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A MODEL OF ECONOMIC STAGNATION—A CASE STUDY OF THE ARGENTINE ECONOMY

I

THIS paper started out as a paper on the role of agriculture in the economic development of the Argentine. In effect, this is still what it is. But it is more, for to discuss the role of agriculture one needs to understand the nature of the development process of the economy as a whole. In seeking this broader understanding we have, to our minds, resolved the apparent paradox of inflation coupled with stagnation and heavy unemployment that has characterised the recent history of the Argentine economy. In doing so, we believe that we reveal previous diagnoses and policy prescriptions to have been grounded in fallacy.

We have tried to build a model in which the strategic assumptions covering the choice of relevant variables and their magnitudes reflect the realities of the Argentinian situation. This we set out in Section II. In Sections III and IV we set the model to work introducing some additional assumptions, in particular as to government policies and money wage changes. Section V contains a commentary on the devaluations of 1958 and 1962 analysed in the light of the model. Our analysis has policy implications, which we discuss in Section VI.

II

The following simplifying assumptions are made:

(i) That the domestic price of those agricultural products which are also exported by Argentina will be equal to the export price (*i.e.*, equal to the world price expressed in pesos at the current rate of exchange. Export taxes, if any, would, of course, cause the domestic price to be lower than the world price by the amount of the tax).¹

(ii) That agricultural supply responses are necessarily lagged, so that, even where production plans are sensitive to prices received by farmers, output will respond only after a period of time depending on the nature of the product.

¹ We mean by equilibrium that domestic food prices of exported foods are equal to their export parity price and the internal prices of imported goods are equal to their import parity price. In practice, it may be doubted that the market works so perfectly that there is an instantaneous and complete movement of domestic prices to export parity prices. Nevertheless, comparison of the exchange rate and the index of wholesale prices of agricultural products suggests that most of the adjustment takes place within a period of a year. For a brief and tentative discussion of the nature of market imperfections and the mechanism of price adjustment, see Reddaway [1].

- (iii) That agricultural production requires no import content.
- (iv) That, besides agriculture, output is classified into manufactures and services, and that in the case of the manufactures variable inputs consist only of homogeneous labour and imported inputs combined in fixed proportions, for which the marginal productivity is constant over the relevant range. (Processing and manufacturing of agricultural products is included within the agricultural sector.) Our assumptions about the conditions of production in the manufacturing sector imply an infinite elasticity of supply from this sector over the relevant range.
- (v) That services which account for the rest of the G.N.P. do not use any variable input other than labour. Neither services nor manufactures are exported.
- (vi) That the external demand for Argentina's agricultural produce is infinitely elastic.¹
- (vii) That the domestic price elasticity of demand for agricultural produce is low.²
- (viii) That the value of agricultural exports is insufficient to cover the cost of imported inputs at full employment level, given that the relationship of money-wage level to the rate of exchange at full employment can be changed very little.
- (ix) That the Government aims to achieve balance-of-payments equilibrium without resort to direct controls.

III

Our aim is now to relate these assumptions in a model which explains especially the relationships between the balance of payments, internal prices and the level of economic activity. We shall start by assuming that internal demand and employment have been growing—and, as explained at the end of Section IV, with them wages and prices—and that the level of activity in the economy has reached the state where the growing import bill is no longer covered by the value of exports. A balance-of-payments crisis leads to devaluation.³ To simplify our arithmetic we shall assume it to be a

¹ This is not wholly valid, but it seems a good working hypothesis. Linseed oil seems to be the most striking exception, for Argentina is the world's major supplier of this commodity, and the demand can hardly be regarded as infinitely elastic. But this accounts for only 3% of total exports.

² Evidence to support this assertion is difficult to obtain, since changes in relative prices have been associated with changes in income and its distribution. However, some indirect support can be found in *Panorama de la Economía Argentina*, Vol. III, No. 21, pp. 251-61.

³ Devaluation here is a convenient though somewhat imprecise term. Historically, exchange-rate adjustment occurred in a variety of ways. In 1958/59 the existing officially controlled dual market for currency exchanges was eliminated and replaced by a completely free market where the rate was allowed to fluctuate. Lately the Central Bank intervened in the market and pegged the rate at about 82 pesos to a dollar. In April 1962 once again the rate was allowed to fluctuate, the result being a progressive reduction in the value of the peso to about 141 pesos to the dollar by the fourth quarter of 1962. During 1963 the rate fluctuated within relatively narrow limits, staying

100% devaluation.¹ We propose now to consider its immediate effects.

First we shall look at the effect on prices, disregarding for the time being the effects of rising wages, which are small in relation to devaluation. The price of manufactured goods will rise to the extent of the rise in costs of the import content.

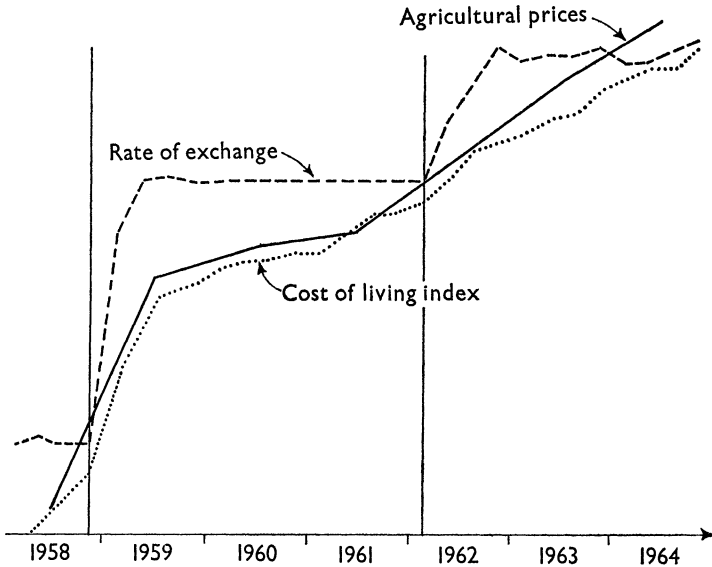


FIG. 1. Drawn on log vertical scale using data from Tables I and X and footnote 2, p. 873.

