

STAFF PAPERS

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The authors of the papers in this issue have received considerable assistance from their colleagues on the staff of the Fund. This general statement of indebtedness may be accepted in place of a detailed list of acknowledgments.

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The Effect of Inflation on Economic Development

Graeme S. Dorrance*

This is a revised version of a paper prepared for presentation to the Conference on Inflation and Growth in Rio de Janeiro, January 3-11, 1963.

I. Introduction

THE PROBLEM

IN MANY of the less highly developed countries, incomes are not rising as rapidly as the desires of the community. In these countries, personal savings are low, so that only limited resources are released for the expansion of the community's capital. At the same time, the tax systems provide only enough revenue to meet part of the community's desires for government services, with very small surpluses available to finance development. Under these circumstances, inflation may appear to be an easy method of providing finance to expand investment and hence to be an easy way of obtaining capital for a more rapid expansion of output. If a government can persuade the central bank to create money to finance a development program, or if the banking system freely makes loans to private investors for the finance of physical investment, the problem of expanding the community's real assets may appear to be easily solvable. Consequently, it is sometimes argued that "a case could be made for making inflation an instrument of (development) policy, rather than the control of inflation an object of policy."¹

There is no doubt that, on occasion, a monetary expansion somewhat greater than the current increase in real output will introduce an element of flexibility in an economy, and lead to some "forced saving" releasing resources for development. However, there are strict limits to the amount of development which may be fostered in this way. Admittedly, the available simple evidence on the relation

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¹ H. J. Bruton, *Inflation in a Growing Economy* (Annual Lectures by Visiting Professor of Monetary Economics, 1960-1961, University of Bombay, Bombay), p. 57; parentheses added.

between inflation and growth is difficult to interpret. The difficulty is common in analyses of the effects of pervasive influences, like the degree of inflation, on phenomena which are also subject to other, complex, forces.

Table 1 presents summary data gathered from three sources. This evidence varies from the inconclusive simple comparison of average rates of growth for the years 1954-60² as derived from the UN national account statistics, to the rather more persuasive conclusions

TABLE 1. RELATIONSHIP OF RATES OF INFLATION TO ECONOMIC GROWTH IN RECENT YEARS¹

	Annual Rates of Growth Per Capita (per cent)		
	Stable countries	Mild inflation countries	Strong inflation countries
Sample based on UN data	2	2	2
ECLA sample	3	—	2
U Tun Wai samples, based on			
Per capita national income			
Unadjusted	6	2	3
Adjusted for terms of trade	4	1	1
Per capita social product	4	3	—

¹ For description of stable, mild inflation, and strong inflation countries, and for statement of countries and periods covered, see Appendix, page 32.

For sources of data, see Tables 11, 12, and 13 (pp. 33-34).

obtained from a recording of the data relating to specific periods of rather constant price change identified by U Tun Wai.³ The rates of growth in the simpler comparisons are based on one observation per country; hence each observation reflects not only the effect of inflation but also the effects of the available natural resources and their stage of exploitation, and the general political atmosphere and other influences, such as the general social attitudes, in each country. The separation of shorter periods for individual countries when different rates of price increase prevailed, based on Tun Wai's observations, tends to strengthen the influence of the rate of inflation, as distinct from other forces, in the last three comparisons in Table 1. These latter data suggest that in the postwar years the less highly developed countries have, on the average, enjoyed annual increases in per capita output of approximately 4 per cent during those periods when they maintained monetary stability. During periods of mild inflation the increase in output in these countries was only half as great. During

² To be more precise: 1954-60 in most cases, in some cases shorter periods within that time span.

³ "The Relation Between Inflation and Economic Development: A Statistical Inductive Study," *Staff Papers*, Vol. VII (1959-60), pp. 302-17.

periods of strong inflation, the increases in output tended to be even smaller.⁴

It is true that individual units of investment financed by bank credit are likely to be created even in inflationary conditions. It is not the immediate products of monetary expansion which are in question; rather it is the over-all effect on progress which deserves consideration. An expansion of the monetary system's assets involves an equal expansion of its liabilities. Unless members of the community are willing to increase the real value of their money balances by an amount equal to the increase in bank credit, and thereby indirectly to provide finance for the new investment, either prices will rise, or imports will be so encouraged and exports discouraged that there will be a fall in the community's capital held in the form of exchange reserves, i.e., a disinvestment in reserves offsetting the newly financed domestic investment. If prices rise, the real value of any increase in money holdings will be eroded. This fall in the real value of money may be considered as a tax on money holders. Inflationary policies, or policies which lead a government to be weak in resisting inflationary pressures, may be assessed by criteria similar to those used in assessing alternative taxation proposals.

The efficiency of any tax is largely dependent on the degree to which it cannot be evaded. The degree to which a tax "cannot be evaded" is, in turn, largely a function of the degree to which it does not lead to incentives encouraging evasion. A mild inflation may well encourage little, or no, evasion of the "inflation tax." On the other hand, a strong inflation, and frequently a mild one also, will lead to community reactions which have effects similar to those of widespread tax evasion.

A development policy may have wider aims than the encouragement of a high level of investment. It may be directed to the encouragement of types of investment different from those which would emerge in an economy in which all economic decisions are made by individual economic units acting without positive inducements by the government. If an attempt be made to foster development through an "inflation tax," the types of economic incentive induced by inflation

⁴ It should be recognized that these conclusions are more positive than the conclusions in some other studies. The difference between the conclusions in Table 1 and those of other studies may be explained by the fact that the data in Table 1 cover a fairly large number of countries where the rate of inflation is high, whereas the data used by most other authors are dominated by relatively low rates of inflation. For example, of the more than 100 annual rates of price change analyzed by Bhatia ("Inflation, Deflation, and Economic Development," *Staff Papers*, Vol. VIII, 1960-61, pp. 101-14), only 14 were larger than 5 per cent, and only 3 of these were in excess of 10 per cent.

are also relevant to its effectiveness. A strong inflation creates distortions in the economy, which may be regarded as comparable to the undesirable incentives induced by unsatisfactory forms of taxation.

It must be recognized that rapid economic development, by evoking supply shortages in certain specific fields, frequently leads to increases in the prices of certain commodities. The number of these may be fairly large. Under these circumstances, some rise in the average level of prices may frequently be an unavoidable companion of economic progress. This observation does not, however, lead to the conclusion that inflation aids development, or that its control should not have a high priority among the targets for economic policy.

THE SIGNIFICANCE OF EXPECTED PRICE INCREASES

The monetary system operates on the assumption that money serves as a satisfactory medium of exchange, *numéraire*, standard for debt repayment, and store of value. If prices are stable or rising imperceptibly, money will be accepted by the community for all these purposes. If prices rise markedly, individuals and businesses will cease to hold money for the latter two of these four purposes. If prices are not expected to remain stable, the economic adjustments attempted by the community will be different from those which will be attempted when price stability is expected.⁵ In some respects, the problem facing the analyst is the comparison of these different adjustments.

THE EFFECT OF INFLATION ON THE DESIRE FOR LIQUIDITY⁶

Inflation has two effects on the desire for liquidity, which are related to the two basic reasons why individuals and businesses wish to hold liquid assets—the speculative and precautionary motives. Inflation increases the value of effective liquidity, thereby raising the community's desire for it, but it makes the most generally accepted store of liquidity—money and financial assets denominated in money—unacceptable sources of protection. This strengthening of the com-

⁵ It must be recognized that the degree of price change required to influence expectations is not only rather indeterminate in any particular case, but will depend to a considerable extent on the degree of price stability in earlier years; even so, it will differ from country to country, and between countries with similar monetary experiences.

⁶ This section, and Part III below, are based largely on A. S. Shaalan, "The Impact of Inflation on the Composition of Private Domestic Investment," *Staff Papers*, Vol. IX (1962), pp. 243-63.

munity's wish for liquidity and weakening of the usefulness of the traditional store of liquidity will exert their greatest influence on the types of investment undertaken during periods of inflation, but they will also work to reduce the total flow of resources available for investment.

If an inflation were expected to proceed at a uniform rate, it might have little effect on the community's desire for liquidity. In practice, the rate of any inflation is unpredictable, and the variations in this rate are likely to become more pronounced as the average rate of inflation increases. In a stable economy, price movements are reasonably predictable. In an inflationary economy, if the current rate of price rise is 20 per cent a year, the rate next year may almost equally well be approximately 10 per cent or over 40 per cent.⁷ This uncertainty regarding the future course of prices creates an incentive for liquidity. With the future uncertain, the probability of unpredictable investment opportunities arising, or business difficulties occurring, is increased. Hence the desire to hold liquid assets for speculative and precautionary purposes is strengthened.

However, during an inflation money and financial assets denominated in money cannot be depended on as stores of liquidity, since they decline in real value as prices rise.⁸ They even fail to provide acceptable liquidity to bridge the gap between transactions, because the intervals between cash receipts and disbursements may be long enough for prices to rise appreciably. In these conditions, attempts will be made to acquire assets whose value is expected to rise in the interval before the investment opportunity or other occasion for disbursement arises. This flight into nonmonetary assets is the source of many of the distortions which accompany an inflation, and is a partial cause of the decrease in the flow of resources to investment.

