining over the

many intangible economic aspects of foreign investment. Thus, a flexible implementation of Decision 24 following its basic philosophy, seeking to improve it as more experience is gained from its application is an ineluctable task. One of the most discouraging facts so far is to observe the little atention that has been paid to the systematic collection and exchange of information among the government of the Andean Countries about the behavior of foreign firms. This makes it more difficult to carry out the urgent studies required to increase our knowledge about this crucial aspect for the development strategies of most less developed countries. Knowledge is a basic input in order to make more rational decisions which are in the best interest of all the parties involved.

REFERENCES

CHAPTER VI

Avila, M. (1973) "Programacion de la industria metal mecanica en el Acuerdo de Cartagena", Revista de la Integracion No. 13 (May).

Baanante, C. and R. Simmons (1976) "Efectos de la union aduanera sobre la industria de fertilizantes de nitrogeno en la zona andina", El Trimestre Economico Vol. XLIII, No. 169, January, pp. 141-166.

Barandiaran, E. (1975) "Antecedentes politicos de la Decision 24", mimeo, Paper presented at the International Seminar on Foreign Investment Regulations in the Andean Group, Caracas, Venezuela (March).

Business Latin America (1971) "Combating the Ancom Code: Council tries tactics that could Backfire", (April 22, pp. 121-23).

Caballero, C. (1975) "Colombia y el Pacto Andino", mimeo, Centro Interuniversitario de Desarrollo Andino (CINDA), Santiago, Chile.

Council of the Americas (1971) The Common Treatment of Foreign Capital in the Andean Block. Memorandum of Comments, New York.

Council of the Americas (1973) Andean Pact: Definitions, Design and Analysis, New York.

Chudnovsky, D. (1974) Empresas multinacionales y ganancias monopolicas, Buenos Aires, Argentina: Siglo XXI Editores.

Danino, R. (1975) "The Andean Code After Four Years", mimeo, Harvard Law School, Cambridge, Mass., International Legal Studies.

Diaz-Alejandro, C. (1970) "Direct Foreign Investment in Latin America" in Kindleberger, C.P. (ed.), The International Corporation, Cambridge, Mass.: M.I.T Press.

_____ (1971) "The Future of Direct Foreign Investment in Latin America", Center Discussion Paper No.131, Economic Growth Center, Yale University.

Fernandez, G. (1972) "El regimen uniforme de la empresa multinacional en el Grupo Andino", Derecho de la Integracion, BID/INTAL (October).

Franko, L.G. (1974) "Joint International Business Ventures in Developing Countries: Mystique and Reality", in Williamson, R.B., W.P. Glade and K.M. Schmitt (eds.) (1974), Latin American-U.S. Economic Interactions, Washington D.C.: American Enterprise for Public Research, pp. 229-243.

_____ (1971) Joint Venture Survival in Multinational Corporations, New York: Praeger.

Ffrench-Davis, R. (1975) "El Pacto Andino: Un modelo original de integracion", Documento No. 42, CEPLAN, Santiago, Chile.

Floto, E. (1974) "Private Foreign Investment in the Andean Countries", mimeo, University of Cambridge, England. Paper presented at the Symposium on Foreign Investment and External Finance in Latin America, Cambridge, England (June).

Friedman, W. and J. Beguin (1971) Joint International Business Ventures in Developing Countries, New York: Columbia University Press.

Horst, T. (1971) "On the Benefits of Domestic Minority Ownership of Foreign Controlled Firms", Discussion Paper No. 176 (February), Harvard Institute of Economic Research, Cambridge, Mass.

Hunt, S. (1974) "Evaluating Foreign Direct Investment in Latin America", in Eunadi, L.R. (ed), Beyond Cuba: Latin America Takes Charge of its Future, New york: Crane, Russack and Co.

_____ (1976) "Industrial Policy in Venezuela", mimeo, Center for Latin American Development Studies, Boston University, Boston, Mass.

Hirschman, A.O. (1969) "How to Divest in Latin America and Why", Essays in International Finance,No. 76, Princeton, New Jersey: Princeton University.

Hymer, S. (1967) "Direct Foreign Investment and the National Economic Interest", Yale Center Paper, No.108 New Haven: Yale University.

_____ (1968) "National Policies Towards Multinational Corporations", mimeo, Yale University.

Junta del Acuerdo de Cartagena Cartagena (JUNAC) (1971) "Decision 24 sobre el Régimen de Tratamiento Común a los Capitales Extranjeros y sobre Marcas, Patentes, Licencias y Regalías", mimeo, JUNAC, Lima, Peru.

_____ (1975) Grupo Andino No. 52 (Dec.),Official Monthly JUNAC Newsletter, various issues.

JUNAC/INTAL (1975) Historia Documental del Acuerdo de Cartagena, Buenos Aires, Argentina: BID/INTAL.

Kindleberger, C.P. (1966) "European Integration and the International Corporation", in Europe and the Dollar, Cambridge, Mass.: M.I.T. Press.

_____ (1971) Review of Friedman and Beguin, Joint International Business Ventures in Developing Countries, in the Journal of Economic Literature, Vol. 9, No. 4 (Dec.), pp. 1208-9.

