

THE ECONOMIC INTEGRATION EFFECTS OF THE ANDEAN COMMON MARKET

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I. INTRODUCTION

REGIONAL ECONOMIC integration has been intensively discussed in the Latin American region since formation of the Latin American Free Trade Association (LAFTA) in 1960 and the Central American Common Market (CACM) in 1961, but theoretical and empirical analyses of economic effects of integration have been quite few. This paper attempts an analysis of the possible enlargement of production through the re-organization of industries and the re-allocation of resources in the case of manufacturing industries of the three major Andean Common Market countries (Chile, Colombia, and Peru), which may be realized when the Andean Common Market is successfully organized.¹

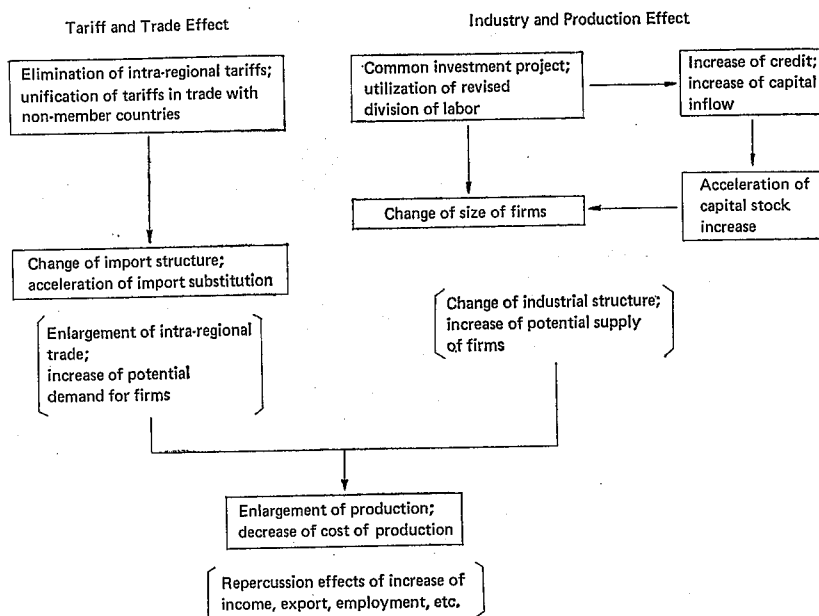
As described in the Figure 1, the economic effects of integration are supposed to originate from the two aspects: (1) tariff and trade effect, (2) industry and production effect.

(1) The intra-regional tariffs are usually eliminated in the case of formation of a common market, while the tariffs on trade with the non-member countries are made uniform. These tariff changes will result in changes of the structures of relative advantages by commodities and by countries, and will effect the overall industrial and trade structures from the demand side.

(2) On the other hand, the formation of a common market will stimulate common investment projects (the re-allocation of new industries according to the new division of labor), and the re-arrangement of existing industries (cancellation of expansion projects of relatively high-cost enterprises). These changes can be interpreted as a liberalization of inter-regional movement of resources. In the case of international-goods-producing-sectors the size of establishment will be increased by the enlarged demand within the common market making possible utilization of economies of scale. The common market will result further in an

¹ This paper is based on a joint discussion paper [5], written while both Fukuchi and Hosono were working for the Economic Commission for Latin America, but the contents of the paper express only the personal opinions of the authors. We are thankful for the comments given by the referees, but possible omissions and errors remain the responsibility of the authors. In this paper we use the terms "economic integration" and "common market" in a strong sense, implying not only the abolishment of intra-regional tariffs, but also the formation of a unified market. The CACM seems to be very near to this terminology, while LAFTA is a weaker integration, so we tentatively assume a strong Andean Common Market.

Fig. 1. Two Effects of Economic Integration



increase of credit for member countries and will promote foreign capital inflow. These changes on the production and supply side will result in overall changes of the industrial and trade structures over time.

