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LATIN AMERICAN EXPORTS AND IMPORT SUBSTITUTION POLICIES

by

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Exports play an anamalous role in the import substitution approach to development. On the one hand, the very rationale of the approach rests on the assumption that exports can no longer serve as an engine of growth. On the other hand, evidence is accumulating to support the notion that exports must expand along with GNP or the import substitution process itself cannot continue. Previous memoranda in this series have examined various aspects of the export problem. In RM-4, John Sheahan showed how the development process in Colombia had created a situation in which that country's economy became more rigidly dependent on foreign exchange earnings than seemed to be the case before the import substitution process was so far advanced. In a second paper on Colombia, (RM-11) Sheahan presented a series of regressions showing rather convincingly that changes in the exchange rate corrected for price level changes have significant effects on foreign exchange earnings of Colombia's exports other than petroleum and coffee. Clark Reynolds' paper on Mexico (RM-17) showed that that country's more favorable development relative to most other industrializing countries was due in part to the fact that its approach to development did not penalize exports. In RM-22, arguments and data were reviewed that were consistent with the notion that a country's failure to export was in part a symptom of misallocations, which harmed the growth process itself, and thereby penalized exports.

The purpose of this paper is to examine the determinants of the exports of manufactured products in Argentina, Brazil, Colombia, and Mexico. Attention is concentrated on manufactures for a variety of reasons. Total exports are dominated by a few commodities in each country and the analysis of these major exports is quite different from that for manufactures. Also the long run prospects for the major export items seem much less favorable than might be the case for new commodities. And, of course, there are already many studies available on problems associated with the exports of staple commodities. Most important however is the fact that the eventual exporting of manufactures or of other new products is a necessary condition for the success of the import substitution policy. (See RM-22.)

The paper is organized as follows: Part I consists of a brief review of the export picture in the context of an import substitution approach to development. This material draws upon the arguments and findings of previous papers in this series. It seems useful in the present paper both to set the stage, and to point up the relevant empirical and policy issues. Part II presents some empirical results that are pertinent to the arguments of Part I. In Part III, an effort is made to draw as specific policy conclusions as possible from the arguments and empirical evidence of Parts I and II.

I

The place of exports in the country pursuing an import substitution strategy of development may be summarized in the following way.

1. Traditional exports, chiefly agricultural products, raw materials, and minerals, are generally assumed to face a world demand that is inelastic with respect to both income and price. Productivity growth in these sectors also appears modest relative to that that has been achieved in other sectors. Hence an increase in the quantity of such exports may not increase, and can even reduce foreign exchange earnings.[1] To allocate new investible resources to these

1. For a formal statement of the conditions necessary for an output maximizing economy to allocate resources to import replacing activities rather than export activities see John Sheahan, "Import Substitution and the Terms of Trade" (RM-31) and the note by Henry Bruton attached to that paper.

activities therefore results in no increase in the goods and services available for domestic use, or, at best, in an amount below that obtainable from import substitution investment. In specific short periods this gloomy picture may not prevail, but as a longer run summary view it is a widely held view.

2. New activities must therefore be established. At the outset their costs of production are above world prices and the quality of their products unpredictable. Consequently these products cannot be exported, and their domestic survival depends upon protection or subsidy. In this event, in these new activities at the prevailing exchange rate, the ratio of factor payments in this country to those in other countries exceed the ratio of their productivities.[2] This

Write F_i and F_w for factor payments in country i and in the "world," and A_i and A_w are the corresponding indices of productivity. Then the statement in the text is that $F_i/F_w > A_i/A_w$.

situation emerges especially in countries where there have long been one or two dominant, high productivity activities (high, that is, with respect to the productivity in other countries), and which now can no longer absorb additional resources. New resources then must move into new, lower productivity activities, and factor owners are of course reluctant to accept money payments below the going level, i.e. below that received in the traditional higher productivity sectors. Hence costs will be higher, relative to the exchange rate, than they were in the traditional activities in the period before declining prices set in.[3]

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3. The argument here is more stylized than reality demands, but it is useful to put it this way to make its implications clear. The following, even more extreme example, may help. Suppose a country's traditional exports have been growing at five percent per year and world prices have been constant as has productivity in these activities. Then world prices of these items begin to fall, so the country's rate of growth of real income also begins to fall. The country can continue to allocate new resources to these export activities accepting the declining terms of trade. It can choose to allocate new resources into new activities where productivity, relative to that in other countries is low, and accept its declining real income in this fashion. Which it <u>should</u> do is the subject of RM-31.

There are three possible policy approaches to this situation.

a. Devaluation. A devaluation, measured in terms of local currency, raises the foreign demand curve. At some rate of devaluation then domestic prices would be competitive in world markets. The devaluation will result (in almost all cases) in a deterioration of the net barter terms of trade. Whether this deterioration is as great as that which would have occurred had the investible resources been

allocated to increasing the output of the traditional activities depends essentially on two things: i) the extent of the devaluation necessary to make the new products exportable and ii) the extent of the price reduction of the traditional products that occurs consequent to their increased output and increased exports.