INFLATION IS NOT THE ONLY PROBLEM OF DEVELOPMENT

The control of inflation is only one of the problems facing a government wishing to encourage rapid economic development. The fight against illiteracy, the reform of bureaucratic practices, the building

⁷ See, for examples, the data in Table 23, page 40. (The Appendix, pp. 32-44, contains Tables 11-29.) For a discussion of the effect of uncertainty regarding the rate of inflation on the structure of interest rates, leading to higher rates for long-term deposits than for short-term ones, and higher rates for short than for long loans, see C. D. Campbell and C. S. Ahn, "Kyes and Mujins—Financial Intermediaries in South Korea," *Economic Development and Cultural Change* (Chicago), October 1962, pp. 64-65.

⁸ Presumably, this is what Keynes had in mind when he stated that "money itself loses the attribute of liquidity if its future supply is expected to undergo sharp changes." (*The General Theory of Employment, Interest and Money*, New York, [1956], p. 241, n. 1.)

of basic sanitary facilities for the eradication of endemic diseases, the substitution of competitive for monopolistic trade practices, the encouragement of a widespread spirit of entrepreneurship, and the creation of an adequate amount of social capital, may be important prerequisites for rapid growth. However, attacks on these problems are likely to be more feasible in an atmosphere of financial stability: a rapid inflation will make the failure of such attacks much more likely.

II. The Flow of Resources for Development

Acceleration of development, or the maintenance of a high rate of economic progress, calls for encouragement of the flow of resources to development uses and their utilization in the most productive directions. These resources can come only from that part of total domestic output which is not consumed, or from foreign borrowing. Hence, a development policy may be judged by its influence on output, the rate of saving, the decisions of foreign lenders, and the uses to which the total flow of investment funds are put. The future level of output will be, in large part, determined by current and foreign borrowing, and by the productivity of the investments financed from these sources.

DOMESTIC SAVING

Amount

General observations. In all countries, a considerable part of the community's saving takes the form of the accumulation of financial assets. In most poor countries, money forms the major part of the community's financial assets. Even in wealthy countries, financial assets denominated in money (money itself, savings deposits, insurance policies, bonds, etc.) absorb a large part of the community's saving. The willingness of individuals and businesses to hold an expanded quantity of money, or financial claims denominated in money terms, is influenced by their expectations regarding the future price levels. If prices are expected to rise markedly, holders of money will try to limit any increase in the money value of their holdings, or may even attempt to dispose of them. Evidence of community reaction to inflation is provided in Table 2. Historically, the ratio of money to income in all but the wealthiest countries has tended to rise, but in recent years this ratio, on the whole, has declined in countries where inflation has prevailed. The simpler comparison of the value, in terms of constant prices, of the increases in money leads to similar conclusions. In countries which have gone through fairly

extended periods of strong inflation, the volume of savings accumulated in the form of money and quasi-money has been quite small, whereas in the more stable countries these accumulations have been substantial. In Argentina and Bolivia the real value of money holdings has even declined. It should be remembered that this latter comparison is limited to changes in the value of these holdings. It does not take account of any changes in the real value of transactions which these holdings are required to finance.

TABLE 2. COMPARISON OF RATES OF INFLATION AND OF INCREASES IN MONEY AND QUASI-MONEY¹

(In per cent)

Countries	Average Annual Rates of Change in Recent Years in Ratio of Money to Income	Average Increases from 1948 to 1961 in Real Value of Holdings of	
		Money	Money and quasi-money
Stable countries	—	79	103
Mild inflation countries	-2	100	138
Strong inflation countries	-3	19	11

¹ See Tables 16 and 17 (pp. 36 and 37).

Saving in the form of money accumulation is only one part of saving through the acquisition of financial claims. A large part of money accumulation is involuntary. Other holdings of financial assets are voluntary. These latter holdings are likely to rise less (or fall more) than those of money if prices are expected to rise. The experience of Argentina and Brazil, outlined in Table 26, may be taken as typical. Between 1950 and 1961 the money holdings of Argentine residents rose almost tenfold. However, the increase in quasi-money was only sevenfold and holdings of government debt remained constant over the period. While Argentine residents increased their money holdings by more than 800 per cent (which in fact represented a decline of 25 per cent in the real value of these assets), the wider group of financial assets rose by only 685 per cent, representing a decline of more than 40 per cent in their real value.⁹ In Brazil, where money holdings have, until recently, tended to increase slightly in real value, all financial assets, taken together, have, until the last few months, been remarkably stable in real value. The decline in the value of financial assets other than money has offset any saving forced by monetary action.

It is true that this argument says nothing more than that one element of saving will be reduced. Yet, it is the element of saving most

⁹ An examination of some unpublished data on insurance in Argentina indicates that the increase in all financial assets was less than 650 per cent.

widely accessible to nonproperty owners in less highly developed countries. Individuals who forego money savings will undoubtedly divert some of their saving to other forms. However, consumption is also a rival for expenditure, if saving in the form of accumulation of assets denominated in terms of money is unattractive. Consequently, a communal shift away from holdings of financial assets is almost certain to be associated with a decline in total saving.

Personal saving. In part, the decline in saving may be explained by the changes in income distribution which are likely to accompany a strong inflation. In the early stages of a mild inflation, the belief that prices will not rise markedly may well lead wage earners to accept nearly constant money payments, and pension plans which promise fixed money payments. Consequently, in the early stages of a mild inflation, there may be a shift in income distribution from the relatively low-income wage earning and pension groups, who have a low propensity to save, to the relatively wealthy profit recipients, who are likely to have a higher propensity to save.

Once wage earners realize that the real value of fixed money earnings is likely to decline, they will press for higher wages or for sliding scale adjustments which will ensure, at least, the maintenance of the real value of their earnings. At the same time, employers, with rising money profits, will be willing to compete for workers by agreeing to higher wage payments. Similarly, prospective pensioners will not be satisfied with retirement programs which relate benefits to past money incomes. Pressures will be exerted for the adoption of plans with escalator clauses. Governments, acting on the basis of humanitarian motives, will accede to these pressures. As a result, pension programs will be developed which, in effect, relate pension payments to the cost of living, the level of minimum wages, or some similar escalating provision. This process will result in a shift in income distribution from the wealthy back to the less wealthy, with a consequent decline in saving.

Whether these forces will be sufficient to make the final distribution of income more or less favorable to the relatively poor is probably impossible to determine. Table 27 suggests that, if reasonably long periods are taken, the degree of inflation has relatively little influence on real wage rates. Similarly, the data in Table 28 suggest that the shift in the distribution of income may be quite small, with perhaps a slight increase in the share going to wage earners in periods of inflation.

At the same time, inflation will be associated with a qualitative redistribution of profits. Every rapid inflation provides an opportunity for fortunate speculators, and their ostentatious consumption

gives an impression of a radical shift in the community's income distribution. However, these groups are not likely to be large savers relative to their incomes. The *nouveaux riches* are likely to be more typical of this group than the frugal entrepreneurs who reinvest profits to build industrial empires.

Business saving. The pressures which depress personal savings will have a similar influence on business saving. In addition, strong inflation will bring forth two specific pressures encouraging businesses to distribute, rather than to reinvest, current earnings.

The strengthening of the desire for liquidity which results from inflation will discourage long-term investment. As a result, shareholders will press company managers to distribute profits.

Moreover, as shown below, in their search for liquidity and profitable investment, residents of countries where there is inflation are likely to shift from domestic to foreign investment. Shareholders in companies, being among the wealthy and more sophisticated members of the community, are persons who have the knowledge of, and effective access to, foreign investment. For this reason also, they are likely to put pressure on company managers to pay dividends rather than to retain earnings, so that the proceeds of these payments may be transferred abroad.

Comparative statistics on company practices are very scanty, to say the least. One, admittedly unsatisfactory, comparison is given in Table 19. Statistics on the activities of corporations controlled by U.S. residents, but operating in other countries, identify the data, by country, for only a relatively few countries. In the years 1957-60, the records relating to those less industrialized countries where prices were stable indicate that companies operating in these areas tended to reinvest half their disposable earnings. Similar companies operating in countries where prices were rising tended to reinvest only half as much.¹⁰

Government saving. If saving by the private sector is inhibited by inflation, it is possible that the shortfall might be made up by government saving. The data in Table 3 indicate the reverse. However, this relationship reflects primarily the attempts of some governments to finance investment by budget deficits. That is, in effect some countries have made inflation an instrument of development policy rather than making the control of inflation an object of policy.

¹⁰ A similar conclusion is obtained if the data relating to Venezuela (where investment in crude oil production is of a technological form which is not amenable to expansion through reinvestment of earnings) and to Brazil and Indonesia (where restrictions on capital repatriation led to forced reinvestment of earnings by foreign companies) are excluded from the comparison.