The domestic prices of agricultural products which are both exported and domestically consumed will also rise, for, as a result of a devaluation, the export parity price expressed in devalued pesos is now twice its previous value.

Services are not exported, neither do they require any import content. Devaluation, therefore, has no immediate effect upon the prices of services.

The "impact" effect of devaluation on the general level of prices of products consumed or invested in the country (q_0p_1/q_0p_0) can be calculated as shown in Table II below. Our categories do not exactly correspond to those used in published statistics—especially as we have included processing of agricultural products in the Agricultural rather than the Manufacturing sector. However, the general orders of magnitude may be taken as reasonable.

by the fourth quarter of 1963 at 142 pesos to the dollar. In April 1964 a new system of exchange control was introduced, mainly to eliminate capital exports, and the rate was again pegged at 136 pesos to the dollar. Since then successive and relatively small devaluations, the rate always being pegged at the new level, have brought the rate to 218 pesos to the dollar in August 1966.

¹ This is in fact a realistic assumption. In 1958/59 the devaluation was 158% (calculated from the conversion rate for imports—there was a dual rate at this time). In 1962 there was a 67% devaluation. 100% falls nicely within this range.

TABLE I
Exchange Rate—pesos per U.S. \$

	1958.	1959.	1960.	1961.	1962.	1963.	1964.	1965.
1st Qr. . . .	37.95	66.69	82.97	82.72	82.94	134.89	133.40	150.85
2nd Qr. . . .	41.87	83.17	83.13	82.84	106.12	137.71	134.10	168.07
3rd Qr. . . .	45.81	84.14	82.78	82.78	124.39	138.14	141.01	173.17
4th Qr. . . .	66.36	82.75	82.87	82.97	141.44	142.42	147.76	181.88
<i>Annual Rate:</i>								
<i>Effective Rates:</i>								
Export	28.78	77.68	82.66	82.61	112.59	137.63	139.12	—
Import	28.36	73.03	82.71	82.84	113.16	138.14	140.52	—

Source: [3] and [5].

The rates for 1958 are free-market spot rates where transactions were recorded. For 1959 and subsequent years the quoted rates correspond to the open-market rate. The effective export rate is calculated as the peso value of exports divided by the U.S. \$ value of exports. Similarly for the effective import rate.

These figures indicate that the impact effect of a 100% devaluation would be a 30% rise of internal prices. Our next step is to see what will happen to the level of production.

For convenience we have assumed that internal markets were in equilibrium before devaluation and that they move quickly towards equilibrium again after devaluation (see footnote 1, p. 868). Whereas we expect a quick response of internal prices, however, we do not expect an immediate response in agricultural production. Indeed, so far as crop production is concerned, it should be noted that if devaluation occurs after crops are planted, then it will be almost two seasons before the effects of higher prices are likely to be felt on agricultural production. With livestock the initial production response may be perverse, as higher prices encourage the building of the breeding and fattening herd at the expense of an immediate reduction of the rate of slaughterings. On the other hand, we have assumed that the supply of manufactures and services is infinitely elastic, and it follows that their supplies are demand-determined. We must next examine the effect of devaluation upon internal demand.

TABLE II
*Calculation of Impact Effect of Devaluation upon the
Level of Internal Prices*

	% of G.N.P.	% G.N.P. exported.	% G.N.P. imported.	Value of domestic consumption.	
				q_0p_0	q_0p_1
Agriculture . . .	30	10	0	20	40
Manufactures . . .	30	0	10	40	50
Services	40	0	0	40	40
				100	130

TABLE III
Distribution of the Agricultural Product (Value Added) 1958-60

	Current pesos.			1960 pesos.			%		
	1958.	1959.	1960.	1958.	1959.	1960.	1958.	1959.	1960.
Wages .	14.565	26.130	31.646	35.611	31.417	31.646	25.2	19.4	21.1
Other factors	6.339	9.586	12.928	15.500	11.521	12.928	10.9	7.1	8.6
Profit .	36.968	98.974	105.531	90.386	118.959	105.531	63.9	73.5	70.3
	57.872	134.690	150.105	141.497	161.897	150.105	100.0	100.0	100.0

Source: [2], April 1964, pp. 106-9.

These figures show a fall in the share and the absolute value of wages. The use of a wholesale price deflator, instead of the G.N.P. deflator used here, would show this fall to be greater.

First, it is clear that, on our assumptions, money incomes in the agricultural sector will have doubled. With Argentina in mind, however, it seems realistic to assume that the distribution of these increased incomes within the agricultural sector will be primarily to landowners and marketing firms and that little immediate effect is likely to be felt in agricultural wages. (Indeed, the statistics actually show a fall in agricultural wage earnings in real terms following the 1958 devaluation.)¹ For this reason the change in demand for wage goods in respect of the agricultural sector can be regarded as zero if not negative. In so far as we assume that money wages in all sectors remain constant, then the impact effect of the devaluation which results in a fall in real incomes of wage-earners² is likely to affect the demand for manufactured wage goods more seriously than it will affect the demand for agricultural wage goods. This is simply an assumption that the demand for agricultural wage goods is more inelastic than the demand for non-agricultural wage goods.³ If we assume that the level of consumption of agricultural wage goods stays more or less constant, then the wage spending remaining for purchases for manufacturing of service sectors must be substantially reduced.⁴

¹ See Table III.