The separation of the two effects described above is of course of a very tentative nature. The changes in the demand and supply aspects interact on each other with various time lags over time, so a clear separation is theoretically very difficult. The decomposition of integration effects in the past, such as the trade creating effect, trade diverting effect, and market enlargement effect by H. G. Johnson [7], assumed fixed demand and supply curves in the case of tariff changes and tentatively set aside the complicated long-term interactions and shifts. In this paper we mainly concentrate on (2) the supply side, and tentatively estimate the total effect of the increase of production considering the liberalization of inter-regional movement of resources, the utilization of economies of scale, and the possible increase of capital inflow, while we assume sufficient increase of necessary demand implicitly.²

We specify a common homogeneous production function of the H degree for the manufacturing sector³ as f and write the total net output of the manufacturing

² The international environment has changed greatly since we wrote the discussion paper in June 1970; for example the appearance of the Allende cabinet in Chile and re-evaluation of currencies. But the basic framework of analysis seems to be still applicable.

³ The assumption of existence of a common production function needs detailed support, of course. The three Andean major countries (Chile, Colombia, and Peru) are very similar as to development stage and distribution of enterprises. (Daniels [1] has pointed out the minor difference of efficiency coefficient between Peru and Chile.) Considering these facts we tentatively adopted this hypothesis.

sector of the whole region and in the i -th country as V and V^i respectively.

$$V^i = \sum_{j=1}^J V_{(j)}^i = \sum_{j=1}^J f \left(\frac{K_{(j)}^i}{E_{(j)}^i}, \frac{L_{(j)}^i}{E_{(j)}^i} \right) E_{(j)}^i. \quad (1)$$

$$V = \sum_{i=1}^I V^i. \quad (2)$$

$(V_{(j)}^i, K_{(j)}^i, L_{(j)}^i, E_{(j)}^i)$; net output, capital stock, employment, number of enterprises in j -th group and i -th country, respectively.)

Here we classify all the enterprises into J groups classified by size. The primal changes caused by the economic integration may be classified as the following three phenomena:

(a) revision of the optimum distribution of enterprises corresponding to the new demand scale and the new system of division of labor;

(b) increase of the size of enterprises by the merger of enterprises,⁴ which are producing international goods and of large scale;

(c) increase of capital stock through increase of capital inflow.

We can express these three phenomena as follows.

Firstly, by the first structural change (a) the total output of manufacturing sector in I member countries (V^*) is now expressed by (3) and (4).

$$V^* = \sum_{j=1}^J V_{(j)}^*. \quad (3)$$

$$V_{(j)}^* = f^* \left\{ \frac{\sum_{i=1}^I K_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i}, \frac{\sum_{i=1}^I L_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i} \right\} \sum_{i=1}^I E_{(j)}^i. \quad (4)$$

$(V_{(j)}^*)$, the total net output of j -th group.)

Secondly, the enterprises of the larger group ($j \geq J^*$) will merge and the number of enterprises will be decreased simultaneously. Let us assume that the number of enterprises will increase λ times ($\lambda < 1$). The net total output (V^*) is now written as (5).

$$\begin{aligned} V^* &= \sum_{j < J^*} V_{(j)}^* + \sum_{j \geq J^*} V_{(j)}^* \\ &= \sum_{j < J^*} f^* \left\{ \frac{\sum_{i=1}^I K_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i}, \frac{\sum_{i=1}^I L_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i} \right\} \sum_{i=1}^I E_{(j)}^i \\ &\quad + \frac{1}{\lambda^{H-1}} \sum_{j \geq J^*} f^* \left\{ \frac{\sum_{i=1}^I K_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i}, \frac{\sum_{i=1}^I L_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i} \right\} \sum_{i=1}^I E_{(j)}^i. \end{aligned} \quad (5)$$

⁴ The change over time of the size of enterprise is usually small without a large structural impact such as economic integration. Sands [9] has pointed out that in the United States the average size of enterprise of the manufacturing sector increased by 15 per cent for 1904-47.

Thirdly, the capital stock of each group will increase R times ($R > 1$). The total net output will be written as (6).

$$V^* = \sum_{j < J^*} f^* \left\{ \frac{R \sum_{i=1}^I K_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i}, \frac{\sum_{i=1}^I L_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i} \right\} \sum_{i=1}^I E_{(j)}^i + \sum_{j \geq J^*} f^* \left\{ \frac{R \sum_{i=1}^I K_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i}, \frac{\sum_{i=1}^I L_{(j)}^i}{\sum_{i=1}^I E_{(j)}^i} \right\} \sum_{i=1}^I E_{(j)}^i. \quad (6)$$

The difference between V^* by (6) and V by (2) expresses the economic effects of the integration. If we assume $H > 1$, V^* by (5) will be larger than V^* by (4), but we cannot compare definitely V^* by (3) and V^* by (1). So in this paper we concentrate on the measurement of the difference of V^* by (6) and V^* by (4).