Overall devaluation may have unnecessarily harsh consequences if the foreign demand curve for the traditional exports is inelastic with respect to price, so that a general devaluation results in a decline in foreign exchange earnings from these sources. As these exports are a major part of total exports, overall devaluation may reduce total foreign exchange earnings. In this situation multiple exchange rates (possibly in a disguised form) or a general devaluation accompanied by a tax on traditional exports is called for. This procedure (or any other) will not prevent a decline in the quantity of goods available for domestic use below that level which would have been possible had product prices not declined in the traditional activities. It will be less however than the reduction produced by a general devaluation.

b. Reduction in money payments to factors. As noted above, the export problem emerges because payments to the factors in the new activities are maintained at the same level as in the traditional activities. But by assumption the income producing capacity of the new resources is below that of the existing resources, and somewhere in the system the rate of growth of real income must be reduced. Devaluation does this by one mechanism, reduced factor payments by another. Devaluation raised the foreign demand curve in domestic

currency, and reduced factor payments shifts the supply curve downward.

Reducing factor payments does not lend itself to a simple policy procedure in the way that devaluation does, nor can it usually be done with one simple stroke as can devaluation. The upshot then seems to be that reliance on a reduction in factor payments is not a workable policy. The point however is important in that the effects of devaluation can be quickly nullified by rising money income to the factors of production. The factor payment issue then is that a devaluation (of one kind or another) must be accompanied by measures that prevent factor payments from rising.

c. Increased productivity. The only way to get aggregate output back up to grow from its previous level is by an increase in productivity in the newly created activities. This fact means that projected productivity growth should be a major criteria in the selection of the new activities to be established. A possible conflict in the selection of activities may be noted. To minimize the immediate cost of shifting into new activities a country would select those activities where the current level of productivity is highest. If however the productivity growth of these activities is below that of other possible activities, the economy may be sacrificing long run gain for a short run advantage. The relevant criterion is therefore primarily productivity growth, not the current level of productivity. A major question of course is how one projects productivity growth in various activities.

3. The preceding two points had to do with the price and

income inelasticity of foreign demand for traditional exports and with the cost of production of the new activities. A third aspect of the export picture has to do with the availability of commodities for export. The argument rests on the assumption that firms find it easier (in some sense) to sell in the domestic market than in foreign markets. This is especially the case with respect to products newly produced. Producers are more familiar with local markets, they find marketing abroad involves additional working capital, and they recognize that competition in quality terms is less at home than abroad. In addition exporting is or is believed to be more unstable and unpredictable than selling domestically, partly because foreign governments can curtail imports rather readily. These arguments suggest that, independent of cost considerations, relatively high levels of domestic demand result in a diversion of resources and products from the export market. This supply side argument has special relevance to manufacturing goods. This category of product, heavily weighted with consumer durables, probably faces a low domestic price elasticity and a relatively high income elasticity. A downturn in GNP or in the rate of growth of GNP will result in the appearance of underutilized capacity, and consequently producers begin to make a more important effort to export.[4] Exports are, on the basis of this

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4. This argument is worked out most completely in John Eriksson, "The Behavior of Manufactured Exports in Argentina, 1951-1965" mimeographed, 1968, and David Felix, "Subsidies, Depression and Non-Traditional Industrial Exporting in Argentina," Center for International Affairs, Harvard University, 1968.

availability hypothesis, expected to be related to changes in the level of internal demand relative to full capacity output. In the case where most manufactured goods are consumer durables, an increase in the rate of domestic saving should produce an increase in the rate of exports. This last statement assumes, of course, that cost conditions do not provide obstacles to the exporting.

The distinction between this availability argument and the cost effect considered previously is important. Here the argument is that with no change in price or in foreign incomes, a decrease in domestic demand sets in motion forces that produce a rise in exports. In the previous cases it was a change in price to the foreign buyer or in his income that produced the change in exports. If selling domestically is easier or more profitable as this argument implies, then a faltering of domestic demand creates incentives for producers to press for government policies that will increase domestic demand. Policies aimed at maintaining full utilization may therefore thwart the export effort. The question of the empirical validity of the availability hypothesis thus has rather important policy implications.

It is important to emphasize that the underutilization in this argument refers to that due to a decline in domestic demand. If the underutilization is due to supply bottlenecks, then the analysis and policy issues must be modified.

