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IN A SEMI-INDUSTRIALIZED,
AGRICULTURAL EXPORT ECONOMY:
THE ARGENTINE CASE
by
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1

BALANCE-OF-PAYMENTS ADJUSTMENT IN A SEMI-INDUSTRIALIZED,
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Richard D. Mallon

One of the hottest continuing controversies in Latin America, and for that matter in all developing countries suffering from long-term inflation and chronic balance-of-payments difficulties, is whether once-and-for-all devaluation accompanied by temporary deflationary policies can cure the illness and launch the patient on a sound new expansion path after a brief period of convalescence. Argentina has over the last fifteen years or so served as a kind of laboratory for practitioners of this kind of medicine. The results of this experience have unfortunately been obscured in the largely sterile controversy between monetarists and structuralists, which often sounded like a debate on which should come first, economic policy or institutional change. To this author the real issues concern the selection of a viable combination of economic policy and institutional change, general measures and direct action, and their effective synchronization over a sufficient length of time to get results.

Since World War II the countries which have suffered more from persistent inflation and balance-of-payments difficulties are among the so-called semi-industrialized nations. Each country's experience of course is, to a certain extent, unique, but the very fact that during the last fifteen years Argentina has not been able to sustain a satisfactory rate of growth without balance-of-payments difficulties, in spite of constant and diverse efforts to correct external imbalances, suggests that it would be wise to look at the problem in broader perspective before examining Argentina's experience in detail.

Export performance of semi-industrial countries. Perhaps the most useful way of classifying the semi-industrialized countries is by per capita income and total market size. Based on data for 1960 and 1965 recently compiled by Hagen,^{1/} three more or less distinct groups can be identified: (1) The relatively poor countries (less than \$150 per capita GDP) with substantial domestic markets; India and Pakistan clearly fall into this category with Indonesia and the Philippines on the borderline. (2) Intermediate and upper income countries (over \$200 GDP per capita) with rather small domestic markets but with export-oriented industries; most of these countries had an important entrepot trade before they industrialized (Hong Kong) or benefit from special situations (Puerto Rico and Israel). (3) The more "typical" medium income countries (between \$200 and \$600 GDP per capita) with substantial internal markets.^{2/} Argentina falls into this last group, which is the one we will devote our attention to.

There were an even dozen countries in group 3 in 1960, all of which are located in southern Europe or lands of recent settlement outside of Asia and black Africa and have relatively favorable population-resource ratios and temperate or mixed climates (in the three countries with mixed climates, the more developed areas are in the temperate zone). Their patterns of trade and industrialization are also remarkably similar. They are all specialized in the export of primary goods, mostly those which compete with (usually) less efficient but protected domestic output in the

^{1/} Mimeo, 1968.

^{2/} For the medium per capita income countries, the lower limit for "substantial" domestic market was set at a total GDP of \$3.5 billion in 1960 so as to include Chile and Greece. New Zealand's domestic market was about the same size this year, Norway's and Finland's only a little larger. In this analysis the major petroleum countries have been excluded for obvious reasons.

advanced countries. This is undoubtedly one of the main reasons why between 1937-38 and 1955 the volume of world trade in the commodities exported chiefly by group 3 countries remained practically stagnant, in contrast with a 124 per cent increase in other commodities exported chiefly by non-industrial countries. With few exceptions the manufacturing production of group 3 nations is sold almost exclusively in the domestic market, unlike the countries in groups 1 and 2. In 1955 finished manufactures typically accounted for 3 per cent or less of the total value of group 3 exports.^{1/}

It is not our purpose in this paper to pursue this line of thought any further, but this description of the members of the semi-industrial club in the mid-1950's suggests that most of them had a kind of dual economy different from that usually described in the literature. Whereas their primary sectors were highly competitive internationally (unlike many of the very rich and the very poor alike) in secondary production, built up largely during the Great Depression and World War II behind high natural and artificial protective barriers, they had not yet been able to establish a comparative advantage in a significant number of product lines.

How does Argentina fit into this picture? Again according to Maizels, the volume of world trade in Argentina's principle export commodities declined by 12 per cent between pre-war and 1955, whereas the volume of Argentine exports declined by 38 per cent. The fall in the Argentine share of world trade in these products may have been partly due to her lack of a sheltered market such as was enjoyed by British Commonwealth countries,^{2/}

^{1/} See Maizels, Alfred, Industrial Growth and World Trade, the National Institute of Economic and Social Research, Cambridge University Press, 1963, pp. 59 and 122-3. The shares of finished manufactures in the exports of the two countries where they were more important -- Yugoslavia and South Africa -- only amounted to 13 and 11 per cent respectively, and most former members of the group which are now upper income countries still do not export manufactures on an important scale (in 1955 they represented only 6 per cent of Australia's exports and less than 1 per cent of New Zealand's).

^{2/} According to the 1958 GATT Report on Trends in International Trade, the degree of shelter seems to have played a significant role in relative rates of export expansion.

but domestic policies clearly played a vital role. Particularly notable in the case of Argentina was the lack of any correlation between changes in the volumes and unit values of individual export products which can be observed in the majority of other countries in the group. In other words, her poor relative export performance seems related to insensitivity of the internal allocation of resources to foreign trade opportunities.