II. MEASUREMENT OF THE INTEGRATION EFFECT

Industrial census results are available for 1957 and 1963 for Chile and Peru. An industrial sample survey is available for 1959 for Colombia. From these data we can obtain the number of establishments (E), number of employees (L), value of net products (V), value of wage payment (W), and value of capital stock (K), classified by the size of establishments as defined by the number of employees, for the manufacturing industries in the three countries. Based upon the Braithwaite estimates [4], the Gross Domestic Product of the three countries in 1960 were 5,128, 5,203, and 3,387 (U.S. million dollars). The share of these three countries was 87.72 per cent of the five Andean Common Market countries. (We have excluded Bolivia and Ecuador because industrial census or sample survey data were not available.) We will estimate the production function from these data and calculate the long-term effects of integration in this section.

Appendix Table I shows the classification of groups by the current materials of the three countries. Based upon this, we have adopted the five groups (shown in Appendix Table II) which are common to the three countries for our analysis. Basic materials of the three countries by this classification are shown in Appendix Table III. The value of capital stock was estimated indirectly by the number of horsepower installed per establishment multiplied by the conversion ratio which was obtained by division of the national total of capital stock by the national total horsepower.⁵

⁵ Accordingly, we need further improvement of capital stock data in many respects. The national total of the capital stock and horsepower are available in every country, and in some countries both of them are available by regional decomposition. But the correlation among them was not high, for example in the data of twenty regions of Peru.

$$\log(\text{horsepowers}) = -4.20 + 17.72 \log(\text{capital stock}). \quad (3.84)$$

$$\hat{R} = 0.7360.$$

The validity of this conversion needs further checking by the statistical data by groups.

We adopted the constant-elasticity-of-substitution and non-linear-homogeneous type production function. We write the function as follows with the scale parameter (H) and the number of groups (j).

$$\frac{V(j)}{E(j)} = \gamma \left[\delta \left(\frac{K(j)}{E(j)} \right)^{-\rho} + (1-\delta) \left(\frac{L(j)}{E(j)} \right)^{-\rho} \right]^{-H/\rho} \quad (7)$$

As Dhrymes [2] and Diwan [3] have shown, we can get the next reduced form⁶ assuming the equality of wage level to the value marginal rate of productivity of labor.

$$\frac{W(j)}{L(j)} = a_0 \left[\frac{V(j)}{L(j)} \right]^{a_1} \times \left[\frac{L(j)}{E(j)} \right]^{a_2} \quad (8)$$

or

$$\log e \left[\frac{V(j)}{L(j)} \right] = b_0 + b_1 \log e \left[\frac{W(j)}{L(j)} \right] + b_2 \log e \left[\frac{L(j)}{E(j)} \right]. \quad (9)$$

The relationships between the parameters are

$$H = 1 + \frac{b_2}{1-b_1}, \quad \rho = \frac{1-b_1+b_2}{b_1} = \left(\frac{1-b_1}{b_1} \right) H, \\ \sigma = \frac{1}{1+\rho}. \quad (10)$$

The result of estimation of this reduced form by the fifteen pooling samples (three countries multiplied by five groups) was:

$$\log e \left[\frac{V(j)}{L(j)} \right] = 0.5449 + 0.6846 \log e \left[\frac{W(j)}{L(j)} \right] + 0.1412 \log e \left[\frac{L(j)}{E(j)} \right]. \quad (11)$$

(0.1593) (0.1229) (0.0359)

$$\bar{R} = 0.9740. \quad (12)$$

$$\hat{\delta} = 0.5999, \quad \hat{H} = 1.4477. \quad (13)$$

For the second step, we estimated $\hat{\delta} = 0.55$, $(1-\hat{\delta}) = 0.45$ by repeating the estimation of the original function for the different values of δ assuming $\hat{\delta}$ and \hat{H} as in (13). The $\hat{\delta}$ was approximately similar to the one in the Cobb-Douglas production function. The third step estimation was done by the three countries aggregate of V, K, L , and E for each group (V^* , K^* , L^* , and E^*).