This summary of the issues involved in the developing countries' efforts to export has placed emphasis on three aspects: (1) The shift from traditional activities where physical productivity is relatively

(to the rest of the world) high to new activities where it is much lower: (2) The importance of recognizing that some reduction in the rate of growth of real income (below the level that would have been possible had world prices for traditional exports not fallen) is necessary. This reduction can be achieved by devaluation (partial or general) or by reducing factor money income payments, both of which should contribute to increasing the exports of the products of the newly created activities. The higher the rate of growth of productivity in the new activities, the more rapidly will the "lost income" be compensated for. (3) Finally attention was called to the possibility that a high domestic demand may divert products and resources from potential export markets to home markets.

In this picture of an industrializing economy, foreign exchange earnings can be increased at any desired rate, if the exchange rate is adjusted with no compensating changes in factor payments, if domestic demand for exportables can be controlled, and if the decline in real income and its rate of growth is accepted. Evidently the cost may be high, so high as to be politically and socially unacceptable. The extent (magnitude and length of time endured) of this cost varies inversely with the rate of growth of productivity in the newly created activities and inversely with the rate of decline in the price of traditional exports. Foreign aid can ease the burden, but it must not be used to hide the allocative signals or its very presence will serve to defeat the whole transformation process.

In Part II an effort is made to give a bit of empirical light to the arguments just enumerated, and in Part III some further

attention is directed toward policy matters.

II

The preceding established the importance of the exportation of manufactures in the context of an import substitution strategy. It also indicated that the prices of manufactured products, their domestic supply, and world income should affect the export performance of the country. The objective of this Part is to examine the exports of manufactures from Argentina, Brazil, Colombia, and Mexico in terms of the general argument reviewed above and worked out in more detail in the other Research Memoranda of this series.

A simple function that includes the variables just referred to may be written as

$$1)\quad X_{it} = a\, G_t^b\, p_t^c\, Q_t^d$$

where X refers to the manufactured exports of the i^{th} country measured in constant prices, G is a measure of world demand, P is the price of country i's manufactures (adjusted for changes in the exchange rate), relative to those of competitive sources of supply, Q is the level of output of the manufacturing sector again in constant prices, and t is of course time. Total imports and imports of manufactures by the more developed countries were used initially as the measure of world demand, G. Then, Gross Domestic Product in constant prices was tried, and proved to be both a stronger (i.e., higher elasticity) and a more reliable (higher t values) variable than the other two, and hence was used in the following regressions. That GDP works better may be due to imports from these countries being peripheral

to the imports of the richer countries. Thus if imports (total or manufactured) of European countries rise, these countries simply increase their imports from traditional suppliers. As their GDP rises however they import new products and a greater range of products and hence obtain imports from new sources. Equation 1 was estimated in logarithmic form for the four countries with the following results.[5]

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5. All data were taken from United Nations sources: Yearbook of International Trade Statistics, Monthly Bulletin of Statistics, and Statistical Yearbook. Variables are all logarithims. Subscripts A, B, C, M refer to Argentina, Brazil, Colombia, and Mexico respectively. Manufactured items include categories 5 through 8 in the SITC schedules.

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2) $X_a = -21.97 + \underset{(1.97)}{4.68G} + \underset{(.35)}{.70Q} - \underset{(.52)}{.65P}$

$\bar{R}^2 = .27$ D.W.=1.71

3) $X_B = -23.20 + \underset{(1.44)}{7.14G} - \underset{(.73)}{1.69Q} - \underset{(.89)}{.22P}$

$\bar{R}^2 = .86$ D.W. = 1.55

4) $X_C = -36.92 + \underset{(1.00)}{6.53G} + \underset{(.83)}{1.23Q} - \underset{(.86)}{1.42P}$

$\bar{R}^2 = .96$ D.W. = 1.75

5) $X_M = -17.50 + \underset{(1.17)}{3.55G} - \underset{(.81)}{1.24Q} - \underset{(1.16)}{2.72P}$

$\bar{R}^2 = .68$ D.W. = 2.50

These results were obtained from annual data for the period 1955-65. All of the data used were much better for this period than for an interval involving years prior to 1950. Where data were

available for 1950-65, the results were less clear cut, $\bar{R}^2$'s and t-values were lower. Hence the period from 1955-65 appeared a bit more useful to examine. (Numbers in parentheses are standard errors.)

As in all single equation arguments, there are major problems in interpreting the exact meaning of the calculated coefficients. Ideally, of course, one would like to be able to say that each coefficient represented a "pure" demand or a "pure" supply phenomenon. To do this requires assumptions about the way all the other variables in the equation or relevant to it have behaved, and there is little evidence to lead to such assumptions. The obvious example is the coefficient attached to the price variable. For this to be a "pure" demand elasticity means that over the period the demand curve remained constant while the supply curve shifted to trace out a demand curve. This is quite unlikely. It is probable that both the supply curve and the demand have shifted, and the coefficient is therefore somewhat motley. With respect to manufactured exports the available evidence on supply elasticities suggests that they are quite high which reduces the likelihood and the extent of bias in the estimates of the demand elasticities. The problem is less severe with respect to the income and output variables, but is not completely absent.