² Total wages and salaries for 1958-60 were as follows ([2], April 1964, pp. 82-3):

	1958.	1959.	1960.
Current pesos ('000 million)	162.680	267.926	343.815
1960 pesos ('000 million) (G.N.P. deflator)	397.750	322.027	323.815

³ See again *Panorama de la Economia Argentina, op. cit.*

⁴ Weightings used in the construction of a Wage Earners' Cost of living Index [3] are: Food 47.6%; Clothes 20.2%; Housing 16.7%; Other expenditures 15.5%. If the demand for food were completely inelastic and if devaluation increased food prices by 50% (*N.B.* there is a non-exportable component of food price quite apart from lags in adjustment) food expenditure would account for more than 70% of total wage spending. In this case all other categories of wage expenditure would be cut by approximately one-half.

But it is unreasonable to assume in these circumstances that employment in manufacturing will remain constant while demand falls and costs have risen. Increasing unemployment ¹ will aggravate the fall in internal demand without, on our assumptions, leading to falls in the prices of agricultural and manufactured products.²

Before we come to consider the validity of our assumptions about supply and demand elasticities and money wage-rate constancy in Argentina we should consider the effect of monetary policy. In general, any attempt by the Government to restrict monetary expansion in order to assist the balancing of the external accounts—prompted perhaps by a misinterpretation of rising prices as evidence of excess demand—will lead to a shortage of liquidity reflected in rising interest rates and generally such material consequences as a fall in the rate of stock accumulation, of hire-purchase transactions and, of course, of new investment. It should be noted that credit restriction in a period of rising prices means simply a failure to expand credit to maintain real balances. Our calculation of the index of “real money”³

¹ Statistics of unemployment are not regularly published in Argentina. Surveys carried out by Conade covering Buenos Aires and suburbs showed the following rates:

	July 1963.	April 1964.	July 1964.	October 1964.
Unemployment (not seasonally adjusted)	8.8	7.5	7.4	5.7

Source: [6].

² Price indices for domestically produced agricultural and non-agricultural products and for imported non-agricultural products are given as follows:

(Indices 1956 = 100)

	1958.	1959.	1960.	1961.	1962.*	1963.	1964.
<i>Domestic:</i>							
Agricultural products	167.6	419.4	474.4	501.8	687.4	928.9	1,191.0
Non-agricultural products	162.7	364.4	427.0	470.2	599.4	757.2	953.7
<i>Imported:</i>							
Non-agricultural products)	135.6	379.6	424.2	410.7	545.8	665.6	757.8

* Second-fourth quarters.

Source: [3].

³ The following figures give indications of the response of monetary policy 1958-64:

Finance
(Million pesos)

	1958.	1959.	1960.	1961.	1962.	1963.	1964.
Money in circulation	77,199.8	119,107.1	157,715.3	186,489.0	209,149.5	243,090.7	333,755.4
Index of “real money”	119.68	90.77	100.00	106.14	95.68	86.06	95.89

Source: [2].

Note: Money in circulation is an arithmetic average of end-of-month money in circulation plus non-government deposits in the banking system. To obtain the index the actual figures were deflated by the G.N.P. deflator.

shows exceptionally severe contraction, which could be overlooked by anyone referring simply to figures of money in circulation. In reality, the substantial rise in these figures has been more than offset by the fall in the value of money.

Devaluation might bring a country into external balance either because it causes exports to rise to a greater degree than imports or because exports fall less than the fall in imports. Where the elasticity of supply of exports is low equilibrium requires the contraction of imports. We have postulated a model in which this occurs reinforced by a restrictive money policy. In our model, too, other consequences are overall falls in both production and employment, together with increases in the general level of prices. We believe that the assumptions that we have made essentially reproduce the conditions of the Argentine economy. We shall now trace the effects of devaluation on the government budget, investment, nominal and real wages and the balance of payments. Here again we believe that we show the relevance of our model to the realities of the Argentine economy.

IV

Let us look first at the government budget. On the one hand, prices have risen. On the other hand, in so far as taxes are levied on pre-devaluation incomes they will not yet have risen correspondingly. The Government may, of course, attempt to balance its budget by raising the rate of taxation, but this would have immediate effect only in respect of import and export taxes and purchase taxes. If we continue to try to make our strategic assumption reflect the realities of the Argentine situation we might expect that the tight money situation encourages the popular Argentine sports of tax evasion and tax postponement, and indeed that it makes tax payment difficult even for those who would pay. Overall, we might expect government expenditure in real terms to be cut in an effort to balance the budget and that curtailment of expenditure would particularly affect investment programmes which could be postponed (Table IV). Certainly we should expect receipts to fall in real terms, and we might, overall, expect a deficit in the budget. The essential point here, however, is not so much what we might reasonably expect to happen to the balancing of the budget but to recognise that a budget deficit in the situation is not necessarily evidence of an irresponsibly inflationary policy where total expenditure (and even, in 1959, the size of the deficit) are being curtailed. Even in so far as a deficit leads to money creation, this should have offset against it the restrictive effects of the monetary policy postulated in Section III (Table V).

One effect of devaluation will be a fall in the demand for manufactured goods. An increase in the export demand for manufactures might be expected to offset the decline in internal demand (see footnote 4, p. 872).