$$\log \left[\frac{V^*(j)}{E^*(j)} \right] = 1.230 \left[0.55 \left(\frac{K^*(j)}{E^*(j)} \right)^{-0.6670} + 0.45 \left(\frac{L^*(j)}{E^*(j)} \right)^{-0.6670} \right]^{-1.6960} \quad (14)$$

$$\hat{H} = 1.1312, \quad = \tilde{\gamma} 1.230. \quad (15)$$

We calculated two conditional forecasts up to 1980 and estimated the effects of integration by the difference.

Taylor [11] showed a high correlation over than 0.97, between the consumption of energy and the active capital stock for every kind of industry by the British regional data.

⁶ The interpretation of the reduced form of the equation differs among scholars. We tentatively assume perfect competition in input and output markets not entering into discussion in detail.

A. *Simple Projection*

We extrapolated the past trends of each variable (K, L, E) and calculated the value of product.

(a) Number of establishments: The figures are available for past years for each country by each group as shown in Table I, so we intrapolated the rate of

TABLE I
INCREASE OF NUMBER OF ESTABLISHMENTS (E)

Country Group	Chile		Colombia		Peru		Total of the Three Countries (1960)		
	1957	1967	1958	1962	1963	1966	E	ΔE	Rate of Growth (%)
I (5-9)	2,325	5,251	3,641	3,364	1,600	2,306	7,695	979	4.93
II (10-19)	1,645	3,272	1,965	1,977	1,134	1,399	4,915	213	4.33
III (20-49)	1,129	2,083	1,260	1,345	789	995	3,283	156	4.75
IV (50-99)	388	691	417	471	349	412	1,199	58	4.84
V (100-)	367	694	367	471	323	370	1,142	69	6.04
Total	5,854	11,991	7,650	7,628	4,195	5,482	18,234	875	4.80

growth in each group and calculated the number and the increments in 1960. We extrapolated the whole figures up to 1980, using the average growth rate of the five groups as 4.8 per cent because the growth rates of the groups I-IV were close to the average and the one for the V group was somewhat dubious.⁷

(b) Number of employees: We calculated the absolute value increments of 1960 by the interpolation of the rate of growth by groups by utilizing the data of 1957-67 of Chile, 1958-62 of Colombia, and 1963-66 of Peru. Next we calculated the weighted average rate of growth by groups for the total of the three countries, and extrapolated the absolute value up to 1980 (see Table II).

TABLE II
INCREASE OF NUMBER OF EMPLOYEES (L)

Country Group	Chile		Colombia		Peru		Total of the Three Countries (1960)		
	1957	1960	1960	1962	1960	1963	L	ΔL	Rate of Growth (%)
I (5-9)	11,830	16,220	21,580	21,711	7,746	10,772	45,546	2,764	6.07
II (10-19)	19,963	25,290	25,750	25,862	12,540	15,283	63,580	2,979	4.69
III (20-49)	31,280	38,440	36,270	37,739	19,460	24,306	94,170	4,952	5.26
IV (50-99)	25,360	30,870	20,620	30,185	20,550	24,142	79,990	3,968	4.96
V (100-)	118,268	137,300	109,100	123,817	89,370	90,427	335,770	14,451	4.30
Total	206,701	248,070	221,320	239,314	149,666	164,930	619,056	29,114	4.70

⁷ The rate of growth of the V group was high mainly because of the rates in Chile and Colombia, but the observation period in Colombia was limited for four years, and the rate is expected to decrease in the long run.

(c) Capital stock: We assumed a 7 per cent rate of growth, common to the three countries, and extrapolated up to 1980. This growth rate is a little lower than the average of each country, for example the total average of Colombia was 8.3 per cent, but the average of the III, IV, V groups of Colombia was 7 per cent (see Table III).