There is one important factor which will tend to increase government expenditure and lead to budget deficits. Even though a worker realizes that his wages are increased, he strongly resents a rise in his rent or in the prices of bread or beans, and particularly resents any increase in public utility prices. In an attempt to forestall some of the undesirable effects of inflation, the government may attempt to restrain the rise in prices of consumer goods. Farmers and other producers will expect, and will provide supplies only if they receive

TABLE 3. RELATIONSHIP OF RATES OF INFLATION TO BUDGET DEFICITS, SELECTED YEARS¹

Countries	Average Budget Deficits as Percentages of Gross National Product
Stable countries	2
Mild inflation countries	2
Strong inflation countries	5

¹ See Table 18 (p. 37).

the benefits of, rising prices. If the price of one commodity is controlled while other prices are rising, the demand for the price-controlled commodity will increase. If the supply of a commodity is to be encouraged, its price must rise relative to other prices. Hence, government restraint of price increases will only be possible if the production of the price-controlled goods is subsidized. The cost of these subsidies may well absorb substantial amounts of government expenditure. For example, the persistent deficits of government-owned public utilities, resulting from rising costs and opposition to rate and fare increases, are a common characteristic of government accounts in countries experiencing a strong inflation.

This is exemplified by the fiscal problems of the Government of Ceylon. In the past few years, factors which might lead to rapidly rising prices have been present in that country. The Government has striven to restrain these pressures, largely by using subsidies to suppress the effects of inflation, and has met with considerable success. Because of the country's high propensity to import (even though subject to controls, imports are equal to approximately 40 per cent of gross national product and imported goods account for over 40 per cent of consumer expenditure), the domestic price level is determined predominantly by foreign prices. The evidence of inflation has appeared primarily in a 60 per cent reduction in the country's foreign exchange reserves in the five years ending in 1962. Government revenue rose (Table 4), partly as a result of increased tax rates and new taxes, but government expenditure increased more rapidly in

the six years ending in 1960 (the latest period for which data are available). Consequently, the Government's cash accounts changed from a position of near balance to a deficit equal to approximately 7 per cent of gross national product. If the Government had been able to avoid the expenditures made to restrain the inflation, its

TABLE 4. CEYLON: PRICES AND GOVERNMENT FINANCE, 1955-60

	1955	1956	1957	1958	1959	1960
Pre-subsidy cost of living index	100	103	104	106	109	107
Effect of subsidy ¹	1	4	3	3	5	5
Subsidized index	99	99	101	103	104	102
(million rupees)						
Government revenue ²	1,185	1,280	1,271	1,293	1,349	1,413
Government expenditure	1,068	1,322	1,507	1,554	1,774	1,863
Other than capital investment and						
inflation transfers ³	563	670	831	713	895	948
Capital investment	367	431	396	499	493	496
Inflation transfers	148	221	280	342	386	419
Surplus or deficit (-)	117	-42	-236	-261	-425	-450
Excluding capital investment and						
inflation transfers	622	610	440	580	454	465
Excluding inflation transfers	265	179	44	81	-39	-31

Source: Central Bank of Ceylon, *Annual Report for the Year 1961*.

¹ Food subsidies as per cent of personal consumption.

² Revenue plus grants under Colombo Plan and from other sources.

³ Food subsidies and losses of railway and electricity departments.

excess of current revenue over current expenditure would have provided surpluses to finance its investment expenditure in the fiscal years 1955-58, and the 1959 and 1960 deficits would have been small. The decision to provide food subsidies and to cover the operating losses of the railways and electricity departments induced inflationary deficits in the years 1956 to 1960. Even with the investment program, there would have been inflation-repressing surpluses in the early years.

Purchase of foreign assets

In an inflationary economy, foreign financial assets serve to protect liquidity. Insofar as they are claims denominated in money terms, they provide the same quality of protection that domestic financial assets provide in a stable environment. Insofar as the expectation of price increases has, as a concomitant, an expectation of exchange depreciation, domestic claims will be expected to decline in real value, whereas foreign claims will not. Consequently, it may be expected that inflation will lead to an increase in the community's desires to hold foreign assets, and that savings will be diverted from the purchase of

domestic assets to the purchase of foreign assets. Any expectation that the exchange rate will depreciate to a greater degree than domestic prices rise will strengthen the desire for foreign assets.¹¹

Comprehensive statistics on the acquisition of foreign assets by residents of countries experiencing inflation are not available. A number of estimates of the total amounts involved have been made, but they can be no more than guesses. The few available statistics are depressing. In the five years ending in 1961, private residents of Latin America, other than banks, increased their investments in the United States by approximately one billion dollars.¹² The summary in Table 5 of data on the acquisition of short-term foreign assets by

TABLE 5. MEXICO: AVERAGE NET PURCHASES OF SHORT-TERM FOREIGN ASSETS BY RESIDENTS, 1951-60¹

(In millions of U.S. dollars)

Years of	Average Net Purchases
Monetary stability	—
Mild inflation	8
Strong inflation	12

¹ Based on data in Table 20 (p. 38).

residents of Mexico provides an example of the relation between these capital movements and the rate of inflation. Indeed, "a particularly unfortunate feature of the international financial scene in the last decade has been the large flow of private capital from those less developed countries which have tolerated inflation to countries, frequently wealthy, which have maintained monetary stability."¹³

Purchase of financial assets

Even if inflation did no more than lead to a shift in the flow of saving from the accumulation of financial assets to the purchase of other types of assets, this would involve a decline in the "quality" of saving. It may be argued that, if all domestic capital markets were perfectly linked, if the different availabilities of capital in each market were reflected solely in the different rates of interest prevailing, and if these rates reflected only the liquidity and risk elements

¹¹ See Part IV for a discussion of this point.

¹² Derived from *Survey of Current Business* and *International Financial Statistics*.

¹³ International Monetary Fund, *Annual Report, 1962*, p. 44.

in the capital transactions, financial transactions might be considered to reflect purely economic forces. If these conditions prevailed, each economic unit desiring to invest would have to compete with all the others desiring to invest, and this competition would be based on the relative returns to be earned in different activities and the relative costs of borrowing from different sources. Under these conditions, investment should be channeled to the most productive uses. It must be admitted that these perfect conditions do not prevail in any market, and that the capital markets of all the less highly developed countries tend to be more inflexible than the markets of the more highly developed countries. Yet, anything which encourages the flow of savings to the financial markets may be expected to increase the economic desirability of the resulting investment which the community's saving makes possible. Anything which limits the flow of savings to financial markets, or reduces the opportunity for self-investors to acquire financial assets, may be expected to limit the influence of economic criteria on investment decisions.

FOREIGN CAPITAL

Amount

In addition to the release of domestic resources through saving, just discussed, resources for development may be obtained by borrowing abroad. But just as an outward flow of capital is encouraged by an inflation (above, p. 11), so an inflow in the form of portfolio investment is discouraged by inflation.

A major part of private international capital transfers arises from equity investment by nonresidents. This flow is largely in the form of direct investment by experienced entrepreneurs interested in establishing types of production not previously undertaken in the developing economies. This is frequently one of the major sources of capital for the productive diversification of staple-exporting economies. The volume of this investment is largely a function of its expected return. Inflation may be expected to raise the money return on investment. If the exchange rate could be expected to depreciate at the same rate that prices increased, inflation would tend to have a neutral effect on prospective nonresident purchasers of domestic equity investments. However, as will be indicated below, the exchange depreciation is likely to be more severe than the increase in prices induced by inflation. Hence, the net return to nonresident equity investors in inflating economies may be expected to deteriorate. Therefore, the flow of equity capital to inflating economies will probably be lessened.

There is one very positive impediment to nonresident investment induced by inflation. It will be indicated that one of the effects of inflation is a deterioration of the foreign balance and that this induces the government to take protective action. One of these acts may be the restriction of payments to nonresidents. Payments on capital account to nonresidents are prime candidates for such restrictions. At the first sign of inflation in a country, nonresidents will fear that restrictions of this kind will be imposed and will refrain from investing there. They may even attempt to repatriate previous investments in anticipation of such restrictions. This type of reaction probably accounts for the disparate movements of international capital indicated in Table 6. This shows that net private direct investment in

TABLE 6. AVERAGE INCREASES IN VALUE OF U.S. PRIVATE DIRECT INVESTMENT IN LESS HIGHLY DEVELOPED COUNTRIES, 1950-61¹

(In per cent)

Countries	Average Increases
Stable countries	214
Mild inflation countries	177
Strong inflation countries	55

¹ See Table 21 (p. 39).

less highly developed countries by residents of the country with the largest capital exports increased at a rate 20 per cent faster than the comparable increase in investment in a group of mild inflation countries during the eleven years ending in 1961. The comparable increase in a group of countries where prices were rising rapidly was equivalent to only a little more than the reinvestment of earnings at a rate equivalent to 4 per cent of the capital invested.