TABLE IV
Government Account
('000 million 1960 pesos)

	1958.	1959.	1960.	1961.	1962.	1963.
(a) Current tax revenue	128·4	120·2	154·9	178·5	142·7	139·0
(b) Pension contributions	32·3	27·0	32·5	38·2	28·4	32·8
(c) Total revenue	160·7	147·2	187·4	216·7	171·1	171·8
(d) Recurrent expenditures	102·0	88·8	100·3	117·0	117·9	102·4
(e) Pensions	29·0	28·0	32·2	40·5	36·4	35·8
(f) Deficits by Government enterprises	19·5	3·5	0·8	3·1	8·5	6·8
(g) Capital Investments	76·6	49·3	65·2	71·5	59·0	61·7
(h) Total expenditures (liabilities incurred)	227·1	169·6	198·5	232·1	221·8	206·7
(i) Overall deficit	66·4	22·4	11·1	15·4	50·7	34·9

Source: [4], p. 35.

TABLE V
Net Government Expenditure Financed by the Banking System

1958.	1959.	1960.	1961.	1962.	1963.	1964.
23·026	19·944	3·019	13·092	33·728	52·833	94·584

Source: [5].

However, in practice, this has not happened except to a small extent in 1963. Even after devaluation most goods were not competitive in international markets, and for those that were so the position was generally not one of incremental increase in the volume of exports but the establishment of new export markets—a process which cannot be expected to happen readily. To the extent that devaluation results in a general fall in the demand for manufactured goods, it is reasonable to assume that, on this account alone, plans for industrial investment are likely to be put in suspense (Table VI).

TABLE VI
Gross Fixed Investment
('000 million 1960 pesos)

1958.	1959.	1960.	1961.	1962.	1963.
182·5	165·7	227·2	247·9	243·6	194·5

Source: [4], p. 18, Table 2.

When the fall in demand occurs at the same time as a tight money policy the only fields of likely investment activity are in import substitution and agriculture. The profit prospects for investments in import substitution will

depend on the degree to which the new high prices for imports offset the effects of falling demand and increasing costs in respect of the import content of the considered investment (Tables VII and VIII). So far as agriculture is concerned, we postulate that capital for reinvestment will be available from the windfall gains of post-devaluation prices, but agriculture may not make the best bid for these funds. The possibilities of earning high short-run returns by lending at high interest rates to would-be borrowers in a tight money market might be particularly attractive.

TABLE VII
Import Content of Total Investment

	1958.	1959.	1960.	1961.	1962.	1963.
% (a)	17.4	15.9	22.1	19.9	n.a.	n.a.
1960 pesos '000 million (b)	32	26	50	49	n.a.	n.a.

Source: (a) [2], p. 175.
(b) Calculated from Table V.

TABLE VIII
Imports
('000 U.S. \$)

	1958.	1959.	1960.	1961.	1962.	1963.
Consumer goods	66.874	32.619	52.205	70.465	63.761	45.631
Fuels and lubricants	251.430	211.389	155.991	129.737	91.606	57.421
Vehicles and machinery	72.158	94.732	187.071	269.314	243.996	141.788
Iron and steel	150.480	86.420	94.038	141.239	74.127	24.975
Materials for building and construction	70.568	43.413	51.909	74.934	56.066	48.875
Others	359.268	296.657	307.599	373.579	315.831	284.732
Raw materials and semi- manufactured goods	652.474	531.222	640.617	859.066	690.020	500.370
Sub-total "current im- ports"	970.778	765.230	848.813	1,059.268	845.387	603.422
Capital goods	261.856	227.790	400.460	401.111	511.115	377.254
Total	1,232.634	993.020	1,249.273	1,460.379	1,356.502	980.676

Source: [4], p. 27.

A fall in total investment will reduce the import bill in respect of the import content of the investment.

So far, we have come to expect a general fall in the demand for non-food consumer goods plus a rather restrictive budget and a fall in total investment. The overall effect of these responses could easily be to plunge the economy into a severe recession. And yet this recession will take place together with rapidly rising prices—and this has indeed been the pattern in Argentina

TABLE IX
G.N.P. at Constant 1960 Prices and Price Index (G.N.P. Deflator)

	1958.	1959.	1960.	1961.	1962.	1963.	1964.
G.N.P. ('000 million 1960 pesos)	939.8	885.3	955.0	1,022.9	999.0	952.2	1,032.4
Price index (G.N.P. deflator)	40.9	83.2	100.0	111.4	138.6	179.1	220.7

Source: [5].

(Table IX). Another phenomenon which has been witnessed in Argentina and which also, at first sight, might appear paradoxical has been that of large increases in nominal wage-rates (Table X), together with growing

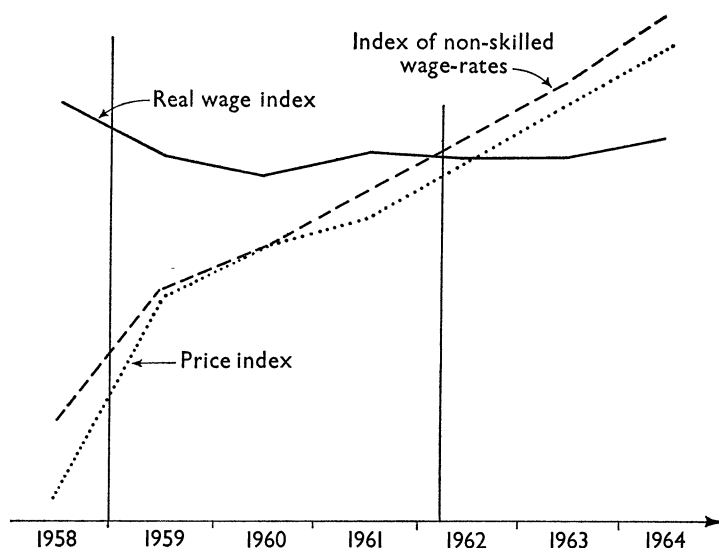


FIG. 2. Drawn on log vertical scale using data from Table X (rows 1, 3, and 4).