Kuczinsky, M. and D. Huelin (1973), The Andean Group, London: Latin American Publication Fund.

Lindquist, J. (1972) "The Merits of Forced Divestment: The Experience of the Andean Group", Research Program in Economic Development Discussion Paper No.31, Woodrow Wilson School, Princeton University.

Meeker, G. (1971) "Fade-out Joint Ventures: Can they Work for Latin America?", Inter-American Economic Affairs, (Spring), pp. 25-47.

Moncada, J. (1975) "La integración andina y el desarrollo económico ecuatoriano", mimeo, Centro Interuniversitario de Desarrollo Andino (CINDA), Santiago, Chile.

Moyano, E. (1972) "Notas sobre el pago de licencias industriales en Chile", in Muñoz, O. (ed.) Proceso a la Industrializacion Chilena, Santiago, Chile: Ediciones Nueva Universidad-CEPLAN.

Morawetz, D. (1974) The Andean Group: A Case Study in Economic Integration Among Developing Countries, Cambridge, Mass.: M.I.T. Press.

Pate, J. (1973) "New Joint Venture Approaches and a Review of Competitive Forces Within Ancom", in Council of the Americas (1973).

Perry, G. (1975) " La presunción de renta mínima sobre el patrimonio: Un tope máximo para la evasión tributaria de empresas multinacionnales en un país en desarrollo", mimeo, Direccion Nacional de Impuestos de Colombia, Bogota.

Rose, S. (1975) "The Andean Pact and its Foreign Investment Code", Tax Management International Journal, (January), pp. 1-12.

Rosenstein-Rodan,P. (1974) "Problems of Private Foreign Investment and Multinational Corporations", in Williamson et.al. (eds.) (1974), pp. 245-268.

Salazar, F. (1975) "El sistema de nacionalización progresiva de las empresas extranjeras y la orientación selectiva de la inversión extranjera en el Grupo Andino", mimeo, JUNAC J/M-S/3, Lima, Peru.

Salgado, G. (1971) " Speech at Conference on Latin American Models of Treatment of Foreign Capital", Hamburg, Germany. Also published at the International Seminar on Foreign Investment Regulation in the Andean Group, Caracas, Venezuela, March, 1975.

Schydlowsky, D. (1971) "Allocating Industries in the Andean Group", Journal of Common Market Studies, Vol. IX, No.4 (June), pp. 299-307.

Stopford, J. and L. Wells (1972), Managing the Multinational Enterprise, New York: Basic Books.

Streeten, P. (1975) "Policies Towards Multinationals", World Development, Vol. 3, No. 6 (June), pp. 393-397.

Swann, D. and D.L. McLachlan (1967), Concentration or Competition: A European Dilemma?, London: Chatham House.

Swansbrough, R.M. (1971) "The American Investor's View of Latin American Economic Nationalism", Inter-American Economic Affairs, Vol. XXXVI, No.3.

Tironi, E. (1976) "Las estrategias nacionales de desarrollo y la integracion de los paises andinos", Estudios Internacionales,(July).

Valencia J. , Jorge (1975) "Antecedentes y contexto politico de la Decision 24", Paper presented at the International Seminar on Foreign Investment Regulation in the Andean Group, Caracas, Venezuela, (March).

Vernon, R. (1975) "Multinational Enterprises in Developing Countries: An Analysis of National Goals and National Policies", Development Discussion Paper No. 4, Harvard Institute for International Development, Harvard University, Cambridge, Mass.

Wionczek, M. (1971a) "U.S. Reaction Towards the Common Treatment of Foreign Investment in the Andean Group", Comercio Exterior, (May), Mexico.

_____ (1971b) "Hacia el establecimiento de un trato comun a la inversion extranjera en el mercado comun andino", El Trimestre Economico, LXXVIII, No. 150, (April-June).

Biographical Note

Ernesto Tironi was born on June 13, 1947, in Santiago, Chile. He entered the Department of Economics of the Catholic University of Chile in 1965 and was graduated in 1969. That same year he married Alejandrina Valdivieso and entered M.I.T. as a graduate student in the Department of Economics. In 1971 he returned to Chile where he worked as a professor in the Center for National Planning Studies (CEPLAN), of the Catholic University of Chile until January 1976. He has been instructor in several courses organized by the United Nations in Latin America and was research associate at the Center for Latin American Development Studies of Boston University between January and July, 1976. He currently works in the Corporacion de Investigaciones Economicas para Latino America, in Santiago, Chile. His publications include, El Cobre en el Desarrollo Nacional (ed) with Ricardo Ffrench-Davis,1974; "Economic Planning in the Nationalized Chilean Copper Sector" and "The Small and Medium-Scale Copper Sector in Chile", in A. Seidman (ed), Natural Resources and National Welfare: The Case of Copper,1975; "Aspectos teoricos del comportamiento de corporaciones transnacionales frente a la integracion", Revista de la Integracion, September, 1975; "Las estrategias nacionales de desarrollo y la integracion de los paises andinos", Revista de Estudios Internacionales, June 1976, and other short articles in Chilean journals and magazines.