TABLE III
INCREASE OF CAPITAL STOCK (K)

Group	Country	Chile	Colombia	Peru	Total of the Three	
		1957	1962	1963	1970	1980
I (5-9)		9,463	18,513	10,304	71,150	139,949
II (10-19)		15,315	26,035	16,488	108,104	212,636
III (20-49)		37,415	49,355	41,920	242,254	476,502
IV (50-99)		25,232	41,634	60,000	228,664	449,771
V (100-)		217,701	392,750	404,589	1,848,937	3,636,775
Total		305,126	528,287	533,301	2,499,109	4,443,896

We calculated the values of the net product by groups for the total of the three countries (V^*) using the extrapolated values mentioned above. The results are shown in Table IV. The rates of increase of product between 1970 and 1980

TABLE IV
RESULTS OF THE SIMPLE PROJECTION

Year	Group	E	K/E	L/E	V/E	V
1970	I (5-9)	12,297	5.79	6.69	9.63	118,420
	II (10-19)	7,854	13.76	12.83	23.04	180,956
	III (20-49)	5,246	46.18	30.06	74.27	389,620
	IV (50-99)	1,916	113.34	68.01	200.61	384,369
	V (100-)	1,825	1,013.12	280.44	1,381.29	2,520,854
Total		29,138	63.45	29.30	123.35	3,594,219
1980	I (5-9)	19,653	7.12	7.57	11.69	229,744
	II (10-19)	12,553	16.94	12.72	25.90	325,123
	III (20-49)	8,385	56.83	31.51	85.15	713,983
	IV (50-99)	3,062	146.89	69.33	225.46	690,359
	V (100-)	2,917	1,246.75	267.40	1,442.05	4,206,460
Total		46,570	78.09	33.61	132.40	6,165,669

are as follows.

Class	Rate of Increase
I	1.940
II	1.797
III	1.833
IV	1.796
V	1.669
Total	1.715

The average rate of growth of all the groups is 5.60 per cent.

B. Conditional Projection

(a) The increase in the size of establishments by cooperative allocation of investment projects and the merger of establishments is supposed to occur mainly for the large establishments in the course of economic integration. So we specified the following two classes.

Case (1): The size of establishments in the groups IV and V will increase by 100 per cent. Accordingly the number of establishments decreases to half.

Case (2): The size of establishments in the groups IV and V will increase by 200 per cent. Accordingly the number of establishments decreases to one-third.

(b) The increase of foreign capital inflow due to economic integration naturally depends upon various political and social factors. We tentatively assumed two cases.

Case (1): The capital stock in each group will increase by 10 per cent.

Case (2): The capital stock in each group will increase by 20 per cent.

The total capital stock at 1980 is forecast as 4,443 million dollars. Accordingly 10 per cent and 20 per cent increases of capital stock correspond to annual increases of 40 and 80 million dollars, respectively, which are supposed to be realizable without serious difficulty.⁸

We set the following four cases combining the different cases for the change of the size of establishment and the increase of foreign capital inflow and calculated conditional forecasts of four kinds.

Case \ Assumption	Change of Size of Establishment	Change of Foreign Capital Inflow
A	case (1)	no structural change
B	case (1)	case (1)
C	case (1)	case (2)
D	case (2)	case (2)

We inserted specific values for the parameters into equation (6) in the previous section and used for the calculation case (C), as an example. We have,

$$\begin{aligned}
 V^* = & \sum_{j=1}^{III} 1.230 \left[0.55 \left(\frac{1.2 K^*_{(j)}}{E^*_{(j)}} \right)^{-0.6670} + 0.45 \left(\frac{L^*_{(j)}}{E^*_{(j)}} \right)^{-0.6670} \right]^{-1.6960} \times E_{(j)} \\
 & + \sum_{j=IV}^V 1.230 \left[0.55 \left(\frac{1.2 K^*_{(j)}}{E^*_{(j)} \div 2} \right)^{-0.6670} + 0.45 \left(\frac{L^*_{(j)}}{E^*_{(j)} \div 2} \right)^{-0.6670} \right]^{-1.6960} \times \frac{E^*_{(j)}}{2}. \quad (16)
 \end{aligned}$$

The result is shown in Table V. By the comparison of the four cases we can observe that 100 per cent and 200 per cent increases of the size of establishments in the groups IV and V will result in increase of the total product by 7.1

⁸ Scaperlanda [10] showed that the capital inflow from the United States did not increase remarkably in the case of EEC. The inflow of capital was quite large in the case of CACM (Central American Common Market). The case of the Andean Common Market is supposed to be somewhere between the two cases.