TABLE X
Prices and Wage-rates

	1958.	1959.	1960.	1961.	1962.	1963.	1964.
Index of non-skilled wage-rates	49.9	84.8	100.0	124.1	155.1	194.1	256.1
Cost of living index	36.8	78.6	100.0	113.7	145.7	180.7	220.7
Real wage index	135.6	107.9	100.0	109.1	106.5	107.4	116.0
Index of food prices	34.9	81.4	100.0	111.0	142.8	175.5	222.6
Wholesale price index (1956 = 100)	162.7	379.7	439.4	475.7	620.1	748.3	1,007.3
Agricultural price index (1956 = 100)	167.6	419.4	474.4	501.8	687.4	928.9	1,191.0
Non-agricultural price index (1956 = 100)	160.9	365.4	426.8	466.3	595.9	751.2	941.0

Source: [3].

unemployment. We have postulated a mechanism whereby unemployment might rise together with a fall in real wages resulting from rising prices of wage goods. In Argentina increases in the cost of living have been so severe that the unions have successfully negotiated for increases in their nominal wages in spite of growing unemployment. In our model increasing wage-rates would have the effect of further raising the prices of manufactures and services, and thus initiating a wage/price spiral.

The recession will, of course, help to balance the external account. Exports will be higher than they would otherwise have been unless domestic demand is, in fact, wholly inelastic. How far exports will rise will depend upon the elasticities of demand for domestically consumed but otherwise exportable produce and the extent to which domestic retail prices rise in the same proportion as the exchange rate.¹ Imports will fall with a fall in manufactured output and investment. Thus in this model devaluation will bring about balance-of-payments equilibrium, *but indirectly by reducing the G.N.P. rather than through direct changes in relative prices with G.N.P. constant or rising.*

The economic history of the Argentine through the late 1950s and early 1960s has been characterised by marked cycles in balance of payments (Table XI), G.N.P. and all the other series that we have considered. We have tried to explain the mechanism of adjustment to a balance-of-payments deficit, and in doing so we have described that part of the cycle in which there is a downturn in the G.N.P. It remains for us to consider the upturn.

So far there is nothing in our model which would account for an upturn. While we have hypothesised the mechanism by which the economy moves to restore equilibrium in the balance of payments, nothing we have said throws any light on whether or not this equilibrium will be achieved. We have shown only that the movement towards equilibrium will involve both unemployment and rising prices. We might add to our model in a variety

¹ Making some assumptions, the calculation of the increase in agricultural exports would be of the following form:

Given:

G.N.P. = U.S. \$12,090 million (*i.e.*, 1960–63 average);
 Total exports = U.S. \$1,156 million (*i.e.*, 1960–63 average);
 Agricultural exports = U.S. \$1,065 million (*i.e.*, 1960–63 average);
 Agricultural production as % of G.N.P. = 16.5%;
 Agricultural exports as % of G.N.P. = 8.83%.

Assume:

80% of what appears as agricultural production is exportable (*i.e.*, netted of value added in domestic marketing); 100% devaluation;
 total expenditure on agricultural goods rises to 130% of pre-devaluation expenditure.

Then:

domestic prices of agricultural products rise to 180% of pre-devaluation value;
 volume of consumption falls to 72% ($\frac{3}{4} \times \frac{3}{4}$ of former level);
 the volume released for export increases the volume of exports by 23.2%.

TABLE XI
Balance of Payments
(U.S. \$ million)

	1958.	1959.	1960.	1961.	1962.	1963.	1964.
Balance of payments on current account	-259	+11	-204	-585	-273	+234	+34
Exports	994	1,009	1,079	964	1,216	1,365	1,410
Imports	1,223	993	1,249	1,460	1,356	981	1,077
Invisibles	-21	—	-34	-88	-132	-151	-299
Capital account	28	112	354	423	-54	-76	-60
Compensatory capital transfer	23	128	158	-32	-14	-10	-87
Change in reserves . . .	208	-251	-308	194	340	-148	111

Source: [4], p. 25, Table 4.

of ways in order to allow it to generate an upturn once equilibrium in the balance of payments has been achieved.¹ But while we might list the policies or events which would produce an upturn, we would still need to determine which combination of these was effective on each particular historical occasion.

The events causing the upturns after the 1958/59 and the 1962/63 recessions appear to have been different. The recovery from the recession of 1959 appears to have been induced by an inflow of direct foreign investment (Table XII). After the 1962/63 recession a period of underemploy-

TABLE XII
Direct Investment in Argentina from Overseas
(U.S. \$ million)

1958.	1959.	1960.	1961.	1962.	1963.
120	245	427	-13	72	84

Source: [7], p. 29.

ment equilibrium was ended by an enormous increase in the size of the government deficit (see Table V).

In both these cases the expansionary effects of the multiplier and accelerator were reinforced by a continued rise in nominal wages resulting from successful union negotiation.² The resulting stimulus to internal demand

¹ For example, we might postulate that in order to pay off accumulated overseas debts the economy would be depressed below the level at which the balance of payments came into equilibrium, so that a surplus would ultimately be achieved, followed by a reversal of the tight money policy and an expansion of government expenditures to an extent greater than that consistent with balance-of-payments equilibrium.

² The effect of wage increases upon prices might be calculated using the assumptions of Table II to be 54%. This would mean a redistribution of G.N.P. in favour of wage-earners and a stimulus of internal demand.

led to the re-emergence of the balance-of-payments deficit, while the continued inflation aggravated government's difficulties in balancing the budget.