The following discussion will seek to expand on these issues as they arise with respect to the analysis of the individual coefficients.

1. The least surprising result is the fact that world demand, as measured by an index of real Gross Domestic Product of the more developed countries, has the largest elasticity and the largest t

values. This is generally, though by no means, true of all countries. In their study of income and price elasticities for fifteen industrial countries, Houthakker and Magee[6] show that only the United States,

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6. H.S. Houthakker and Stephen P. Magee, "Income and Price Elasticities in World Trade," The Review of Economics and Statistics, LI(May 1969), pp. 111-125.

France, and South Africa have price elasticities larger (absolutely) than income elasticities of demand for their exports. The same authors compute income and price elasticities of demand for United States exports by commodity class and by individual country, and in virtually all instances the price elasticity is distinctly larger. It may also be worth noting that the equation for Mexico for the period 1950-65 showed the coefficient of P distinctly larger (absolutely) than for G (-1.65 to .85), but, as already noted the data for the earlier years are a bit suspect. At any rate, the coefficient of G shown in the equations here are, in all cases, larger than the other coefficients in the equations.

Are the values of these coefficients high or low or about right? There, of course, is no way of answering such a question, but it does seem reasonable to say that these values do indicate that the demand for the manufactures of these four countries does increase significantly as the GNP of the more developed countries rises. Houthakker and Magee's computations show that for the income elasticity of demand for the exports of richer countries range from .86 (for the United Kingdom) to 3.55 (for Japan). This evidence suggests

that the four Latin American countries are in an especially strong position in terms of the impact of the growth of world income on the demand for their manufactures. A final comparison of some relevance for policy has to do with this elasticity for manufactured goods and that for total exports. In all cases the income elasticity for manufactured products is from 3 to 5 times that for total exports. This difference is large enough to justify the assumption that the manufactured exports of these four countries face a much more favorable income elasticity than do total exports. The latter of course are heavily dominated by traditional agricultural and mining products.

A final question that one may ask has to do with the observed differences among the four coefficients. Those for Brazil and Colombia are markedly higher than those for Argentina and Mexico. A comment or two on this question is reserved until the other coefficients have been examined.

2. The price coefficients are less convincing than those for GNP, but in some respects they are more interesting. Given the crudity of the price indices that had to be employed, the fact that the sign conforms to a priori expectations is something of a moral victory. It is only for Brazil that the t value is so small that one must reject the notion that the price variable is at all relevant in the export picture for this period.

The price variable used in the equation is an index of the price of country i's manufactures relative to an index of the price of manufactured exports of the more developed countries. The former index was adjusted for changes in the exchange rate so that P is

meant to measure the extent to which the price of Country i's manufactures change for the foreign importer relative to changes in the average price of alternative sources of supply. Evidently other price ratios could have been used. For a given Country i it is probably a bit more useful to select a small number of other countries that are more directly competitive with Country i, and use an index of their export prices. One might use, not the index of the price of manufactures but of wholesale prices, on the grounds that such an index better represents the price movements of all goods manufactured and this index is more pertinent than one which necessarily measures the prices of those commodities that have entered into exports. A bit of experimenting was done with other price measures, and they showed only modest differences from the results presented in the equations. More thorough examination would surely show however that some price ratios were more revealing than others.

The price coefficient measures the extent to which more developed countries are induced to switch the source of their supply of manufactures to Country i if its prices fall relative to those of competing suppliers. Thus the coefficients are not exactly conventional demand elasticities, but rather indicative of the substitutability among sources of supply. A coefficient of two, for example, does not mean that if Country i reduces its manufactured price index by five percent, the quantity demanded for its exports would rise by ten percent. It must be five percent relative to other suppliers' prices.

It seems reasonably safe to assert that, except for Brazil,

the equations support the notion that Country i's prices relative to those of other countries do matter. The coefficients are high enough, and, more concretely, these elasticities compare quite favorably with those computed for the industrialized countries. Houthakker and Magee's computations yield an average elasticity of -.93 for the eleven of their fifteen countries where the sign was negative. For only the United States, France, and South Africa is the coefficient in excess of unity. Indeed Argentina's -.65 and Brazil's -.22 (if accepted at face value) would rank sixth and ninth respectively in the ranking of the fifteen industrial countries' coefficients. Finally, these elasticities for manufactures are much higher than those computed for total exports for the four countries.