The conclusion which I think should be drawn from the foregoing analysis is important for what follows. Argentina did not take full advantage of her traditional trading opportunities up to the mid-fifties, but even if she had and her share of world trade in these commodities had been maintained, the purchasing power of her exports would still have declined by about 10 per cent below the prewar level. Argentina would still probably have suffered from balance-of-payments difficulties at a somewhat higher rate of growth unless she had done considerably better than other group 3 countries in primary export expansion or unless she had developed a strong comparative advantage in a substantial range of manufactured goods, which she did not.

Argentina's supply of foreign exchange. Keeping the above conclusion in mind, let us now take a closer look at Argentine experience with the purpose of trying to quantify the constraints under which balance-of-payments policy must function.

To begin with, it is rather unfortunate that Argentina's exports are mainly composed of basic domestic wage goods, primarily foodstuffs and fibers. Argentine exporters have therefore been caught between political pressures abroad to defend foreign domestic producers from Argentine competition and populist sentiments at home in favor of cheap food and clothing

for the urban masses. It should be noted in passing that political pressures in Argentina cut in exactly the opposite direction from those in nineteenth century Europe, where cheaper food and clothing signified larger imports and foreign trade. It is therefore not surprising that during Peron's populist years he played urban labor against "agro-exportador" interests and turned the internal terms of trade against the farmer. His efforts in this direction did not have serious consequences right after World War II when Argentina's external terms of trade reached their peak; and even when foreign exchange reserves began to decline precipitously in the late 1940's, he was again bailed out by the Korean War. But the post-Korean drop in international commodity prices and the disastrous drought of 1952 forced him to reverse his policy towards agriculture.

Between 1952 and 1964 the relative prices of rural goods (ratio of wholesale prices of rural to non-rural goods) increased by no less than 53 per cent to approximately the pre-World War II level. This remarkable achievement, obtained in the first instance by subsidies to agriculture and later by a series of devaluations, did not have much impact on total agricultural output, at least until the very end of the period. This experience might at first seem to be in conflict with the relatively high responsiveness of output of individual agricultural commodities to changes in relative prices, as demonstrated in a number of studies.^{1/} What these studies measure, however, is the elasticity of substitution between rural commodities, not the overall supply response of the sector.

Furthermore, wide fluctuations in relative prices during the whole period under review have tended to obscure underlying relative price trends.

^{1/} See, for example, Price and Production Duality Within Argentine Agriculture, 1923-1965, unpublished Ph.D. dissertation, University of Chicago, December, 1967.

One important example is the steer/grain price ratio, to which substitution in the use of land between cattle pasture and crops appears to be particularly sensitive.^{1/} The peaks and troughs of this ratio (average price of steers in Liniers market divided by the weighted average wholesale price of wheat, maize, linseed and sunflower) have been approximately as follows:

<u>1941/42</u>	<u>1945/46</u>	<u>1946/47</u>	<u>1947/48</u>	<u>1954/55</u>	<u>1957/58</u>	<u>1958/59</u>	<u>1961/62</u>	<u>1964/65</u>
6.0	1.9	3.0	2.7	4.5	3.3	8.0	3.1	(5.0)

These fluctuations have induced very sharp changes in land use. During the 1956-59 trough, for example, cattle stocks are estimated to have declined from almost 47 to 41 million head, while total cropped area in the pampas zone rose by about 2.5 million hectares, or by almost 10 per cent.

Of particular importance for the balance of payments is the fact that the short-run price elasticity of supply of beef is negative. When relative price increases induce an expansion in cattle herds, more cows and heifers are retained for reproduction and young animals are kept longer on pastures for fattening, thus reducing the flow of meat to the market and providing further upward pressure on prices. Thus, the short-run effect of the kind of price adjustment which took place in 1958-59 is to reduce total supplies of export goods, whereas the shift in 1962-63 had the opposite effect.

Not only have relative prices between rural goods been highly unstable, but the overall terms of trade between rural and non-rural goods have also fluctuated wildly. Earlier it was mentioned that between 1952 and 1964 the ratio of wholesale prices of rural goods to non-rural goods increased by

^{1/} See Agricultural Development and Economic Growth, a report of a study made by economists of the U.S. and of the Argentine Government, mimeo, 1962.

53 per cent, or by an average of about 3.7 per cent per year. The standard deviation of this ratio over the period, however, was of the order of 7.6 per cent (using semester data). This degree of uncertainty must surely reduce very substantially the efficiency of market price signals in the allocation of resources, particularly of that kind of fixed investment which not only requires several years of favorable prices to obtain a satisfactory rate of return but is also specifically related to output of a particular commodity. Examples which come to mind offhand are artesian wells, fencing and improved grasses for cattle pasture, on-farm grain storage and handling equipment, and specialized machinery such as mechanical corn pickers.^{1/} Fragmentary information indicates that indeed Argentine farms have become less specialized over the last two decades, which is a rational reaction to uncertainty and may have favorable productivity effects in cases where output of two or more commodities is complementary. But our impression is that uncertainty has also impeded the introduction of technical advances in which Argentine agriculture lags.