The key assumption which generates these results in our model is the assumption that the value of imports exceeds the value of exports as we approach full employment.

V

In presenting our model we have attempted to justify the quantitative assumptions we have made as reflecting the realities of Argentina's recent history. We wish now to take a look at the broader pattern of events and explore the extent to which the relationships postulated by our model, together with the experienced magnitudes of the relevant variables, are consistent with the pattern of growth of the Argentine economy. In doing so we shall confine our attention to the recessions of 1959 and 1962/3; for while we consider that the model also helps to explain the earlier recessions of 1952 and 1956, the events on these occasions were probably greatly affected by the direct controls which then obtained.

The history of the 1959 recession might conveniently be traced from the end of 1958. At this time the country was running a balance-of-payments deficit which was draining its foreign-exchange reserves. With the help and advice of the I.M.F., the Government embarked on a stabilisation programme, of which important features were: (i) the elimination of all exchange controls and the creation of a single foreign-exchange market with a freely floating rate; (ii) elimination of domestic price controls; (iii) credit and budgetary restraint; (iv) inducements to foreign capital investment.

The first months of the stabilisation programme were marked by violent fluctuations of the exchange rate. Nevertheless, the trend was downward, and stabilisation was finally achieved in the third quarter of 1959 at around 83 pesos to the dollar (see footnote 3, p. 869).

Budgetary restraint was indeed exercised. As we can see from Table IV, the government deficit was cut by about two-thirds in real terms—and this not through an increase in taxation (government income actually declined in real terms) but through a decrease in expenditure. The extent of the banking system's financing of government expenditure also declined (see Table V), and although the decline was relatively small in money terms (from around \$23,000 million in 1958 to \$20,000 million in 1959), in real terms it was substantial. Even so it was, of course, argued by some that, since the stabilisation programme was unsuccessful, the contraction of money base was necessarily insufficient. Our model suggests that the economic consequences of yet further contraction might well have been successful stabilisation, but at a level of unemployment which in equilibrium would have been most severe.

The overall contraction of credit achieved was very remarkable. Footnote 3, p. 873 shows a fall in the quantity of real money in the order of 30%. Official interest rates were controlled and did not reflect the extent of the credit shortage. In the absence of a bond market it is difficult to document changes in effective interest rates, but it is clear that 1959 was a year of extremely tight credit.

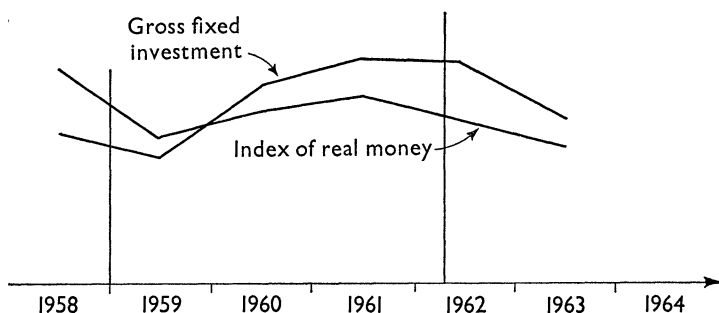


FIG. 3. Drawn on log vertical scale using data from Table VI and footnote 3, p. 873.

Finally, looking at Table XII, we can see that the inflow of foreign capital was increased, though the full effect of the new policies was not felt until 1960.

TABLE XIII

Bank Credit Outstanding to the Agricultural Sector

(Million pesos deflated by the G.N.P. deflator)

1958.	1959.	1960.	1961.	1962.	1963.	1964.
36.978	25.255	29.222	36.197	27.442	24.271	34.322

Source: [5].

However, the results of this programme differed markedly from what the planners expected. G.N.P. fell substantially (Table IX). The rise in prices gathered momentum. The cost-of-living index—which in the previous twelve months had risen by 51%—rose by 101% from December 1958 to December 1959. With wages the picture was the reverse. They had risen 102% in the first of these periods, but they rose only 34% in the later period [3]. (“Cost-of-living” index is an index of prices of different wage goods. “Wages” is an index of hourly wages of unskilled workers as fixed by collective wage agreements.) As was to be expected, the distribution of income moved against labour: wages and salaries represented only 40.4% of gross income in 1959, as against 46.3% in 1958, and against a range of from 44.8% (1957) to 50.2% (1952) since 1950 ([2], p. 57). Finally, and also as expected, agricultural prices rose by more than non-agricultural

prices—150% as against 127% (Annual average wholesale prices, Table X). It is worth noting that the effective rate of exchange for exports went up by 170% [3]. Any inducement that farmers might thereby have felt to increase their investments was stifled by the unavailability of credit. Total credit available to farmers in real terms fell (Table XIII), thus, in order to maintain the real value of investment and circulating capital, some part at least of increased profits would have had to be reinvested.