TABLE V
RESULTS OF THE CONDITIONAL PROJECTION

Variable		E	K/E	L/E	V/E	V	Ratio
Case							
A	I (5-9)	19,653	7.12	7.57	11.69	229,744	1.0000
	II (10-19)	12,553	16.94	12.72	25.90	325,123	1.0000
	III (20-49)	8,385	56.83	31.51	85.15	713,383	1.0000
	IV (50-99)	1,531	293.78	138.66	492.62	754,201	1.0925
	V (100-)	1,459	2,493.50	534.80	3,138.96	4,579,743	1.0887
	Total	43,581	83.45	35.91	151.51	6,602,794	1.0709
B	I (5-9)	19,653	7.83	7.57	12.41	243,894	1.0616
	II (10-19)	12,553	18.63	12.72	27.32	542,948	1.0548
	III (20-49)	8,385	62.51	31.51	89.33	749,032	1.0491
	VI (50-99)	1,531	323.15	138.66	513.40	786,015	1.1358
	V (100-)	1,459	2,741.91	534.80	3,249.66	4,741,254	1.1271
	Total	43,581	92.83	35.91	157.48	6,863,143	1.1131
C	I (5-9)	19,653	8.55	7.57	13.09	257,258	1.1198
	II (10-19)	12,553	20.33	12.72	28.63	359,392	1.1054
	III (20-49)	8,385	68.19	31.51	93.31	782,404	1.0958
	IV (50-99)	1,531	352.53	138.66	535.54	819,912	1.1877
	V (100-)	1,459	2,991.18	534.80	3,367.74	4,913,533	1.1681
	Total	43,581	102.20	35.91	163.66	7,132,499	1.1568
D	I (5-9)	19,653	8.55	7.57	13.09	257,258	1.1198
	II (10-19)	12,553	29.33	12.72	28.63	359,392	1.1054
	III (20-49)	8,385	68.19	31.51	93.31	782,404	1.0958
	IV (50-99)	1,021	528.62	207.93	848.09	865,900	1.2543
	V (100-)	972	4,489.85	802.47	5,293.92	5,145,690	1.2233
	Total	42,581	104.60	36.75	174.02	7,410,644	1.2019

per cent and 11.6 per cent, respectively, while 10 per cent and 20 per cent increases of capital stock by the foreign capital inflows will result in the increase of the total output by 4.2 per cent and 8.6 per cent, respectively.

The procedures and the results mentioned above will be effectively supplemented by the following further considerations:

(1) The addition of Bolivia and Equador: The share of these countries was only 12 per cent of the total of the five common market countries, so we assumed the rate of growth of product to be the same as in the other three countries in the course of forecast. But, naturally, these two countries need special consideration because both are relatively backward in the common market group and have many small establishments. Consequently, the economic benefits of integration will be very small for them and there exists a possibility that these countries will be relatively immiserized.⁹

⁹ Griffin [6] pointed out this possibility in his discussion about the effect on LAFTA (Latin American Free Trade Association). The relative situation of Bolivia and Equador heavily depends upon the fiscal and financial agreements in the course of integration.

(2) The influence on the small establishments: In this paper we assumed small establishments with less than fifty employees supply mainly local goods to the local markets, and neglected the change of the size of such establishments. But the situation may differ by kinds of industries.

(3) The neglect of the technical progress: We could not consider the acceleration of economic effects due to technological progress in the course of economic integration because of the limitation of statistical data, especially the shortage of time series data. However, we can expect an increase of exchange of information, which will surely accelerate the integration effects. In this sense, our results underestimate the integration effects.

III. SUMMARY AND CONCLUSION

In this paper we employed the statistics of manufacturing industries in three major Andean countries (Chile, Colombia, and Peru). We estimated the long-term (ten years) effects of economic integration of the Andean countries, assuming that the common market will be successfully organized.