One further point is relevant to this discussion. Evidence for other industrialized countries shows that estimates of elasticities from global data generally evidence a downward bias. Thus Houthakker and Magee's data for the United States exports by country usually (18 out of 24 cases) yield much higher (absolutely) estimates than those computed from exports to all countries taken as a global figure. Similarly a careful study by Junz and Rhomberg of the manufactured exports of eleven industrialized countries show that 27 coefficients with the right sign have an average value of -5.1 relating to individual markets, while 17 coefficients relating to composite markets, have an average of -2.1.[7] Since the global

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7. Helen B. Junz and Rudolph R. Rhomberg, "Prices and Export Performance of Industrial Countries, 1953-63," International Monetary Fund Staff Papers, XII, July, 1965, pp. 224-271.

elasticities obtained here for the four Latin American countries compare favorably with those for the industrialized countries, it would appear appropriate to assume that the global estimates obtained for the four Latin American countries would also be lower than those which obtain vis-a-vis most countries. Although the data are not available to compute these country P elasticities, the evidence for such a wide range of other countries is such that it appears acceptable to argue that the values shown in the equations are below those that would prevail on a country-by-country basis.

3. The interpretation of the coefficient of Q is less straightforward. The arguments of Part I included the notion that the level of internal demand affected exports via an availability effect. The less is domestic demand relative to capacity, the argument runs, the greater incentive producers have to search out export markets. This effect is assumed to operate independently of the income and price variables. In the statistical equations the Q is the (log of) real output of manufacturing in Country i. Evidently this is not the variable the argument calls for, but its study may help a bit.

The equations show the Q coefficient to be positive for Argentina and Colombia and negative for Brazil and Mexico.[8] One

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8. These signs and about the same magnitudes obtain for other time periods and other measures of world demand and price variables.

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cannot say which sign is a priori expected. A negative sign might be a consequence of an ordinary multiplier at work. An increase in the output of manufactures induces an increase in domestic income which

in turn increases internal demand for the exportables, and thereby lowers exports. It is unlikely, of course, that the manufacturing sector alone is large enough to effect this sort of phenomena. It is not unlikely, however, that output of manufactures expands as total GNP expands, and thereby demand is generated for manufactures which would otherwise be exported. If this explanation of the negative sign attached to Q's coefficient is roughly accurate, then it means that the availability argument as stated above is not directly applicable. Rather it would appear that output expanded behind the increase in domestic demand and supply was diverted from exports to meeting the rising domestic demand. In particular the evidence does not support the view that underutilization of manufacturing capacity induces producers to seek out successfully export markets to replace the sagging domestic market.

A positive coefficient attached to Q suggests a more nearly direct application of the availability argument. A rise in output now results in a rise in exports. Within the context of the argument here, one cannot say why the increased output occurred. Still the fact that the increased output apparently induced increased exports (independently of changes in G and P) is consistent with the notion that producers did pursue exporting more avidly as the domestic market was not expanding as rapidly as capacity. One may then conclude that for Argentina and Colombia, these equations are not inconsistent with the notion that downturns in domestic demand does in itself induce export.[9]

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9. There is other evidence to support this in the case of

Argentina. See the papers of Eriksson and Felix cited in Part I. In the case of Colombia, however, Sheahan (RM-11) argues that there was underutilization which did not lead to increased exports without devaluation. Natheneil H. Leff, "Export Stagnation and Autarkic Development in Brazil, 1947-1962," Quarterly Journal of Economics, May 1967, argues that Brazilian producers tended to base investment plans on projections of the home market and "to export anything leftover." This is an argument similar to the hypothesis considered here, and his evidence casts doubt on the interpretation given to the Brazilian equation above. Leff's strongest evidence however applies to post 1965 years.

These results are inconclusive for the four countries considered here, and certainly no generalization emerges. Experimentation with other forms of equations were even less revealing. The hypothesis is however important and, as noted in Part I, has policy implications of considerable significance,[10] and considerably more

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10. The availability argument has been applied to Great Britain in R.J. Ball, J.R. Eaton, and M.D. Steuer, "The Relationship Between United Kingdom Export Performance in Manufacture and the Internal Pressure of Demand," The Economic Journal, Sept. 1966. The hypothesis is strongly supported by their findings.

One alternative equation may be mentioned. A regression between the ratio of exports to total manufactured output and national income was tried. This showed nothing for any country except Mexico where a strong negative coefficient appeared. This of course does suggest that rising domestic income does keep down exports, and is not inconsistent with the argument in the text accounting for Mexico's negative coefficient for Q.

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work is called for.

4. The final aspect of the regressions that merit comment has to do with the intercepts. In all four equations they are strongly negative. Two comparisons make this result of great significance. In the Houthakker-Magee study nine of the fifteen advanced countries have positive intercepts, and the six negative ones are very much

smaller absolutely than those for the four Latin American countries. The differences are so marked that there is no doubt that they represent something real. Similarly, the intercept for equations with total exports as the dependent variable is positive for all four countries. The interpretation that one should attach to these results would appear to be the following: compared to their own total exports and to the predominantly manufactured exports of the industrialized countries, the four countries considered here have major difficulties entering the world markets for manufactures. The hurdle does not appear to be low or perverse eleasticities, rather it appears that the obstacle is that the situation must be quite favorable for exporting or the countries cannot export manufactures at all. These countries are outside the regular flow of manufactured trade, and enter only well after the more developed countries are in the swing of exporting.