Price instability is only one of the important problems with which Argentine farmers have had to cope. Between 1950 and 1960, one-third of the rural labor force migrated to the cities, thereby requiring heavy investment over a short period of time in labor substituting equipment. Related to this out-migration was the adoption of legislation freezing rural land rents and sharecropper payments, which made the system uneconomic to landowners as inflation reduced the real value of such payments. During the same period railway transport deteriorated to such an extent that trucks largely replaced trains in the transportation of farm products even over

^{1/} See Fienup, Argentina: The Sleeping Giant, mimeo, 1968, pp. 89-99 passim, for specific examples by crop of deficiencies in special purpose capital equipment.

long distances, with a consequent increase in real marketing costs. And farmers have had little access to agricultural research and extension services; the government agency established for this purpose (INTA) was only set up in 1957, is just beginning to field an effective extension effort, and still has not solved certain basic problems such as the response of non-irrigated Pampean crops to different systems of fertilization.

But the most serious institutional deterrents to agricultural modernization in Argentina are probably the following: (1) the indemnification which landowners are obliged to pay tenants at the termination of rental agreements for improvements carried out by them is limited to a maximum of 20 per cent of the fiscal valuation of the land; and (2) longer-term tenancy and sharecropper arrangements have tended to be replaced by a system of "contratistas," or short-term (one- or two-year) rentals. Since fiscal land valuations are notoriously low, both of these aspects of the owner-tenant relationship provide great disincentives for investing in permanent improvements aside from the essential minimum housing for the tenant.

For these reasons I am very skeptical of both the "structuralist" explanations of agricultural stagnation (i.e., that in effect farmers are not economic men) and of the statistical measurements which have been made of the elasticity of supply of agricultural goods in Argentina. Furthermore, relatively high price elasticities of substitution between competing agricultural commodities, even if not biased by the profound changes which have affected Argentine agriculture, are not very helpful in estimating the effect of an increase in relative prices on total export supply.

Measurement of the elasticity of domestic demand for export commodities does not, however, pose the same kind of problems. In view of the fact that reduction in domestic absorption of export goods can also be a powerful lever for balance-of-payments adjustment, we now turn our attention to this subject.

One would expect a priori that the price elasticity of domestic demand for Argentina's export goods is pretty low, since they are mainly composed of foodstuffs. But Larry Sjaastad has come up with a cross-elasticity of demand for agricultural products of over -0.8, and the implicit average elasticity revealed in Jeffrey Nugent's regressions appears surprisingly high.^{1/} Carlos Diaz, on the other hand, estimated the price elasticity of domestic demand for "exportables" to be -0.35; and Willy van Rijckeghem's estimate for agricultural goods, which can be read directly from the regression equation because the variables are expressed in terms of annual percentage changes, is as follows:^{2/}

$$C_a = 0.47 + 0.75Y - 0.19(Y-W) - 0.23(P_a - P_r), R^2 = .90,$$

(0.94) (0.21) (0.09) (0.06)

where

C_a = consumption of agricultural goods,

Y = total national income,

$(Y-W)$ = total income less wage income, and

$(P_a - P_r)$ = agricultural prices less other prices.

^{1/} Larry Sjaastad, The Foreign Trade of Argentina: Prospects for the Traditional Export Industries, revision of a paper presented to the Di Tella Seminar on Strategy for the Foreign Sector and Economic Development, Sept. 7-10, 1966; and Jeffrey B. Nugent, Country Study - Argentina, summer research project paper for the Office of Program Co-ordination, US-AID, mimeo, 1965. The elasticity measured by Sjaastad is for per capita consumption of agricultural goods receiving little or no processing (mainly foodstuffs), expressed in pesos of 1960.

^{2/} Carlos Diaz, Exchange Rate Devaluation in a Semi-Industrialized Country, M.I.T. Press, 1965, p. 91; and Geoffrey Maynard and Willy van Rijckeghem, Stabilization Policy in an Inflationary Economy, paper presented to Bellagio Conference of the Harvard DAS, June, 1966, p. 5.

The main differences between these two sets of measurements are, on the one hand, that Sjaastad assumes that consumption as a proportion of income remains constant, and on the other that Diaz and van Rijckeghem take explicitly into account the effect of changes in the distribution of income between wage earners and other income recipients. Since variations in the relative prices of agricultural goods have been closely associated in Argentina with devaluations accompanied by deflationary domestic policies, variables representing changes in income and the share of wages in the estimating equations of Diaz and van Rijckeghem pick up a large part of the explanatory significance attributed by Sjaastad to variations in relative prices alone. It is therefore tempting to discard Sjaastad's conclusion out of hand, but as he himself has pointed out, none of the estimated elasticities are completely satisfactory.

Any increase in relative agricultural prices in Argentina leads ceteris paribus to some real income redistribution, both because a smaller share of farmer income goes to wages and because a larger share of wage income is spent on agricultural goods. It can therefore be argued that the relevant elasticity for policy purposes is that which takes into account not only the "pure" substitution effect of a change in relative prices but also the effect on consumption of the shift in income distribution arising directly from such a change. The statistical problem, however, is that not all observed income redistribution can be attributed to relative price variations and differences in the wage share between the agricultural and other sectors; a considerable part (perhaps most) of the shifts in income distribution has occurred as a result of monetary, fiscal, wage and other deflationary policies, the effects of which should, for the purpose of policy determination, be distinguished from those of exchange rate and price adjustments.