In 1960 and 1961 the situation was reversed. The rate of exchange was almost completely stable, with the Central Bank buying dollars in the

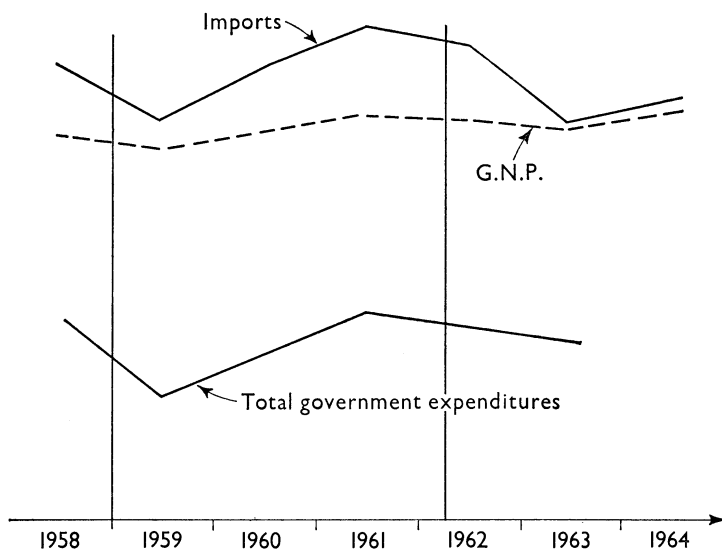


FIG. 4. Drawn on log vertical scale using data from Tables IV, VIII and IX.

market and increasing its reserves during 1960 and the first months of 1961. But the deficit on current account grew, the inflow of foreign capital turned to an outflow (probably in the last months of 1961) and the Central Bank used its reserves to hold the rate of exchange (see Table XII).

The government deficit was reduced in 1960 and increased in 1961 (in real terms); but as expenditure went up rapidly in both years, the budget was probably expansionary in both cases (see Table IV). As a result of a more liberal credit policy and of dollar purchases in the free market, liquidity eased (see footnote 3, p. 873). However, in the second half of 1961 the reversal of the foreign-exchange situation brought a renewed liquidity crisis.

The effect of all this was that while production increased rapidly during 1960 and 1961, there was a reduction in the rate of price increases; real wages rose and the balance of payments on current account deteriorated sharply.

The downturn was reversed by a rise in investment from 19.0% of G.N.P.

in 1959 to 23.5% in 1960, an increase of \$61,500 million above the 1959 figure [4], (Table 3, p. 19). An important part of this was foreign investment, which favoured particularly oils, cars and chemicals.

Expansion was short-lived. The deficit on current account grew, and an outflow of short-term capital after a military *coup* in March 1962 called for crisis measures. The new government decided to try once more the orthodox medicine.

In April 1962 devaluation was effected by freezing the exchange rates. From the first quarter of 1962 to the first quarter of 1963 the average rate of devaluation was 63% [5]. In spite of reduced government expenditure, the deficit grew, although it was reduced in 1963 (Table IV). The restrictive effects of the 1963 budget are underestimated by the figures, inasmuch as the Government increased its debt by simply refusing to pay its employees and suppliers. The index of real money shows that real balances declined by about 20% from 1961 to 1963. In spite of orthodox government policies, foreign capital was not attracted. In part, perhaps, this was because of political instability, which was almost continuous until October 1963, when a newly elected government took over. (Before this there were on several occasions clashes between opposed army factions.) In part, again, the reason was also to be found in the large external debt of some U.S. \$3,000 million, which made Argentina a rather bad credit risk.

The effects of the new policies closely resembled those of 1959. The cost-of-living index, which had risen by 22% in the twelve months ending March 1962, rose by 35% in the twelve months following. Wages rose by 27% and 23% in the corresponding periods [3]. G.N.P. fell in 1962 and 1963. The decline in production must have been one of the worst experienced by any country in recent years. Imports fell (in 1963 especially), and exports increased more than they did in the previous recession. Once more income distribution moved against wages and salaries—though no figures are available as yet—and the prices of agricultural goods increased by more than the prices of other goods (85% compared with 61% for the period 1961–63) (see Tables IX and X). Credit to agriculture declined in 1962, and increased only marginally in 1963 (see Table XIII).

From the tables we see how the reflation of 1964 followed the pattern of 1960. The rate of exchange was stabilised; real money increased; production increased; the rate of price increases slowed; real wages rose and the balance of payments deteriorated. The main impulse to reflation was not investment, however, but deliberate deficit spending by the new Government and the ending of the credit squeeze, which improved liquidity and increased consumption. As can be seen in Table V, expenditure financed by the banking system rose by nearly one-half. Although 1964 investment figures are not yet available, we believe that the increase, if any, will be small. On the other hand, government expenditure may well have been 30,000 million pesos higher than in 1960, although again we have no figures.

There was one important difference between the situation of 1960–61 and that of 1964—the state of the balance of payments on current account. In 1964 the deterioration was less rapid than in 1960. Indeed, provisional figures suggest an improvement in 1965, in spite of a continuous rise in production and employment compared with the sharp deterioration of 1960/1 (see Table XI). This is explained by an increase in agricultural production of 8% in 1964 and of a further 4% in 1965 ([5] and press reports), accompanied by favourable prices in international markets. While export earnings have increased, a relatively low level of investment has kept down imports in spite of a fairly high level of government expenditure. No doubt rising demand will start to absorb slack capacity and perhaps induce an increase in investment. Whether this can be sustained will depend on the extent to which export earnings remain at their present high level.

VI

Finally, we must discuss the policy implications of our model. It is clear that a major constraint on the economic development of the Argentine is the shortage of foreign exchange and that the policies for development must first aim at increasing the net foreign-exchange earnings. Our historical review has also shown that capital movements add to foreign-exchange difficulties and that policies to maintain the balance of payments should therefore concern themselves also with capital movements. Unless capital exports can be controlled, then devaluation may again be forced by speculators who withdraw their capital from the country as soon as the first signs of balance-of-payments difficulties become evident. The lessons of 1962 were learnt by the new Government, which imposed exchange control in April 1964.