This conclusion is consistent with a cross section study of manufactured exports from developing countries reported in RM-22. That study, built around rates of growth of exports, output, and prices, also showed that elasticities were favorable, but that rates of growth of world income and rates of change of relative price movements had to be large (compared to the more developed countries) before the developing countries began to export at all.[11] It is also

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11. The Sheahan regressions for Colombia show a similar picture. Further corroborative evidence can be found in Barend A. DeVries, The Export Experience of Developing Countries, Occasional Papers, Number 3, International Bank for Reconstruction and Development, Washington, D.C., 1967.

consistent with the explanation of the role of GDP in the equation (rather than imports) given above.

The positive intercepts for total exports for the four countries indicate that with respect to the items that dominate this category (agriculture, raw materials, minerals) the countries are already in the trade network with established trade flows. For these products, however, the elasticities pose the problem. The distinction between the two types of problems, the two types of hurdles, is important in both understanding and in prescribing policy.

To recapitulate briefly. The equations for the four Latin American countries suggest that their price and income elasticities for manufactured exports compare quite favorably with those of the already industrialized countries, and these values are "high enough" to be relevant to the policymaker. The evidence of an availability problem for exports is not conclusive. The very low intercept values of all the equations suggest that these countries do have a hurdle in the form of entry into the world trade network for manufactures. It is this entry problem which seems to differentiate the developing countries from the industrialized ones.

The arguments have been built around regression equations for the four Latin American countries. Other evidence for other newly industrializing countries suggests that the picture just described is not atypical for such countries in general.

III

Regression equations explaining exports are subject to a

virtually limitless range of difficulties, and policy measures built on the specific results can always be disputed. Nevertheless, it is useful to ask explicitly what the policy implications are of a given series of empirical results, even if these policies turn out to be neither novel nor hitherto unsupported.

The point of departure is the simple notion that it is essential to get manufactures into the export markets. The advantages accruing from doing this have been examined elsewhere (RM-4, RM-13, RM-11, RM-22). They include those advantages associated with the existence of strong and continuing competitive pressure, on costs and productivity growth, of operating in a market large enough for scale economies to be realizable, of greater access to new product ideas and information about world product demand and technology, of greater pressure to direct investible resources into activities that make sense in terms of world supply and demand curves, and of the consequent incentives to use domestic resources in the most effective manner. Note that this list does not contain simply earning foreign exchange. Though it is not suggested that the foreign exchange earned from the exporting of manufactures be ignored, it is important to recognize that such earnings are incidental to -- better, a by-product of -- the other advantages. The objective "earning foreign exchange" -- just as that of "saving foreign exchange" -- seems to lead to policies that either misallocate or, at best, seek to correct misallocations imposed by other policies aimed at saving or earning foreign exchange. The central point then is that getting manufactures into the export markets is a necessary condition for the developing

countries to realize not only the full output possible from their present resources, but the greatest increase over time in the productivity of these resources as well. Consider now a number of more specific policy issues.

1. The evidence is quite convincing that manufactured exports must be considered separately from traditional exports. This result is not surprising (and is supported by considerable evidence in other papers in this series), but its policy implications have not been widely explored. Latin Americans tried multiple exchange rates, and few would recommend a return to this particular instrument. At the same time, measures that distinguish between traditional and non-traditional export items seem called for. Two measures may be mentioned. One is a devaluation that applies to certain goods and not others along the lines of the Pakistan Export Bonus Scheme,[12]

12. Henry J. Bruton and Swadesh Bose, The Pakistan Export Bonus Scheme, The Institute of Development Economics, Karachi, Monograph No. 11, 1962.

or an overall devaluation accompanied by an export tax on traditional export categories. That this type of measure may be effective follows from the acceptance of the assumption that the price and income elasticities of demand for manufactures are much higher than they are for traditional exports, and that productivity growth does not compensate for these low elasticities. Between these two methods the basis of choice is probably that of administrative feasibility.

2. The devaluation, it is recalled, serves not only to make Country 1's costs competitive in world markets, but also to dampen

the rate of growth of real income. That such dampening is necessary follows from the fact that the investible resources are now being allocated into activities where their relative physical productivity is below that in the traditional sectors. If economic agents are successful in raising their money incomes, this fact not only raises costs beyond world market levels but also will produce either inflation or unemployment depending on monetary policies. Either will tend to make the industrializing process more difficult. Hence part of the devaluation package is a set of policies that will keep factor incomes from rising. To repeat, this latter point in the present context is not a matter of the saving rate, but rather a matter of recognizing that the industrializing period as worked out here involves real income losses or, more likely, dampening growth. To achieve this policy objective and transfer resources in the prescribed manner is perhaps the most complex aspect of the process.