Given the practical impossibility of partitioning the income redistribution effect between its different causes, one can only assume that the "true" elasticity lies somewhere between the two sets of measurements. My own inclination, based on close observation of the Argentine experience,^{1/} is to put it closer to the Diaz-van Rijckeghem level (i.e., in the range of .4 to .5). This is a crucial assumption for the determination of balance-of-payments policy in Argentina, because income reduction and redistribution arising explicitly from deflationary monetary, fiscal and wage policies can only be short-term emergency measures, whereas "true" substitution could have a more durable impact on the availability of exports.

For the sake of analysis of the final element in our appraisal of the supply of foreign exchange -- the elasticity of foreign demand for Argentina's exports -- let us accept for the moment another of Sjaastad's conclusions contained in the study previously cited:^{2/}

"Using the cross-elasticities described above, and the changes in relative prices which occurred in 1962, I estimate that domestic consumption of agricultural export goods would decline by 12.4 per cent in response to a real devaluation of 25 per cent. On the basis of the hypothesis in the previous paragraph (that the agricultural goods analyzed represent 30 per cent of total exports, which in turn account for 25 per cent of total output of these goods), a 12.4 per cent reduction in the volume of consumption implies a 37 per cent increase in exports of these goods, which in turn would raise total exports by about 11 per cent."

^{1/} For example, all recent devaluations and large increases in relative agricultural prices have been accompanied by economic recessions in Argentina. Since this is opposite to what would be expected ceteris paribus on theoretical grounds, it must be assumed that the accompanying deflationary monetary, fiscal and wage policies were so powerful as to offset the expansionary effect of the devaluations themselves.

^{2/} Ibid, p. 62 of an earlier version (freely translated from Spanish by myself).

The effect of an 11 per cent increase in the volume of exports on foreign exchange earnings would of course depend on the price elasticity of foreign demand for such exports. It so happened that between the first quarter of 1962 and the remainder of the year (the exchange rate was freed in April) the dollar unit value of Argentine exports declined by 18 per cent, so that an increase of 22 per cent in the volume of exports would have been necessary just to maintain the previous level of foreign exchange earnings.

The relatively low price elasticity of foreign demand implied by these figures should not be altogether surprising. Under normal conditions Argentina provides about half of the supplies of beef sold at Smithfield, Great Britain's main wholesale meat market, and it accounts for about 75 per cent of the linseed oil entering into world trade and important shares of a few other commodities. More surprising is that even in products such as maize, in which Argentina accounts for only 10 to 20 per cent of world trade, her share of the market appears closely correlated with the magnitude of changes in the ratio of Argentine to world market prices (both expressed in dollars). We estimated the Spearman rank correlation coefficient between these two variables at 0.64, which is significant at the 5 per cent level. The experience of Argentina in trying to market the large 1964-65 wheat crop is another example of where it was apparently necessary to take a severe beating on price in order to get rid of the stuff.

This "elasticity pessimism," however, is only relevant over the short or medium term. If Argentina were able to maintain a larger flow of exports over the longer run, it might be possible to displace competitive

supplies at a smaller price discount and increase total foreign demand for them (unless the price elasticity effect on foreign demand were offset by protective measures such as the variable levy used by European Common Market countries for beef imports or outright import embargoes and quotas, which are not unknown in recent experience either). Furthermore, I again suspect that relative price instability and other uncertainties in Argentina have distorted statistical measurements of the price elasticity of foreign demand.

Consider the case of an Argentine exporter who in April, 1962, had already bought up or was in the process of buying maize for sale abroad and was confronted with a sudden increase in the price of foreign exchange. Based on past experience, he would anticipate that the general price level would soon be dragged up with the exchange rate and that the government might increase export taxes to sop up part of his windfall. He would therefore have every incentive to close export deals as quickly as possible, and if other exporters behaved in a similar fashion, it would not take foreign importers much time to realize that they were in a position to exploit their bargaining power. Add to this situation very small storage capacity in Argentina, plus tight credit, and it is very difficult for farmers to hold up shipments to exporters.

Our general conclusions with respect to the supply of foreign exchange, therefore, are that it is extremely difficult to increase the supply of exports over the short run in Argentina except by reducing the price of beef relative to grains (thereby inducing farmers to unload animals and shift to crops) and by deflationary policies which both lower and redistribute income to cut back on domestic absorption of exportables.^{1/} The

^{1/} These conclusions are substantiated in the study of Carlos Diaz, Op.Cit.

opposite seems generally true, however, with regard to exports of non-agricultural goods: massive devaluation accompanied by domestic recession does appear to stimulate over the short term a large percentage increase in exports of manufactures. But such increases have not proven to be of much balance-of-payments significance because they start from a very low base and, even more important, they do not continue once domestic demand recovers, perhaps because producers are no longer interested in selling at marginal cost.

Demand for foreign exchange in Argentina. As can be surmised from what has already been said, imports have been pretty tightly rationed during most of the period under review. Up to 1959 rationing was imposed by a system of import licenses; since this year the method used has consisted of extremely high import surcharges, which discriminated against imports of competitive goods in general and so-called non-essential goods in particular.^{1/} As might have been expected, domestic production of such goods has expanded very rapidly in Argentina with a relatively high import content, especially in the case of consumer durables. In fact, imports of components for the automobile, television and similar industries almost completely offset savings on fuel imports brought about by accelerated expansion in petroleum production after 1958.