Protection of foreign investors

It was suggested earlier that development policies are designed to make the flow of resources for investment greater than they would be in the absence of such policies. Since in the absence of government intervention, inflation is likely to have a depressing effect on the flow of foreign capital to a developing economy, it is likely to make a government more willing to protect foreign lenders. If this protection is to be effective, it is almost inevitable that it must err, if it errs at all, on the side of being excessive. That is, inflation may

lead to the adoption of policies which give better terms to foreign lenders than they could command under stable conditions.¹⁴

The degree of uncertainty created by inflation may be greater in the opinion of foreign than of domestic investors. Not only is the uncertainty regarding the real domestic value of future earnings increased by inflation, but uncertainty regarding the future course of exchange rates is created and there is also the fear of exchange restrictions. To allay these fears, the government of an inflation-ridden economy may be pushed to borrow directly from abroad or to guarantee the repatriation of private loans raised abroad. However, development must, almost inevitably, include risky investment. No matter how astute investors may be, some investments will be unprofitable. If such investments have been financed through private channels, the process of bankruptcy will lead to a sharing of the cost of any unsuccessful investment between borrowers and lenders. If they have been financed by government borrowing, or with a government guarantee, the full cost of investment, which in retrospect will be seen to have been unwise, will be borne by residents of the borrowing country.¹⁵

CHANGES IN RELATIVE PRICES

The distortion of the price structure created by inflation is likely indirectly to discourage saving and encourage consumption. In most nonindustrial countries, investment has a high import component. The excessive exchange depreciation induced by inflation, and the protective import substitution policies likely to be adopted by the authorities, frequently lead to relatively large increases in the prices of investment goods. The experience in nine Latin American countries, summarized in Table 7, suggests that one unit of consumption expenditure foregone in a stable country would permit the use of

¹⁴ This statement is not contradicted by the policies of certain governments restricting foreign investment in certain fields (e.g., exploration for petroleum). These policies may be adopted for specific national purposes, and the inflationary or noninflationary climate is irrelevant. Within the constraints set by such policies, inflation is likely to increase the pressures on these same governments to take positive steps to increase the inflow of nonresident capital.

¹⁵ These comments should not be taken as a generalized condemnation of government borrowing, or of intergovernment capital transactions. Under many circumstances, they serve highly useful purposes. Many forms of investment, which are appropriate for foreign financing (e.g., a part of social investment in roads, water, and sanitation works), can only be handled by the government or its agencies. Many of the sources of capital in the modern world are governments or intergovernment agencies (International Bank for Reconstruction and Development, Inter-American Development Bank, etc.) which may be expected to make only loans with government guarantees.

15 per cent more investment, in real terms, than in the mild inflation countries, and almost 40 per cent more than the average for the strong inflation countries. This rise in the relative price of investment goods

TABLE 7. RELATIVE PRICES OF INVESTMENT GOODS, SELECTED
LATIN AMERICAN COUNTRIES, 1960¹

(Average for all countries = 100)

Countries	At Free Market Exchange Rates	At Parity Rates
Stable country	86	82
Mild inflation countries	100	95
Strong inflation countries	120	114

¹ See Table 22 (p. 39).

decreases the money rate of return on investment, and consequently on saving, with a resultant discouragement of investment and encouragement of consumption.¹⁶

CONCLUSION

This analysis, which appears to be supported by the available statistics, suggests that inflation is likely to evoke forces which both diminish the resources available for development and reduce the true effectiveness of those funds which continue to flow to investment. Saving is likely to be lower than under stable monetary conditions, and to take forms which lead to a lessening of the adaptability of the economy and to a lessening of the force of economic criteria in the choice of final investment. The inflow of foreign capital is likely to be reduced, and the terms on which it comes to the country are likely to become more stringent with regard to its eventual repayment.

III. The Direction of Investment

INVENTORY INVESTMENT

The effect of inflation on the desire for liquidity has already been discussed. If money, and financial assets denominated in money, cease to provide satisfactorily protected liquidity, other sources of this protection will be sought. The accumulation of salable inventories is one means of obtaining realizable assets whose real value is likely to be

¹⁶ For a more complete discussion of this point, as related to one country, see R. Hayn, "Capital Formation and Argentina's Price-Cost Structure," *Review of Economics and Statistics*, August 1962.

maintained in the face of rising prices. Consequently, inflation may be expected to encourage investors to forego the purchase of financial assets which could have financed long-term physical investment and to accumulate inventories directly. As a result, the available resources will be devoted to inventory stockpiling rather than to long-term investment.

Moreover, in addition to the disadvantages of illiquidity attached to long-term fixed investment, there is an element of uncertainty. In an environment of unstable prices and rising costs, the long gestation period involved in fixed investment means that its eventual cost is indeterminate, and hence the possibility of financing the total outlay may be questionable. As a result, it may prove impossible to complete projects.

There are strict limits to the changes which may be made in the structure of a given stock of physical assets. Most of these changes must result from the channeling of currently accruing resources into the most desired form of asset. As the changes desired may well be large in relation to total annual investment, it may be expected that a large part of this total may be devoted to inventory investment, until the structure of the community's stock of physical assets is changed. Subsequently, the flow of investment resources will be divided between inventory accumulation and fixed asset formation, in the ratio which the community wishes to maintain between these components of its stock of physical assets. Hence, in a brief period of inflation, or in the early stages of a longer inflation, a marked diversion of investment resources toward the accumulation of inven-

TABLE 8. RELATIONSHIP OF INFLATION TO VARIABILITY OF INVENTORY INVESTMENT, SELECTED COUNTRIES, SELECTED YEARS¹

Countries	Rate of Inflation		Inventory Investment as Percentage of Gross Domestic Investment	
	Annual average (per cent)	Standard deviation	Annual average value	Standard deviation
Stable countries				
Philippines	1	4	15	6
Ecuador	2	4	16	3
Mild inflation countries				
Colombia	7	6	9	12
Mexico	7	9	14	9
Peru	8	3	11	3
Strong inflation countries				
Brazil	19	8	10	9
Chile	38	24	3	13

¹ See Table 23 (p. 40).

tories may be expected. In the later stages of a prolonged inflation, the ratio of inventory investment to fixed investment may be expected to be somewhat higher than it was prior to the inflation, but it should be less than in the early stages of inflation.

Table 8 indicates that, in two relatively stable countries, the inventory component of gross domestic investment has been relatively stable. There is some indication that in one of these, Ecuador, the ratio of inventory accumulation to total investment has been slightly correlated with the rate of inflation. In two mild inflation countries where the rate of inflation has varied (Colombia and Mexico), there is clear evidence of correlation between the rate of inflation and shifts in the stocking of inventories. In two strong inflation countries (Brazil and Chile), the rate of inventory investment has varied markedly. In Brazil, when the rate of inflation rose, inventories were increased sharply. Thereafter, even though inflation might be rapid, the rate of inventory investment reverted to a more normal level; when the rate of inflation was reduced, there was a temporary decline in the rate of inventory investment. In Chile, similar effects appear to have followed after a lag.¹⁷

HOUSING

The implication of the above analysis is that inflation encourages excessive investment in inventories, which is a form of short-term investment, and at least temporarily discourages long-term investment in fixed assets. Nevertheless, it is frequently suggested that an inflationary economy is characterized by excessive investment in luxury housing—a form of long-term investment. However, this paradox is apparent rather than real. Encouraged to acquire physical rather than fixed-money assets, savers must find some asset which satisfies their demand. One of the physical assets most easily acquired by individuals is residential property. Hence, inflation may be expected to encourage the demand for houses, either for occupation or for rent. In many of the inflation-ridden economies, governments are prone to control money rents. Hence, the return on rental housing is prevented from rising in step with the increase in the level of prices. The outcome is that savers are encouraged to buy houses for self-occupancy and discouraged from investing in rental property.

Data on the distribution of expenditure between housing and other forms of investment are scarce, and data on investment in houses for owner-occupancy are practically nonexistent. The indirect indi-

¹⁷ See Table 23, as well as Table 8, for the basis for these observations.

cation of the effect of inflation on the demand for building materials, presented in Table 29, is consistent with an argument that inflation leads to a rise in the relative demand for buildings, as distinct from other forms of investment. While these data are consistent with the arguments presented here, they should be used with caution because the demand for building materials is more subject to the distorting effects of inflation than is the demand for most other products. The prices of all investment goods tend to rise more during inflation than the general level of prices. Stocks of building materials (other than cement) are prime targets for inventory investment, as they tend to be durable (bricks, pipe, tile, etc.), their cost of storage (on the sites of incomplete buildings) is relatively low, and they may be financed from a variety of sources (e.g., both by bank loans for working capital and by construction mortgages).

BUSINESS FIXED ASSETS

The pressures exerted by inflation on the allocation of investment funds to the purchase of different types of fixed asset may be separated into those which may be termed "fundamental forces," and those which reflect the adjustment of individual economic units to the "inflation restraining" actions of the government.