3. This validity of the approach outlined here depends heavily on the income and price elasticities of the demand for manufactured exports. If one found, for example, that these elasticities were of negligible size, then the approach loses its appeal. The regressions of Part II showed strong income elasticities for all four countries, but rather unconvincing price elasticities for Argentina and Brazil. It is useful to ask why this difference in calculated price elasticities. In a very broad sense composition of manufactured output is similar enough among the four countries that it can be used to account for very little of the observed differences. Mexico has perhaps a modest location advantage for the United States market,

but this too can hardly explain very much. One could mention a variety of other specific factors, but there appears at least one argument of some generality. In both Brazil and Argentina the distortions accompanying the industrializing process appear more severe than in either Colombia or Mexico, i.e., prices and factor payments were less appropriate signals than they were in Mexico and Colombia. Such a statement is most defensible with respect to the exchange rate, but can be defended as well when applied to wages, capital costs, and product prices.

In the case of Brazil there were, over the period considered here, a range of specific policies that tended to offset price effects. Almost all Brazilian exports were subject to licensing during the 1955/65 period, and in many instances exports were prohibited even when domestic price was below world price.[13] Therefore even if the

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13. See Leff, op. cit., pp. 289-291.

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price signal dictated exporting, to export was frequently forbidden by government edicts. In those cases where demand for the exportable was price elastic, keeping the domestic price "down" would also keep the quantity demanded domestically "large," and thereby reduce exports further (RM-22). Finally, the inflation together with the failure to devalue along with it had some downward effect on Brazil's price elasticity. If the producer plans to export under these circumstances, his profit rate is heavily dependent on the rate of inflation and the extent of devaluation. With devaluation lagging

well behind inflation and with inevitable lags in delivery and in payments for exports, behind orders and price commitments, a producer is deterred from exporting even if current prices would so dictate.

In Argentina policies with a similar impact created a continuing situation where response to price incentives to export was also reduced. These policies included a not very satisfactory dismantling of multiple exchange rates, and export subsidies which fluctuated rather unpredictably. These are added to an industrial sector that was strongly oligopolistic and to an inflation situation similar to, if less potent, than that in Brazil.[14]

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14. For further elaboration, see Felix, op. cit.

There is no doubt that these same policies (plus others) discriminated against exports, but the point here is that the same set of circumstances and policies also discriminated against observed price elasticities. The hypothesis suggested to explain the difference between the observed price elasticities for Argentina and Brazil on the one hand and Mexico and Colombia on the other is that the internal policies and market situation of the first two countries were such that exporters could not respond to price incentives as they could in the latter two. If there is truth in this hypothesis, then the movements toward an allocation more nearly consistent with that which true scarcity prices would dictate will also increase the responsiveness of the system to price incentives, i.e., in this case increase the price elasticities. Where the exchange rate is a

strategic allocative variable, then its correction may not only result in increased exports, but, as just noted, in increased responsiveness of the system.

In Mexico and Colombia the computed elasticities are such that, once these countries are brought into the trade network, their adjustments via price changes should be as readily accomplished as in the industrialized countries. A major slowdown in the growth of the advanced countries GNP would have serious consequences, of course, but it would have serious consequences for all trading nations, advanced or otherwise. Such a comparison between the two groups of countries should not be read to imply that Colombia and Mexico's industrialization policies have been faultless. Rather the point is that in a situation that is basically similar, Argentina and Brazil's policies tended to distort more than the more nearly outward looking (less inward looking) policies of Mexico and Colombia, and this fact is relevant in explaining differing price elasticities.

4. The policy issue flowing from intercept values is much less clear than are those just discussed. The policy measures already examined can make an important contribution, but additional policies are called for. Simon Kuznets has suggested that the rapid growth of international trade relative to output during the sixty years or so prior to World War I was largely due to the entry into the process of industrialization and trade of countries which prior to the mid-nineteenth century had not participated.[15] Entry in this period

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15. Simon Kuznets, Modern Economic Growth, Yale University Press, New Haven, 1966, pp. 300 ff.

involved little displacement of other countries, little usurption of existing trade flows. In present circumstances the presently industrializing countries must, to a much greater extent than previously, displace existing flows. One of the reasons why a rapid growth of world GNP is so advantageous to industrializing countries is that it reduces the extent that such displacement is necessary for entry by newly industrializing nations. It is unlikely however that GNP growth can be high enough to absorb the manufactures of developing countries without substantial alterations in the present trade routes. Such modifications are likely to be quite difficult to effect.

It is in this area of the export question that policies in the advanced countries have their greatest relevance. The frequently mentioned proposal that advanced countries reduce tariffs and other import impediments for products from industrializing countries is useful in this connection. Such a policy would have the effect of providing a once over incentive for the advanced countries to accept new imports from the industrializing countries. It is important however to recognize that such a policy does have essentially a once over effect. The continued exporting of manufactures depends on the capacity to maintain a competitive price. A high price elasticity works both ways of course. It indicates the country gains by relative price reductions, but it also means that the country cannot maintain its markets if its prices rise relative to those of other exporters (RM-22).