It would not be surprising, therefore, to find Argentine demand for imports fairly price inelastic. What is surprising is that no investigator has yet to my knowledge been able to discover a regression equation for import demand which turns up a coefficient for relative import prices that

^{1/} In general, the ad valorem rate structure for competitive imports was as follows: 80-150% on "essential" consumer goods, raw materials and intermediate products; 100-150% on capital goods; and 300% or more on "luxury" goods.

is statistically significant. Even if fuels are eliminated because they are assumed to respond simply to residual demand, and capital goods imports are excluded because they depend so much on the composition of investment which is assumed autonomous of relative capital equipment prices, no significant relationship can be found. Some of our own regression results for imports of raw materials and intermediate products are given in the attached table.

It can be observed that inclusion of a price variable does nothing to improve the explanatory power of the equation. If, on the other hand, the manufacturing output variable is altered to include only the so-called dynamic industries (those sub-sectors which have been growing most rapidly), the R^2 rises to .97 with a Durbin-Watson statistic which indicates no serial correlation of the residuals. In all cases the coefficient of the level of gold and foreign exchange reserves at the end of the previous year is significant at the 5 per cent level. The most likely interpretation of the meaning of this variable, which was also found significant in the work of Carlos Diaz is that it serves as a proxy for the severity of import controls and, insofar as it is also correlated with the stop-go behavior of the economy, for variations in inventories of imported materials and components. This interpretation also helps to explain the extremely high short-term output-elasticity of demand for imports implied in these results, a factor which is of great importance in the determination of balance-of-payments policy.

No reference has been made to the demand for imports of final consumer goods because they play an insignificant role in the total demand for foreign exchange in Argentina (although inclusion of contraband might

Import Demand Regression Results*

	(1)	(2)	(3)
Constant	-726	-795	-292
O_I	13.1 (1.14)	13.1 (1.10)	---
O_{DI}	---	---	8.20 (.503)
R_{t-1}	.358 (.141)	.373 (.132)	.321 (.080)
P_M/P_I	54.9 (117.1)	---	---
R^2	.93	.93	.97
D-W statistic	1.03	1.08	1.70

*Import demand for raw materials and intermediate products in current dollars deflated by dollar unit value index for such goods.

- O_I = Total manufacturing production in 1960 pesos.
- O_{DI} = Production of "dynamic" industries at 1960 prices (pulp and paper; chemicals; petroleum derivatives; rubber products; stone, glass and ceramics; metal products; machinery and vehicles; electrical apparatus.)
- R_{t-1} = Gross gold and convertible foreign exchange reserves at end of previous year in current dollars.
- P_M/P_I = Ratio of wholesale price of imported goods to implicit price deflator for manufacturing production.

increase their significance very substantially). Derived demand for imports of materials and components which enter into the domestic production of consumer goods is, however, another matter. We have not yet had time to run any regressions on these variables, but judging from Carlos Diaz' results, the demand for non-capital goods imports is responsive to variations in non-wage (but not wage) income. Presumably this finding is related to the larger propensity of non-wage earners to spend on consumer durables and other domestic goods with relatively high import content. If this is true, the favorable balance-of-payments effect of income redistribution on reducing domestic absorption of exportables would tend to be at least partially offset by their unfavorable effect on the derived demand for imports. If, on the other hand, the increment in non-wage income is invested instead of consumed, the initial impact on the balance of payments would probably be even more unfavorable because the import component of investment is even higher than that of consumer durable goods production.

The last major category of foreign exchange demand which remains to be discussed is the outflow on invisibles and capital account. As can be surmised from the fact sheet appended to this paper, the most important item in this category today is foreign debt service. In 1964-65 scheduled debt service amounted to between 20 and 30 per cent of total export earnings. Discussion of the implications of the foreign debt burden for balance-of-payments policy would take us far beyond the limited scope of this paper, however, since debt refinancing normally involves striking a bargain with foreign creditors which involves commitments on general monetary-fiscal as well as specific balance-of-payments policies. Suffice it to say that once a country's foreign debt reaches this size, its policy options become

even more severely constrained: either it must maintain an immediate trade surplus equal to a substantial share of current GNP (approximately 3 per cent in Argentina as of 1963-64) or seek a debt rollover and commit itself to a rapidly rising trade surplus in the future.

Implications for Argentine balance-of-payments policy. The best that can be said for most of the policies adopted by Argentina to correct balance-of-payments disequilibria over the last fifteen years is that they may have been necessary in the short-term context of each individual emergency, but over the longer term they have proved self-destructive. The repeated doses of exchange devaluation and deflationary domestic policies have represented only stopgap measures with little durable impact on the underlying causes of imbalance between the supply and demand of foreign exchange. One cannot resist the impression that these policies have been based either explicitly or implicitly on the assumption that the external deficit is merely a symptom of excessive domestic demand generated by internal inflation and that temporary retrenchment will wipe the slate clean and enable the country to embark on a sound expansion path.