Requirements for investment in fixed assets differ markedly between industries. Some activities (e.g., railroad transport) require long-lived equipment, whereas others (e.g., highway transport) require much shorter-lived equipment. It may be taken that the most appropriate combination of investment in different activities will result from the interplay of competing demands by investors looking for the most profitable investments (adjusted to take advantage of subsidies and taxes where these are considered desirable for social reasons). However, some of these investments involve long-term commitments and hence will be influenced by the community's expectations. If investors believe that the prospective economic parameters will be similar to those presently existing, or if they can reasonably expect that changes in these parameters will be orderly, they can have a firm basis for their decisions. Technological factors will then be the primary determinants for the distribution of investment. If investors expect rapid change in basic economic relations, they will be hesitant to commit themselves for long periods. If capital investments may be amortized quickly, an investor has more frequent opportunities to review his decisions. The expectation of rising prices will therefore be likely to bias investment decisions toward the purchase of fixed assets with relatively short lives. For

these reasons, an inflationary economy may be expected to evolve along lines where long-term industrial and social investment is discouraged, and where resources flow more readily to those fields in which returns may be achieved most quickly. Such an economy may be expected to become one where railway transport deteriorates, while trucks have their useful lives curtailed bouncing roughly on pot-holed roads.

As suggested earlier, inflation brings forth two reactions by governments:

- (1) The impetus to imports calls for protection of reserves, which may involve active encouragement of import-substituting activity and exchange restrictions.
- (2) The reactions of the community to increases in the cost of living are likely to force the government to institute price controls over "the basic necessities of life."

An active policy of encouraging import substitution may involve protection of domestic production from foreign competition. This protection may be given by administrative restrictions, tariffs, or excessive currency depreciation. It is possible that the rapid development of import-substituting production may entail nothing more than an acceleration of part of the over-all development process. It is also possible that it will lead to the encouragement of activity which, in the absence of protection, would remain unproductive almost permanently in the face of foreign competition.

Some indication of the extent of desirable diversification which has been achieved in recent years may be obtained by comparing the export data for individual countries. If a country is able to diversify its export sales, there are grounds for believing that it has been able to expand the production of goods other than its staple exports, and that this expansion has been in the fields where it enjoys some degree of comparative advantage. If it does not achieve diversification of export sales, there are grounds for believing that it has lost some of its comparative advantages, and that any diversification of production which has been achieved has involved the expansion of output in those fields where its costs are high by international standards. Table 9 summarizes the changes in the volume of exports between

TABLE 9. PERCENTAGE INCREASES, 1953-54 TO 1958-59, IN VOLUME OF MAJOR AND MINOR EXPORTS, SELECTED COUNTRIES¹

Countries	Major Exports	Minor Exports
Stable countries	18	39
Strong inflation countries	10	—

¹ See Table 24 (p. 41).

1953-54 and 1958-59 in two groups of countries. In both groups, the volume of staple exports (major exports) expanded. However, in the stable countries the volume of other exports (minor exports) expanded more rapidly than exports generally, providing some evidence that these countries achieved some economically desirable diversification of production. In the strong inflation countries the volume of minor exports was unchanged during these years. Whereas the minor exports accounted for approximately one tenth more of the total in the stable countries, this proportion fell by approximately one sixth in the strong inflation countries.

To protect exchange reserves from the erosion induced by inflation, many countries have resorted to exchange restrictions. Many restrictive systems have been based on multiple exchange rates, which have the adverse qualities to which attention has frequently been drawn.¹⁸ They frequently provide minimum exchange depreciation for certain basic export products. This preferential treatment adds to the structural distortions of the economy, discussed earlier. The favorable rates provided for the import of essential commodities serve to discourage domestic production and encourage activities (usually the production of nonessential goods) which are given the greatest degree of protection. Often these are not the most appropriate uses for the country's resources. For example, the exchange rate system of Indonesia at the end of 1961¹⁹ could be described as a government production plan, designed to penalize the production of rice and to divert domestic resources from investment to personal consumption, particularly of luxury items.

Investment decisions made by private entrepreneurs are primarily influenced by the expected profitability of investment. The relative profitability of investment in any activity is a function of the prices of final output rendered possible by the investment compared with the prices of final outputs which could be achieved by alternative investment. Governments frequently attempt to restrain inflation by imposing controls on the prices of the basic necessities of life, or of community services. Under these circumstances, the general rise in other prices is equivalent to a relative fall in the prices of the basic necessities or services. If price controls are not accompanied by subsidies to the producers of the price-controlled goods and services, investment in the production of basic necessities and community services will become relatively unprofitable and will be discouraged.

¹⁸ E.g., International Monetary Fund, "Decision on Multiple Currency Practices," *Annual Report, 1957*, pp. 161-62.

¹⁹ See International Monetary Fund, *Thirteenth Annual Report on Exchange Restrictions, 1962*, pp. 174-75.

Consequently, if the consumer is protected, as he frequently is, from the evils of inflation, the result may well be to divert investment, so that he is deprived of access to potential supplies of basic necessities and community services.

This aspect of inflation is seen most frequently in the public utility field. Many public utilities are natural monopolies. Hence, their prices are frequently subject to control by regulatory bodies. This control, with the almost inevitable legalism involved in its administration, is likely to create a lag in the rise of public utility prices behind other prices. Moreover, the regulatory process makes this field a prime candidate for price control to restrain increases in cost of living indices. Hence, inflation will almost inevitably lead to a diversion of investment from public utilities. As a result, the recurrent power shortages, which are one of the aspects of life in an inflationary economy, are easily comprehensible.

CONCLUSION

These arguments, which are supported by observation, suggest that inflation is likely to evoke forces which divert the resources available for domestic investment to an excessive accumulation of inventories and the building of houses for occupancy by the relatively wealthy, rather than to the construction of productive facilities or the provision of housing for the major part of the community. Of the productive facilities actually built, a bias develops toward investment in relatively short-lived projects, and the attraction of truly low-cost production tends to be weakened, while resources are diverted from the production of basic necessities and investment goods to the production of consumption goods, particularly luxury commodities.

IV. The Balance of Payments

The frequency with which inflating countries have had to resort to the International Monetary Fund for assistance, together with the relatively small volume of continuing drawings by non-inflating countries, provides clear evidence of the relation between strong inflation and balance of payments difficulties. These difficulties arise because strong inflations encourage capital flight, strengthen import demands, and reduce export supplies. They make large exchange rate depreciations necessary. The attempts to limit exchange pressures often lead to the imposition of restrictions which have distorting effects on the structure of investment and production.

IMPORTS

When there is a generalized excess demand for goods it will quickly become evident as a demand for purchases from the most readily available elastic source, i.e., from foreigners. Hence, one of the first effects of inflation will be a rise in imports. In the early stages, the effect of expanding demand on the price level may be dampened by the ability of the community to import. With a small rise in domestic prices, foreign supplies become relatively cheaper and the pressing demand from the domestic economy will be diverted to the larger world economy. This diversion will limit the demands impinging directly on the domestic economy and will restrict the immediate effects of inflationary pressures on domestic prices.²⁰

In many countries, the impact of inflation on imports is repressed by trade controls, so that the level of imports is determined, not by relative prices, but by administrative decision. However, the trade controls and the exchange depreciation in inflating countries provide clear evidence of the payments difficulties of these countries.

EXPORTS²¹

Just as inflation may be expected to encourage imports, it may be expected to discourage exports. Rising domestic demand will impinge on those export goods which are suitable for domestic consumption, and will divert them from export to domestic sales or stockpiles.²² Of course, in many cases, this diversion will be limited. An economy with only a few basic export products is not likely to increase its consumption of these products sufficiently to affect markedly the supply available for sale to foreigners. Even a doubling of domestic consumption of Brazilian coffee or Malayan rubber would lead to relatively small percentage declines in the supplies of these goods on world markets. However, it is easy to overstate this argument. All export production involves the use of some generalized resources. In any economy, excessive demand will impinge on these generalized resources, and bid them away from the production of export goods. This may be a somewhat longer-run effect, and is likely to be an influence leading to a structural distortion of the economy rather than to immediate short-term balance of payments

²⁰ See, for example, the discussion of Ceylon, pages 10-11 above.

²¹ This section is based largely on Gertrud Lovasy, "Inflation and Exports in Primary Producing Countries," *Staff Papers*, Vol. IX (1962), pp. 37-69.

²² One aspect of this problem is exemplified by the following quotation from a report on the decline in the marketable supply of sisal: "Brazilian growers are simply retaining their stocks as a hedge against inflation" (*The Statist*, November 2, 1962, p. 328).

difficulties. However, it is not merely coincidental that the volume of exports made available by Argentina, Bolivia, Brazil, Chile, and Haiti declined during the half-century between 1913 and 1958, and that these countries have experienced almost continuous inflationary pressures since World War I.