At the same time a once and for all event that facilitates entry into the trade network can help overcome the "intercept problem," and the importance of this problem does merit special measures. One can also mention a range of other approaches to this question. Questionnaire evidence reported by the United Nations indicates that importers often are reluctant to buy from manufacturers in less developed countries because of the lack of service representatives in the importing countries. The same evidence indicates that marketing and sales representations have probably not exhausted their effectiveness. Especially useful would be marketing studies which sought to pinpoint areas in which it appears that entry is relatively easy. Such activities add to the costs of establishing the new manufacturing activities, and, as noted above, are one of the reasons why manufacturers in the industrializing countries prefer domestic to foreign markets.

These remarks suggest another aspect of export strategy. Specialized export markets are likely to be more accessible than are broad, general markets because the usurping involved in the former is less than in the latter. Thus marketing information can affect the kind of new activities that a country seeks to establish. Evidently to proceed in this manner is quite contradictory to an approach that involves keeping out imports. It may also be the case that the total cost (i.e., including marketing costs) for selected activities where export entry is possible is less than for an activity whose products must overcome major hurdles, must engage in substantial

usurption to gain entry. In any event this point complicates the selection process for new activities, and is an issue on which little work has been done.

5. Some reference to the role of foreign aid in the present context is in order.[16] Emphasis has been placed on the necessity of

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16. The following remarks about aid also apply to any source of foreign exchange receipts outside the central activities of the economy. Tourism and oil are examples of this latter form of "aid."

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a declining rate of growth of real income during the industrializing phase. This fact follows from the allocation of resources into new activities where their relative physical productivity is lower than it is in the traditional activities where declining demand elasticities are at work. It has further been emphasized that foreign exchange earnings are not likely to rise very rapidly or may even decline during this interval unless the economy is squeezed very hard indeed. The necessity for squeezing follows from the inability to increase foreign exchange earnings from traditional exports, from the small size of the manufactured sector, and from the devaluation to be imposed in order to make manufactured goods competitive in world markets. At the same time to carry out the industrialization transformation requires a high or possibly increasing rate of saving and exporting (RM-21).

In this situation it is evident that foreign aid can mean the difference between a successful and unsuccessful industrialization effort. It is however also evident that aid can have the consequence

of inhibiting the adjustments described above that are necessary for the newly created activities to enter the export markets. Aid can contribute to a situation in which the new activities have incentives to choose uneconomic techniques, and can further contribute to failure of productivity to grow as rapidly as it might. Briefly the point is this: aid can be essential in order to permit the saving and exports to effect the industrialization process. In doing this, however, aid must not be used to interfere with the adjustment processes outlined above. To illustrate: if aid (of tourism or oil) is available, then a government might not devalue because devaluation is unnecessary in order to obtain foreign exchange. The argument here however is that the devaluation is necessary in order to make the newly created activities economically viable. Aid must somehow be used to relieve a bit of the squeeze without eliminating all the pain.

Two further general points can be made. Aid is to be used to enable the industrialization transformation without unbearable reductions in living standards. This however does not mean that aid can be used only to finance identifiable investment projects. In particular aid can be used to facilitate the implementation of policies designed to achieve the kind of adjustments worked out above. For example, where devaluation breeds inflation, devaluation accompanied by aid may break the inflation pressure. Another example has to do with the availability of aid to facilitate the offsetting of certain institutionally imposed distortions. In a situation in which the institutional floor under wage rates is above the level that would

lead producers to choose the optimal technique, aid can facilitate the establishment of a subsidy system based on employment. In a similar way, aid can be used to help correct, or eliminate, policies that have become established and that add a distortionary effect to the economy. Chief among these are direct controls on investment and imports that have ceased to perform in the manner intended. Then aid can also of course be used to carry out the kind of market research noted above, to support productivity increasing innovations and research, and perhaps to underwrite certain risks attached to experimenting with new techniques, new products, and new export markets. What all this adds up to is simply stated but difficult to carry out: aid is to reduce the real cost of the industrialization transformation and aid is to facilitate the implementation of the kinds of policies that previously were shown to be essential to this transformation.

Summary. Part I of this paper reviewed the general role of exports and of manufactured exports in particular in the import substitution approach to development. In Part II regressions aimed at explaining manufactured exports from Argentina, Brazil, Colombia, and Mexico were examined. The chief conclusion here was that the elasticities appear quite favorable for the expansion of manufactured exports, although there is an intercept problem of some magnitude. In Part III some specific policy implications of Parts I and II were considered. The major point here had to do with the importance of getting manufactures into the export markets and, hence, policies must be designed for that end as well as simply getting domestically manufactured goods to replace imported ones.