There is no room in this paper to discuss the dynamics of Argentine inflation. All I ask is that those of you who have some acquaintance with the degree of distortion which exists in relative prices and factor remunerations in Argentina contemplate the magnitude of "corrective" inflation which would be necessary to bring them into line with a reasonably efficient set of market signals, assuming that most prices are inflexible downwards. Then consider the time it would take for resources to be reallocated according to these new signals and for some order to be restored to the organization and management of the fiscal system and the state enterprises.

This is not a cry of desperation, because most modern market economies are amazingly flexible. But given the deep, underlying distortions and degree of uncertainty in the Argentine economy and the normal leads and lags between the application of and the response of any economy to specific policy measures, it appears to me completely unrealistic and foolhardy to place complete reliance on a set of short-term policies to solve Argentina's balance-of-payments difficulties.

The foregoing analysis has, I think, demonstrated that periodic devaluations to a new pegged exchange rate level under conditions of continuing domestic inflation can over time improve relative prices of export goods but only at the cost of introducing a degree of instability which tends to undermine the incentive effect of relative price trends. It has also been demonstrated that given the nature of domestic demand for exportables and import goods, relative price changes are a rather inefficient tool for improving the balance of payments unless accompanied by measures to reduce and redistribute income. And finally, I think that there is fairly strong evidence that sudden increases in the volume of exports are likely to be largely offset by adverse movements in the terms of trade in the short run. All of these conclusions, if valid, point to the need to reinforce short-term emergency measures with other policies aimed directly at a more permanent increase in the output of internationally traded goods.

Since the subject of import substitution has purposely been excluded from the scope of this paper, we will limit ourselves to policies aimed at expanding production and foreign sales of exportable goods. First, with

respect to the agricultural sector, it should be understood at the outset that we are not dealing with a problem of atrocious inefficiency. Average yields per acre for the seven most important crops produced on the Argentine Pampas were in 1961/62 to 1963/64 higher than in Australia except for one (corn), and they also exceeded average Canadian yields in two cases (wheat and flax).^{1/} It may be that efficiency in cattle raising compares less favorably (although I have not yet been able to make such a comparison), but the point remains that Argentine farmers are in a number of cases close enough to the productivity of their chief international competitors so that no simple panaceas are relevant.

The first order of business in our opinion is to reduce the degree of uncertainty generated by wildly fluctuating relative prices so that market signals can again function as a reasonably efficient mechanism for resource allocation. Let no one confuse this statement with a recommendation for rigid agricultural price parity. It is true that any attempt to stabilize relative prices runs up against the problem of distinguishing between fluctuations which are temporary or accidental and those which reflect underlying longer-term trends and should therefore be allowed to influence resource allocation. But in the Argentine context, it appears to us worth running the risk of covering up possible longer-term relative price trends for five or ten years in order to reduce the high existing degree of uncertainty.

^{1/}See Fienup, Op.Cit., Table 36, p. 64. Average wheat yields per acre were also higher in Argentina during this period than in the U.S.

The main sources of relative price instability affecting Argentine agriculture are, on the one hand, the relation between the exchange rate and the general domestic price level and, on the other, the cattle cycle. As has been pointed out above, the exchange policy followed most frequently in the past has been that of large devaluations during balance-of-payments crises followed by periods of exchange rate stability accompanied by continuing internal inflation. A policy of moving the exchange rate more frequently in line with increases in the general domestic price level -- that is, stabilizing the real rate of exchange (as is being attempted now in Chile and Colombia) -- would go a long way toward reducing the instability of relative agricultural prices.

Even if the present real level of the exchange rate (if maintained) provides an adequate incentive for producers of traditional agricultural exports, it can be argued that the peso should be undervalued to stimulate the expansion of non-traditional exports. Indeed, many if not most developing countries follow a policy of open or de facto multiple exchange rates which treat traditional and non-traditional exports differentially. One way of doing this in Argentina, while avoiding the simultaneous use of contractionary domestic policies to dampen the inflationary impact of large exchange rate adjustments, would of course be to carry out a compensated devaluation, offsetting the effect of the higher rate on agricultural prices with export taxes or exchange retentions. This system would also allow the authorities, if they so desired, to offset the effect on domestic agricultural prices of fluctuations in relative world market prices by compensating adjustments in the level of different export taxes.

Such a policy, if well managed, would also help to solve the problem of internal agricultural price supports. A system of support prices has been

in operation in Argentina for many years, particularly for the chief export crops. Since such prices have to be announced well before the planting season, by harvest time declines in world market prices have on occasion forced the government to choose between reneging on the support price or buying up a crop and selling it abroad at a loss, sometimes with serious fiscal consequences. To avoid such contingencies the authorities have tended to fix supports at very conservative levels so that, with the exception of wheat, market prices are almost always above support levels. If, however, flexible export levies existed, they could be varied to validate a support price without forcing the government into the market.^{1/}

A similar policy is presently in effect in Argentina, with the exception that the exchange rate, after being raised sharply early in 1967, has been held stable since, so that continuous reductions in export retentions have been necessary to keep agricultural prices abreast of the overall rate of internal inflation. Thus, the fiscal effect of this policy is in only one direction (continual erosion of tax receipts), the real rate of exchange for non-traditional exports is declining steadily (to the extent that it has not been offset by larger drawbacks or tax rebates to exporters, another source of fiscal drain), and if inflation is not stopped before export retentions reach zero, either subsidies will have to be granted or another substantial devaluation carried out.