In the period 1953 to 1959, the export experience of the three groups of raw material exporting countries differed markedly, as indicated in Table 10. These differences do not reflect varying market condi-

TABLE 10. AVERAGE CHANGES, 1953 TO 1959, IN DOMESTIC PRICES, EXPORT PRICES AND VOLUME, AND EXCHANGE RATES, SELECTED COUNTRIES¹

(In per cent)

Countries	Cost of Living	Export Prices	Export Volume	Exchange Rates
Stable countries	9	-5	24	—
Mild inflation countries	43	-10	19	64
Strong inflation countries	400	-16	6	700

¹ See Table 25 (p. 42).

tions, as the grouping bears no relation to the export products of these countries. Exporters of coffee, cotton, nonferrous metals, and rubber are in all three groups; of cereals, meat, and wool in the stable and strong inflation groups, and of fish and sugar in the stable and mild inflation groups. Consequently, it is not surprising that the average change in the world market prices (i.e., export price indices in terms of U.S. dollars) have moved in the same direction and by approximately the same amount for each group of countries. While the volume of exports of the stable countries rose by one quarter, and of the mild inflation countries by one fifth, the increase for the strong inflation countries was less than one sixteenth. The pressures of inflation led to a domestic absorption of resources in those countries where domestic prices were rising, preventing them from participating in the expansion of world demand for their products.²³

THE EXCHANGE RATE

The incentives to capital exports and the discouragement of capital imports, caused by inflation, have been discussed above. These influences augment the balance of payments difficulties on current account so that, unless action is taken, an inflating economy's international reserves are soon dissipated. The action which is needed may take

²³ Given the decline in average export prices, there was a rise in the volume of demand, but not necessarily a rise in the demand schedules for the products of these countries.

the form of restrictions on imports or on capital payments, or it may include exchange depreciation. If inflation is continued, it is practically inevitable that the exchange rate must depreciate.

Moreover, if imports are not restricted, the eventual exchange depreciation is likely to be greater than the rise in domestic prices. The excess demand caused by inflation will meet supply inelasticities. The spillover of demand into the foreign market and the reduction of exports, consequent on inflation, can only be offset by a greater rise in the domestic equivalent of foreign prices than of purely domestic prices. As shown by the comparison in Table 10, the depreciation of the exchange rate in mild inflation countries exceeded the rise in domestic prices in the period 1953-59 by almost 15 per cent on the average. In the strong inflation countries this excess averaged 75 per cent.²⁴

While there is ample evidence to support the view that the exchange rate will depreciate by more than the increase in domestic prices, it does not follow that this is a smooth progress. Most governments attempt, either consciously or unconsciously, to maintain confidence in the value of money. One of the quickest ways to destroy this confidence is to allow the exchange rate to depreciate. Therefore, it may be expected that the government will attempt to maintain the rate, for a period at least. Six examples of the pegging of exchange rates, at one time or another, are provided in Chart 1. Periods when the rate was pegged despite pressures toward depreciation are indicated by stability of the exchange rate (light) lines coinciding with decline in the price (heavy) lines. Such pegging action has two repercussions. First, as the domestic currency prices of exports and imports are maintained, the pressures of inflation are given full play; if the rate were allowed to depreciate, the depreciation would mitigate or even offset the balance of payments effects of inflation. Second, with exchange depreciation clearly forecast by the rise in prices, the inducements to capital flight, discussed above, are strengthened.

V. Stabilization Problems

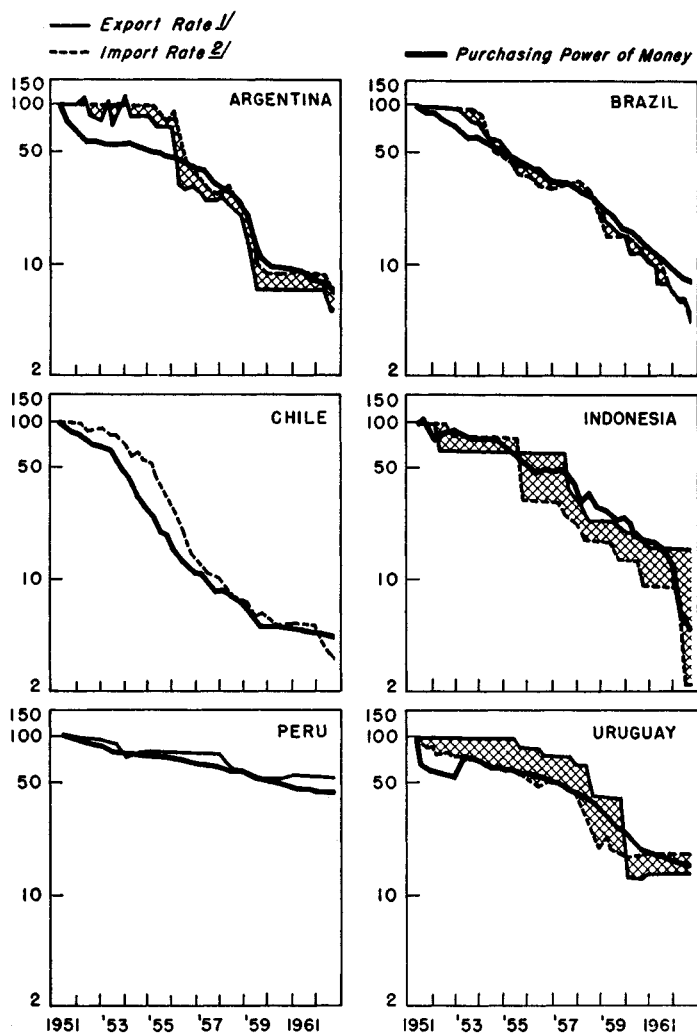
THE DIFFICULTY OF STABILIZATION

It is often alleged that, even though inflation may be undesirable, a cure by means of a stabilization program may be worse than the

²⁴ If allowance is made for the fact that world prices rose by approximately 10 per cent during this period, and that hence a 10 per cent rise in domestic prices would have been consistent with exchange stability, these percentages become 25 and 80, respectively.

CHART 1. SELECTED COUNTRIES: EXCHANGE RATES AND PURCHASING POWER OF MONEY, FIRST QUARTER 1951–SECOND QUARTER 1962

(As percentages of 1951 averages)



¹ For Argentina and Indonesia, implicit export rate; Brazil, implicit export rate excluding coffee; Peru, principal exchange rate, which does not differ markedly from the implicit export rate and the implicit import rate; Uruguay, principal export rate.

² For Argentina, Brazil, and Chile, implicit import rate; Indonesia, "other" import rate; Uruguay, free rate.

disease of inflation. Those who favor monetary reform are accused of placing a higher value on price stability than on economic growth. If the analysis presented in this paper is valid, an economy experiencing inflation must be one where development is proceeding less rapidly than it would if the economy were stable, all other conditions being similar. It does not follow, however, that a change in the climate will immediately ease an inflating economy's difficulties. In particular, it does not follow that a stabilization program will bring an immediate increase in output.

The desirable reshuffling of the economy, resulting from stabilization, may lead directly to a temporary decline in the demand for physical investment. There is an inevitable lag between the decision to create physical capital and the actual consumption of resources in capital production. On the other hand, investment already in progress may be abandoned rather quickly. One of the effects of inflation is the encouragement of industries which would be uneconomic in a noninflationary world. Stabilization may bring a quick cutoff in the development of these industries, leading to a decline in the demand for investment resources. While a stable environment will make alternative industries appear to be profitable fields for investment, it takes some time for entrepreneurs to convert their investment desires into consumption of resources. Hence, the period immediately after the start of a stabilization program may well be marked by a lag in the consumption of investment resources, with a consequent decline in the production of capital goods.

It might be thought that, as inflation is a situation of generalized excess demand for goods and services, a reduction in demand might do no more than eliminate the excess. But the situation which develops in an inflation is that the supply of goods and services, which necessarily cannot be less than effective expenditure, includes types of commodities and services for which demand will exist only so long as inflation continues. The reduction of this demand caused by the cessation of inflation, and its replacement by expenditure appropriate to stable conditions, involves a corresponding readjustment of supply. It would be utopian to expect that all phases of this readjustment process would be closely synchronized. There are particular difficulties in the smooth adjustment of investment expenditures, which follow from the effects of inflation discussed above. In the first place, inflation induces an accumulation of inventories in excess of those which would have been built up in stable conditions. Necessarily, therefore, the cessation of inflation will lead to disinvestment in inventories, reversing this part of the flow of demand. Secondly, investment in industries during the inflation is likely to have been directed

to those enjoying a high degree of protection. Insofar as the exchange rate is unified or changed to a more realistic one, or insofar as stabilization by strengthening the balance of payments (e.g., by reducing purchases of imports for addition to inventories), enables exchange restrictions to be eased, the protection afforded these industries will be diminished, and their attractiveness for investment will decline. Thirdly, the increasing attractiveness of physical assets during an inflation may be expected to lead also to a rise in the demand for owner-occupied housing. Once stabilization is under way, the existing supply of this type of house, together with the rising demand for financial assets, can be expected to lead to a reduction of investment of this kind. And even if stabilization and the easing of rent control make rental housing a desirable form of investment, it takes time to convert desires to invest into orders for bricks and mortar.

Thus the flow of resources evoked by an inflation will be not only in excess of, but also partially inappropriate to, the flow of demand in stabilized conditions. The severity of the consequential adjustment problems, and the time required to solve them, will depend, in part at least, on the degree to which the economic system has been distorted. This degree of distortion will in turn depend largely on the duration and rate of the inflation which is being brought to an end. When the inflation has not been too severe, and in its current bout has lasted no more than about two years, as in Peru at the time of the adoption of its 1959 stabilization program, the problem is not too serious. When inflation has been rampant for decades, as in Argentina by 1958, the problem will have become very serious.