A tentative conclusion, which is summarized from the results of conditional forecasts B and C, is as follows. When we specify that by the successful formation of the common market: (1) the size of large enterprises of fifty employees and above is doubled; and (2) the annual foreign capital inflow increases by 40–80 million dollars, which will result in increase of capital stock at 1980 by 10–20 per cent, the total output of manufacturing industries in the whole common market region will increase by 11.3–15.7 per cent in ten years.

These conclusions must be re-checked and supplemented by such additional considerations as the explicit treatment of Bolivia and Ecuador, the effects on the small and intermediate enterprises, and the effects of acceleration in technological progress. More basically, the measurement in this paper mainly emphasizes the supply side, implicitly assuming sufficient increases on the demand side. These limitations strongly suggest the comprehensive analysis of the integration combining both supply and demand sides in the future. For example Taylor [12] pointed out the difference of industrial structure and the relative share of export and import in connection with the trend of the final demand between large countries and small countries, and suggested that the relative share of the industrial sector will increase rapidly and the import substitution will be rapidly completed in the case of large countries (defined as more than 50 million). Based upon this classification the three major Andean countries will be classified as small countries. The conclusion of Taylor suggests that the economic integration of developing countries will greatly accelerate industrialization and import substitution through the increase of effective demand.¹⁰ This paper attempts an introductory supply side study as a cornerstone.

¹⁰ As for the size of the effects upon the structure of exports and imports, see Keesing [8].

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APPENDIX TABLE I
CLASSIFICATION OF GROUPS

Number of Employees	Country		
	Chile	Colombia	Peru
0	NA	NA	NA
1-4	NA	A	NA
5-9	A	A	A
10-14	A	A	A
15-19	A	A	A
20-24	} A	A	} A
25-49		A	
50-74	} A	A	} A
75-99		A	
100-199	A	A	A
200-499	A	} A	A
500-	A		A

Note: A, available; NA, not available.

APPENDIX TABLE II
COMMON CLASSIFICATION OF GROUPS

Group	Number of Employees per Establishment
I	5-9
II	10-19
III	20-49
IV	50-99
V	100-

APPENDIX TABLE III
BASIC DATA OF MANUFACTURING INDUSTRIES
IN THE THREE COUNTRIES

Country	Variable					
		E	V	L	W	K/E
Chile	I	2,325	16,810	11,830	4,743	4.07
	II	1,645	32,851	19,963	9,350	9.31
	III	1,129	57,015	31,280	16,667	33.14
	IV	388	52,915	25,360	15,720	65.03
	V	367	350,140	118,268	89,305	593.19
	Total	5,854	509,731	206,701	135,785	—
Colombia	I	3,366	29,520	21,711	10,677	5.50
	II	1,920	43,949	25,862	17,914	13.56
	III	1,241	91,673	37,739	33,119	39.77
	IV	452	94,197	30,185	31,835	92.11
	V	409	582,800	123,817	173,512	960.27
	Total	7,388	842,139	239,314	267,057	—
Peru	I	1,600	14,825	10,772	5,894	6.44
	II	1,134	28,970	15,283	10,825	14.54
	III	789	60,860	24,306	22,598	53.13
	IV	349	85,924	24,142	27,353	171.92
	V	323	588,573	90,427	141,191	1,252.59
	Total	4,195	779,152	164,930	207,861	—

Sources: The data are mainly from *Direccion de Estadística y Censos (Chile), III Censo Nacional de Manufacturas: 1957* (Santiago, 1960); *Direccion Nacional de Estadística y Censos (Peru), Primer Censo Nacional Economico: Industria Manufacturera, 1963* (Lima, 1966); *Departamento Administrativo Nacional de Estadística (Colombia), Investigacion Industrial: Industria Manufacturera (1959)*; and *Boletin Mensual de Estadística (Bogota)*, No. 131 (February 1962), pp. 21-43.

Notes: 1. *E*, number of establishments; *V*, value of net products; *L*, number of employees; *W*, value of wage payment; *K/E*, capital stock per establishment.

2. Monetary unit is 1,000 U.S. dollars measured at 1960 price. The nominal value in each country was at first deflated to 1960 price, then converted to 1960 U.S. dollars employing the conversion ratio by Braithwaite [4].