The other major source of relative price instability in Argentina -- the cattle cycle -- is a problem which of course cannot be eliminated completely because one of its chief causes is climatic. But destabilizing policies

^{1/}The fiscal effect of this system would of course be about the same for the particular crop in question as it would be if the government had to buy up the crop and sell it abroad at a loss. But over time reductions in export taxes would tend to be offset by increases to sop up windfalls when world market prices for particular commodities rose.

can be avoided (such as sudden beef price decontrol in 1959), and much can be done to protect the supply of animal feed against drought. Action in this direction is already being taken by cattle raisers who are going into mixed farming -- during periods of drought grain crops can be fed to the animals instead of being harvested. An appropriate credit policy (perhaps even accompanied by subsidies) would, however, be extremely helpful to finance a major expansion in farm silo capacity for cut forage and feed-grains to supplement natural pastures, a practice which does not appear economically attractive to cattle raisers under normal conditions in Argentina today.

This recommendation leads to the second order of business in a program for a more permanent increase in the output of internationally traded goods. Particularly in cattle raising, but also in crop production, more powerful incentives are required to stimulate investment in specialized equipment and the greater use of technically advanced inputs. Reduction in the degree of relative price instability should help immensely to promote development of permanent pastures, feed storage capacity, and other improvements with fairly long payout periods, but two other policies also appear to us as of great importance.

First, a solution must be found rapidly to the impasse over rural land rent contracts. It seems as if recent legislation is headed in the direction of unfreezing rents, but as was mentioned earlier, the most pernicious features of the system are the low limit on compensation to tenants for their permanent improvements and the increasing use of short-term "contratistas," whose only interest is to mine the soil and move on. It is quite possible that raising compensation payments would take care of both problems, since

owners would be loath to encourage a rapid turnover of tenants if each one had to be compensated generously for the improvements he made on the land.

The second policy has to do with encouraging the greater use of new technical inputs across the board from improved seeds (already used on a large scale on many major crops) to fertilizers, insecticides, etc. Glib generalizations often heard about the technical backwardness of agriculture and grossly unfavorable relative prices facing Argentine farmers have tended to muddy the issues. The fact of the matter is that in most cases the better Argentine farmers are close enough to the production possibility frontier as defined by proven research results and relative input-output prices so that the additional gains to be reaped by more intensive use of new inputs are closer to the margin (given the degree of variance in results because of climatic factors on non-irrigated land) than is usually thought.^{1/} This is not to say that this frontier will not continue to move outward as INTA's research and extension activities gain momentum, but that the rate of application of new technology may well depend on fairly narrow margins between the prices of inputs and outputs and the degree of risk.

First, with regard to input prices, the picture is very mixed. It is true that the price of an Argentine tractor is between 50 and 100 per cent above the international level at the present exchange rate, but surprisingly enough the problem of underutilization of potential tractor hours is probably more serious than the shortage of tractors.^{2/} There are also numerous examples of equipment which have usually been cheaper in Argentina than abroad:

^{1/} See again Fienup, Op.Cit., pp. 214-15.

^{2/} In 1962 there was one tractor in use per 400 cropped acres in Argentina, and since then the tractor park has grown further.

windmills, spreaders, automotive harvesters, high power sprayers, etc., which are also exported. The chemical industry is newer, however, and the scale of output is generally far short of optimum, so that fertilizers, pesticides, herbicides and other such products are generally more expensive (although benzene hexachloride, the most widely used insecticide, is cheaper in Argentina than abroad).

The agricultural input price picture described is not so disastrous that government is likely to take seriously the appeals frequently heard for free imports of such inputs when they compete with domestic industry. A more pragmatic policy would be to subsidize a select number of important inputs whose present prices seem out of line and whose potential consumption appears capable of at least doubling or tripling over the medium term, while at the same time encouraging a larger, more efficient scale of domestic production and distribution. With luck the government could eventually pull out of the subsidy business, but even if it didn't, the fiscal cost would almost certainly be far less than for the subsidies now showered indiscriminately on most state enterprises, and the economic benefit to the country would be unquestionably larger.

Finally, the greater use of new inputs in agriculture could be assisted if in addition to liberal credit facilities crop insurance were also made available to purchasers of these inputs. As has been pointed out above, the best farmers (who are the ones most likely to initiate changes in their production functions) are in many cases close enough to the production possibility frontier so that a reasonable doubt might well be justified concerning the private profitability of additional out-of-pocket expenditures on new inputs, given the great climatic variance of output on non-irrigated land,

not to mention the rather tenuous nature of some of INTA's recent experimental results.^{1/}

In summary, the main thrust of these recommendations is that direct measures as well as flexible general economic policies are needed if Argentina is to break through to a solution of its balance-of-payments problems over the longer run. Reliance on policies which assume that inflation can quickly be brought under control by once-and-for-all shifts in relative prices and short-term deflationary monetary and fiscal measures has instead helped generate wild instability of relative prices and great uncertainty which have tended to undermine longer-term production plans and investment incentives. What was said at the beginning of this paper should be recalled: Argentina, along with other group 3 semi-industrial countries, does not occupy a naturally favored export position vis-a-vis most other developing or already developed countries outside of Asia. It must therefore work even harder and more imaginatively than most other countries to promote the production of internationally traded goods and the expansion and diversification of exports if it is to escape the dilemma of stabilization vs. growth.