It should be emphasized that the depressive influences discussed above are temporary, rather than fundamental. After a relatively short period, they should evaporate. If the stabilization program is effective, the period of uncertainty must pass, and a new set of expectations should enable investors to make plans for future capital creation, with a consequent rise in their demands for resources. The decline in investment arising from the lag between the end of development of protected industries and the expansion of more economic (from a long-range view) alternative investment, is by definition a temporary cutback in investment. Likewise, by definition, disinvestment in inventories must also be temporary. The general adjustment which should accompany stabilization (including the elimination of controls, such as ceilings on rents) may be expected to revive the demand for investment in rental housing to replace the decline in the demand for owner-occupied residences. The general flight from real assets to financial assets, which is one of the healthy signs of stabilization even though it may exert depressing effects on investment,

should also be temporary. After a short period of adjustment, individual economic units may be expected to desire additions to their stocks of both physical and financial assets. At the same time, the capital flight resulting from inflation should stop. The switch in the flow of saving from foreign to domestic investment, and the repatriation of earlier accumulations of foreign assets, will lead to an increase in the demand for domestic resources.²⁵

A government which decides to eliminate the distortions created by inflation will be faced with a host of problems while the economy is readjusting to a condition of monetary equilibrium. There is no doubt that the difficulties facing the community will be dependent on the imagination exercised by the government. A stabilization program which relies on monetary instruments alone will involve more stresses in the economy than one which includes fiscal and broader economic improvement measures as well. If a stabilization program can be quickly associated with measures for the development of previously neglected facilities (e.g., the rehabilitation of obsolescent railway systems and the development of public utilities), the stresses will be eased. Foreign assistance (e.g., drawings on the International Monetary Fund to make more rapid elimination of exchange restrictions possible, and loans from the International Bank for Reconstruction and Development to facilitate the redeployment of resources for development) will make the elimination of distortions in production easier. However, no cleaning-up process is pleasant. Stabilizing an inflating economy is one of the least pleasant of the operations facing a responsible government.

THE CASE FOR FIRM ACTION

If an abrupt ending of an inflation is likely to bring a temporary decline in output, is not some alternative possible? Might not a tapering-off policy be adopted? Might not the rate of inflation be brought to an end slowly? The answer to these questions is that a gradual approach is fraught with more danger than sudden stabilization.

Among the real damages done by inflation is the distortion created in the economy. There is need to reorient the system. Drastic changes must be made in the community's expectations. These changes are not likely to occur if the community believes that the government

²⁵ For a discussion of one example of the change in direction of international capital movements, see the reference to this aspect of the changes in Spain following the adoption of a stabilization program in 1959, in International Monetary Fund, *Annual Report, 1962*, p. 49.

may be lukewarm in its attack on inflation. If individuals see little change in the economic climate, they will be under very few effective pressures to change their views. The fundamental changes which are required will not take place.²⁶

The persistence of expectations as to the movements of prices is a particular problem to be faced in introducing a stabilization program. In the early stages of an inflation, individuals may continue to believe that prices will soon stop increasing. But once inflation is established, they will expect prices to go on rising; and even if they believe that the inflation has been halted, and that prices will be stabilized, they will not expect stabilization to take place immediately. Moreover, they will always be conscious of the possibility that the program may fail. Even, therefore, when money and financial assets begin once more to appear attractive, the acquisition of such assets may be deterred by a lingering fear that they may again decline in real value. By contrast, the continued holding of inventories offers protection, even if the program succeeds, against any loss except that of the potential income from financial investments; and the holder of foreign financial assets risks the loss only of the possibly excessive returns on domestic financial assets over the return on foreign ones. If the program fails, such holders stand to gain much more. Thus, to enable a stabilization program to succeed, it is above all necessary for the government to convince the community that the value of money will henceforth be maintained.

In short, an attempt to slow down an inflation will take a long time to be effective and its final result will be uncertain. The restrictions on credit necessary to bring some stabilization will deter borrowers from investing, but the inflation-induced distortions of the economy are likely to persist. The continued rise in prices (even though it be slower than before) will deter the accumulation of financial assets

²⁶ The following is an assessment of the effect of these fundamental changes in one case:

"Now that the initial steps to stabilize the Spanish economy have been so successful the key to further progress seems to lie in the lowering of the import tariff and the abolition of the remaining import quotas. Spanish industry may be said to have grown up in the past 25 years in a hot-house atmosphere of complete freedom from foreign competition, and until imports began to be freed three years ago there had been no incentive or necessity to produce better goods at lower prices.

"But the limited measure of foreign competition to which it has already been subjected, together with free access to raw materials, has worked wonders. (In all fairness it should be said that during all that period Spanish manufacturers had to make do with substitute or makeshift materials in erratic supply, often smuggled in and sold at exorbitant prices.) Competition among manufacturers has made its appearance and quality has improved out of recognition." (*The Times*, London, November 23, 1962, p. 19.)

and continue to act as a brake on the flow of resources to investment. Unless the authorities are firm in their attack, the atmosphere of financial stability necessary to induce a revival of output to levels higher than those which would have prevailed under inflation will not emerge.

VI. Conclusion

This review of the relation between inflation and economic development leads to the conclusion that the control of inflation should be one of the major objects of economic policy in a developing economy. It is true that, per se, rapid economic development is likely to provoke inflationary pressures. Therefore, one of the problems calling for high priority on the part of the authorities in a rapidly developing economy is the restraint of inflation.

Inflation diminishes the volume of resources available for domestic investment. Community saving is reduced, and a considerable part of this saving is channeled to foreign rather than domestic investment, while the flow of capital from abroad is discouraged. A substantial part of the reduced flow of resources for domestic investment is diverted to uses which are not of the highest social priority. The accumulation of large inventories is encouraged. The diversion of savings from the capital markets, where investment decisions are more subject to longer-term economic criteria, is exemplified by the diversion of investment from productive uses for the entire community to the building of owner-occupied housing for the relatively wealthy few. The apparent profitability of certain short-lived investments leads to distortions in the productive structure which make the economy less adaptable. Balance of payments difficulties are symptoms of the underlying stresses. To reduce the foreign deficits, the authorities are almost forced to resort to controls, which in most cases protect uneconomic production. Political pressures lead to further restrictions which, in the last analysis, create further distortions. Economic activity becomes steadily more distorted.

However, if the economic system has been allowed to get out of hand, the authorities must decide to stabilize, or not to stabilize. There is no doubt that the process of stabilization is difficult, but difficult or not, it is a prerequisite to rapid economic growth.

APPENDIX

"Selected Countries"

The term, "Selected Countries," in the tables presented in this Appendix refers to all the less highly developed countries for which the relevant data are available in the sources. South Africa is not included, however, because its dual social structure makes statistical averages difficult to interpret, nor are the countries of the Eastern bloc. In several tables, Finland and Greece are included. The tables do not include other countries in Western Europe nor, of course, the United States and Canada.

"Selected Years"

In the tables compiled for this study, an attempt has been made to use series extending from 1948 to 1961. Many of the data, however, are not available for the full period. In these cases all the available data have been used, and the tables are stated to refer to "selected years." In many of the tables where annual averages are used, the time periods are not the same for all countries. Where tables are derived from other sources, no attempt has been made to alter the time periods covered by the original authors.

Classification of countries

Countries are classified as stable, if the percentage increase in the cost of living index is less than 5 per cent a year for the period covered. If the rate of increase is 10 per cent or more, they are classified as being subject to strong inflation. The intermediate countries are considered to be subject to mild inflation. These boundary criteria should not be considered as separating clearly definable situations. Rather, they are arbitrary limits intended to identify rather different situations. They may be considered to be on the high side; in part they have been adopted because some price increases have been almost universal in the postwar period.

Ordering of countries

Within each group, countries are arranged by the degree of inflation experienced, with the country experiencing the lowest rate of inflation placed at the top of the table, and the country with the highest rate at the bottom.

Weighting of averages

Where averages are given for groups of countries they are unweighted averages, unless it is stated otherwise (e.g., when the value of exports is relevant to a comparison of changes in exports).

TABLE 11. INFLATION AND ECONOMIC DEVELOPMENT, SELECTED COUNTRIES, SELECTED YEARS¹

(In per cent)

Countries	Rate of Inflation ²	Rate of Growth Per Capita ³
Stable countries⁴	2	2
Philippines	—	3
Ceylon	1	—
Pakistan	1	—
Guatemala	1	2
Syria	1	-2
Burma	2	4
Malaya	2	—
India	2	1
Ecuador	2	2
Venezuela	2	5
Honduras	3	—
El Salvador	4	2
Mild inflation countries⁴	7	2
Thailand	5	1
Iceland	7	2
Colombia	8	2
Peru	9	1
Strong inflation countries⁴	35	2
Brazil	20	2
Indonesia	22	3
Paraguay	32	3
Chile	33	—
Korea	66	1

Sources: Based on data in United Nations, *Yearbook of National Accounts Statistics, 1961*, and International Monetary Fund, *International Financial Statistics*, hereafter referred to as *IFS*.