However, while exchange control of capital movements may be essential for stability, it will not of itself ensure balance of payments at full-employment equilibrium. Moreover, whatever may be achieved by economising in foreign-exchange expenditure, ultimately the greatest scope for raising the growth rate lies in increasing exports. We have not attempted to measure the scope for increasing exports from the agricultural sector, but the general appearance of accumulated neglect of this sector would suggest that it is very considerable. One thing is certain, and that is that the scope for increasing foreign-exchange earnings in agriculture within the next few years is infinitely greater than that for increasing foreign-exchange earnings from the manufacturing sector (Table XIV). While this does not mean to say that we would discourage attempts to initiate or expand the export of manufactures, we do consider that the task of building up export markets and the reputation for a reasonable product will take Argentina a substantial period of time.

While we would not attempt to offer policy prescriptions for agricultural development in the Argentine, there are a number of issues that we would

TABLE XIV

Exports

(U.S. \$ million)

	1958.	1959.	1960.	1961.	1962.	1963.
Livestock products	508.7	520.4	519.7	516.0	541.4	665.2
Other agricultural products	441.0	444.9	508.7	387.9	607.4	526.3
Forestry, mining and fishing	25.1	25.5	23.7	24.1	38.4	44.2
Other products	19.1	18.1	27.0	36.2	28.8	129.4
Total	993.9	1,009.0	1,079.2	964.1	1,216.0	1,365.1

Source: [4], p. 26.

Note: "Other products" includes manufactures of agricultural products including, e.g., sugar—which expanded substantially in 1963.

raise here. In relation to the above discussion, it seems that the Prebisch thesis of pessimism about the long-term prospects for agriculture has encouraged its continued neglect in Argentina. While this is not the place to discuss the Prebisch thesis, it is to be noted that in recent decades Argentina has been losing her share in almost all export markets, whereas competitors, such as Australia, have increased their share, sometimes greatly. There is superficial evidence of enormous scope for positive measures to improve the agricultural infrastructure in Argentina. Candidates for attention which suggest themselves most readily are transport, storage, disease control, research and extension. The potential rates of return to investment in these latter fields are—at an informed guess—most unusually high. The neglect of agricultural research and extension has been profound, and the development of these services in the Argentine appears to compare most unfavourably, even with many countries in Africa and Asia.

Land reform is considered by some to be essential to agricultural development. It has been argued that there has been a failure by agriculture to respond to the stimulus of devaluation, and this has been widely attributed to the social characteristics of the agricultural sector inherent in *latifundia* and absentee landlords. Whatever the truth of this view, it might also be pointed out that in the short-run at least there have been strong economic incentives for a transfer of resources away from agriculture. Also that the initial effects of a major land reform could be to aggravate the situation. Land-tax proposals have been offered to promote both the stimulation of the total product and the desired redistribution effects. We are unable to appraise such proposals at this point, but we would emphasise the need to consider together both distribution and total product effects and to note that a temporary set-back in agricultural exports might have very lasting adverse effects on the economy.

The question of import substitution requires a paper to itself, but we would add to our earlier remarks the observation that the immediate impact of an attempt to invest in import substitution may be to add to the bill of imported inputs. Thus, there will be a limit to the rate at which this policy can effectively proceed without aggravating the balance-of-payments deficit in the short run. However, there appears to be more scope than has yet been realised to restrict the consumption of goods which have high import content.

We have seen that one major consequence of a devaluation is income redistribution. Also, that in attempts to counter this, wage-earners have achieved increases in nominal wage-rates which have led to a wage-price spiral. If wage-price spirals are to be avoided it is clear that redistribution of income in favour of wages must either be prevented or be achieved by other means. (*E.g.*, one alternative would be the possibility that Government might be prepared to match any increase in the cost-of-living index by the proportionate decrease in workers' contributions to pension funds, so as to leave real wages unaltered. Deficits in the pension fund would need to be financed by increasing the burden of taxation, perhaps on those favoured by the redistributive effects of devaluation.) It should be noted that the burden of taxation on the wealthy in the Argentine is low compared to other countries.

We have not been able to attempt in this paper a comprehensive appraisal of policy alternatives for economic development in the Argentine. We have tried simply to show some of the issues that become relevant in the light of our model. Probably the major conclusion that arises from our discussion is that the rate of development of the Argentine economy is governed by its balance-of-payments position, which in recent years has not permitted a full-employment utilisation of its resources. We have indicated an urgent need to review philosophies and development strategies based on industrialisation to the neglect of the agricultural sector and the promotion of its exports. We have indicated, too, that desirable import substitution might be promoted only at the cost of aggravating short-run balance-of-payments difficulties, and that projects for import substitution should therefore be appraised with this consideration in mind.

So far, we have completely overlooked one major disturbing influence on the Argentine economy, namely, the fact that agricultural production is subject to year-to-year variation resulting from uncontrollable fluctuations in yields. The economy is particularly vulnerable to poor harvest years, and there is a danger, too, in being over-expansionary in years of good harvest which may not be sustained. There is a need for conscious provision against such fluctuations to be taken account of in government domestic economic policy, which in the long run must mean the accumulation of larger foreign-exchange balances.

Finally, exclusive emphasis by the I.M.F. on the role of internal budgetary

policies to counter short-run balance-of-payments difficulties appears to have been misguided. By requiring the Government to take measures to bring the economy into balance, the I.M.F. orthodoxy required both a severe under-employment equilibrium and a severe redistribution of income away from wage-earners in particular and towards entrepreneurs in the agricultural sector. The belief that credit restriction and budgetary balance could by themselves, if pushed far enough, solve both the payments and inflationary problems is what we are criticising. No doubt such measures are part of the required policy, but, in practice, given the nature of agricultural production and the internal demand for food, short-term adjustment was not, and could not, have been achieved solely by these means, which acted in fact to deflect investment from agriculture and to inhibit long-term development. Our model has shown the fallacy of diagnosing government policies as inflationary from the evidence of rising prices and growing budget deficits.

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