^{1/}For example, out of 200 fertilizer experiments carried out by INTA in 1962-63 at the Pergamino and Balcarce stations, increased yields paid for the cost of the fertilizer in only 26.2 per cent of the cases in which nitrogen was used (results were even less favorable for potash alone or in combination with nitrogen). See R.F.V. Cooper, "The Employment of Fertilizers as a Factor Limiting Agricultural Development in Argentina," Review of the River Plate, July 12, 1968, p. 30.

On the other hand, more recent experiments have shown higher responses to fertilization of wheat when used on land previously sown to corn, sunflower or sorghum, although lodging and disease susceptibility at higher fertilization rates remain a serious problem (see Fienup, Op.Cit. pp. 131-32).

ARGENTINE FACT SHEET

	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
<u>Gross Domestic Product</u> (billions of pesos at 1960 prices)	<u>710</u>	<u>739</u>	<u>692</u>	<u>741</u>	<u>769</u>	<u>822</u>	<u>835</u>	<u>881</u>	<u>945</u>	<u>890</u>	<u>961</u>	<u>1028</u>	<u>1009</u>	<u>974</u>	<u>1052</u>	<u>1133</u>
Of which:																
Agriculture	124	133	114	141	148	154	147	146	153	151	154	152	155	156	167	173
Manufacturing	192	196	191	191	204	227	238	257	282	260	284	312	298	284	327	365
<u>Gross Fixed Investment</u> (billions of pesos at 1960 prices)	114	140	125	123	120	140	148	158	171	139	209	246	223	180	192	210
<u>Private Consumption</u> (billions of pesos at 1960 prices)	542	555	523	523	567	627	619	660	711	653	668	740	710	695	765	807
<u>Population</u> (millions)	17.1	17.5	17.9	18.2	18.5	18.9	19.3	19.6	20.0	20.3	20.7	21.0	21.4	21.7	22.0	22.4
<u>Average Implicit Mer-</u> <u>chandise Exchange Rate</u> (pesos/US\$)	4.80	6.36	6.74	6.76	6.93	7.72	17.67	22.96	28.61	75.35	82.68	82.72	112.9	137.9	139.8	166.8
<u>Gross Domestic Product</u> <u>Implicit Price Deflator</u> (1960 = 100)	9.6	13.0	16.3	17.5	18.9	20.9	26.0	30.9	42.4	85.2	100.0	110.5	140.5	178.8	228.6	(293.0)

ARGENTINE FACT SHEET

	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
<u>Balance of Payments</u> (millions of dollars)															
<u>Merchandise Exports</u>	<u>1169</u>	<u>688</u>	<u>1125</u>	<u>1027</u>	<u>929</u>	<u>944</u>	<u>975</u>	<u>994</u>	<u>1009</u>	<u>1079</u>	<u>964</u>	<u>1216</u>	<u>1365</u>	<u>1410</u>	<u>1493</u>
Of which:															
Grains	308	119	383	420	321	281	266	265	293	324	195	345	281	500	576
Meat	155	122	155	156	207	244	259	298	259	219	217	229	334	329	329
Oilseeds and products	190	80	95	84	46	61	95	126	98	125	128	167	139	121	160
Wool	176	120	187	121	124	124	117	99	121	145	142	145	161	129	112
<u>Merchandise Imports</u>	<u>1480</u>	<u>1179</u>	<u>795</u>	<u>979</u>	<u>1173</u>	<u>1128</u>	<u>1310</u>	<u>1233</u>	<u>993</u>	<u>1249</u>	<u>1460</u>	<u>1357</u>	<u>981</u>	<u>1077</u>	<u>1198</u>
Of which:															
Machinery	218	175	185	172	238	310	335	324	260	534	661	731	481	339	277
Fuels	220	248	194	181	203	251	318	251	211	156	130	92	57	84	115
<u>Trade Balance</u>	<u>-311</u>	<u>-491</u>	<u>330</u>	<u>48</u>	<u>-244</u>	<u>-184</u>	<u>-335</u>	<u>-239</u>	<u>16</u>	<u>-170</u>	<u>-496</u>	<u>-141</u>	<u>384</u>	<u>333</u>	<u>295</u>
<u>Balance on Invisibles</u> <u>and Capital Account</u>	<u>290</u>	<u>438</u>	<u>-153</u>	<u>-28</u>	<u>281</u>	<u>19</u>	<u>260</u>	<u>175</u>	<u>162</u>	<u>420</u>	<u>356</u>	<u>-130</u>	<u>-229</u>	<u>-450</u>	<u>-212</u>
<u>Change in Gross Gold and</u> <u>Convertible Foreign Exchange</u> <u>Reserves (increase -)</u>	<u>21</u>	<u>53</u>	<u>-77</u>	<u>--20</u>	<u>-37</u>	<u>165</u>	<u>75</u>	<u>64</u>	<u>-178</u>	<u>-250</u>	<u>140</u>	<u>271</u>	<u>-155</u>	<u>117</u>	<u>-83</u>

Handwritten mark

Mallon