¹ Generally 1954-60; see page 32 for description of "Selected Years."

² Average annual increase in cost of living index.

³ Average annual increase in real gross domestic product per capita.

⁴ See page 32 for the basis of these classifications.

TABLE 12. INFLATION AND ECONOMIC DEVELOPMENT, SELECTED LATIN AMERICAN COUNTRIES, 1955-59

(In per cent)

Countries	Rate of Inflation ¹	Change in Per Capita Product ²
Stable countries	1	11
Guatemala	—	16
Ecuador	—	4
El Salvador	1	4
Venezuela	2	21
Mild inflation countries	8	2
Mexico	8	88
Colombia	8	1
Peru	8	-3
Strong inflation countries	35	8
Brazil	23	21
Argentina	39	-6
Chile	43	3

Sources: Based on data in Economic Commission for Latin America, *Economic Survey of Latin America, 1959* (E/CN.12/541), p. 57, and *IFS*.

¹ Average annual increase in cost of living index.

² Change from 1955 to 1959 in index of gross domestic product per capita.

TABLE 13. INFLATION AND ECONOMIC DEVELOPMENT¹*(In per cent per annum, compounded)*

Countries	Period	Rate of Inflation ²	Rate of Growth Per Capita ³
Selected Periods of Relative Stability			
Puerto Rico	1947-50	-4	10
Lebanon	1948-54	-2	4
Philippines	1947-54	-1	4
Panama	1948-52	-1	2
Cuba	1947-54	—	—
Egypt	1950-53	—	-5
Ceylon	1951-54	—	—
Dominican Republic	1950-54	1	4
Venezuela	1949-53	1	4
India	1948-53	1	1
Ceylon	1947-51	2	9
Turkey	1948-54	3	6
Brazil	1947-50	4	7
Guatemala	1946-54	4	2
Ecuador	1950-54	4	2
Argentina	1952-54	4	6
Northern Rhodesia	1946-53	5 ⁴	23
Colombia	1951-54	5 ⁴	6
Average ⁵		2	6
(Average, excluding Northern Rhodesia)		(1)	(4)
Selected Periods of Mild Inflation			
Pakistan	1950-53	5	-3
Japan	1951-54	6	3
Honduras	1946-52	6	2
Puerto Rico	1950-53	6	2
Kenya	1947-54	6	4
Southern Rhodesia	1947-53	7	5
British Guiana	1948-51	7	1
Mexico	1947-54	8	2
Average ⁵		6	2
Selected Periods of Strong Inflation			
Peru	1948-53	10	6
Thailand	1950-53	13	-1
Brazil	1950-53	17	-1
Chile	1946-52	22	1
Israel	1950-54	29	5
Paraguay	1950-54	84	5
Average ⁵		29	3

Source: U Tun Wai, "The Relation Between Inflation and Economic Development," *Staff Papers*, Vol. VII (1959-60), Table 1, pp. 303-304.

¹ This covers all the cases in Tun Wai's table for the years after the end of World War II hostilities, except for those affected by rebellions or immediate postwar reconstruction.

² Average annual increase in cost of living index.

³ Average annual increase in per capita national income deflated by cost of living index.

⁴ Between 4.5 and 5.0.

⁵ Weighted by number of observations for each country.

TABLE 14. INFLATION AND ECONOMIC DEVELOPMENT

(In per cent per annum, compounded)

Countries	Period	Rate of Inflation ¹	Rate of Growth Per Capita ²
Selected Periods of Relative Stability			
Philippines	1947-54	-1	4
Panama	1948-52	-1	2
Dominican Republic	1950-54	1	6
India	1948-53	1	1
Venezuela	1949-53	1	3
Turkey	1948-54	3	6
Brazil	1947-50	4	5
Colombia	1951-54	5	4
Average		1	4
Selected Periods of Mild Inflation			
Pakistan	1950-53	5	-3
Japan	1951-54	6	2
Southern Rhodesia	1947-53	7	4
Mexico	1950-54	7	—
Average		6	1
Selected Periods of Strong Inflation			
Colombia	1948-51	14	—
Brazil	1950-53	17	-1
Israel	1950-54	29	5
Average		20	1

Source: U Tun Wai, *op. cit.*, p. 305. ¹ Average annual increase in cost of living index.² Average annual increase in per capita national income, deflated by cost of living index and adjusted for changes in the terms of trade.

TABLE 15. INFLATION AND ECONOMIC DEVELOPMENT

(In per cent per annum, compounded)

Countries	Period	Rate of Inflation ¹	Rate of Growth Per Capita ²
Selected Periods of Price Stability			
Ceylon	1951-54	-1	1
India	1948-53	1	1
Japan	1951-54	3	6
Honduras	1946-52	4	3
Turkey	1948-54	4	4
Brazil	1947-50	5 ³	7
Average		3	4
Selected Periods of Mild Inflation			
Mexico	1947-50	5	3
Guatemala	1946-54	5	2
Argentina	1952-54	7	2
Ceylon	1947-51	7	5
Average		6	3
Selected Periods of Strong Inflation			
Brazil	1950-53	12	2
Chile	1946-52	22	1
Argentina	1948-52	27	-4
Average		21	—

Source: U Tun Wai, *op. cit.*, p. 306. ¹ Average annual increase in weighted averages of sector prices.² Average annual increase in social product, deflated by the sector price index and adjusted for changes in the terms of trade. ³ Figure in source is 4.9.

Table 16. AVERAGE ANNUAL RATES OF CHANGE IN RATIO OF MONEY TO INCOME, SELECTED COUNTRIES, SELECTED YEARS¹

(In per cent)

Countries	Change	Countries	Change
STABLE COUNTRIES	—	MILD INFLATION COUNTRIES	—2
<i>Very wealthy countries</i>	—3	<i>Wealthy countries</i>	—4
United States	—3	New Zealand	—3
Canada	—3	Australia	—4
Switzerland	—1	<i>Average countries</i>	—1
<i>Wealthy countries</i>	—2	France	3
Sweden	—2	Norway	—4
Belgium	—2	Finland	—3
United Kingdom	—2	<i>Poor country</i>	
Denmark	—4	Colombia	2
<i>Average countries</i>	—3	<i>Very poor countries</i>	—1
Venezuela	—	Mexico	—1
Netherlands	—5	Peru	—2
<i>Poor countries</i>	2	STRONG INFLATION COUNTRIES	—3
Austria	—	<i>Poor countries</i>	—5
Cuba	1	Israel	—8
Italy	3	Argentina	—3
Lebanon	6	Chile	—3
<i>Very poor countries</i>	2	<i>Very poor countries</i>	
Greece	6	Brazil	—
Portugal	1	Paraguay	—1
Japan	1		
Dominican Republic	3		
Guatemala	1		
Ecuador	—		
Honduras	—2		
United Arab Republic	—2		
Ceylon	2		
Thailand	1		
Pakistan	4		
India	—1		
Burma	6		

Sources: Based on data in *IFS* and United Nations, *Monthly Bulletin of Statistics*.¹ See page 32 for description of "Selected Years."

Because the ratio of money to income tends to be declining in the very wealthy and wealthy countries, and rising in the poor and very poor countries, this table incorporates a dual classification, by wealth and by rates of inflation. The classification by wealth is based on United Nations, *Per Capita National Income in Fifty-Five Countries, 1952-1954*. Countries estimated to have had, at that time, average per capita incomes equivalent to more than US\$1,000 are classified as very wealthy countries; those with per capita incomes in the \$750-1,000 range, as wealthy; in the \$500-750 range, as average; in the \$250-500 range, as poor; and below \$250, as very poor. Countries within each group are arranged by descending order of per capita income.

TABLE 17. RELATION BETWEEN CHANGES IN REAL VALUE OF MONEY HOLDINGS
AND CHANGES IN COST OF LIVING, SELECTED COUNTRIES, 1948-61

(In per cent)

Countries	Average Annual Increase in Cost of Living	Change in Real Value of Holdings of ¹	
		Money	Money and quasi-money
Stable countries	2	79	103
Dominican Republic	—	216	165
Philippines	0.5	77	139
Ceylon	1	84	109
Burma	1	162	178
Ecuador	2	124	156
Guatemala	2	50	85
Venezuela	2	108	176
Portugal	2	65	83
India	2	13	47
Pakistan	2	81	99
Honduras	2	25	49
Costa Rica	3	72	101
Ireland	3	14	9
El Salvador	3	41	89
New Zealand	4	16	16
Thailand	4	125	158
Nicaragua	4	73	88
Mild inflation countries	7	100	138
Iran	5	61	...
Mexico	7	97	102
Turkey	7	131	187
Colombia	8	141	158
Peru	8	69	104
Strong inflation countries	27	19	11
Brazil	19	114	72
Argentina	29	-31	-40
Chile	33	8	41
Bolivia	56	-17	-26

Source: Based on data in *IFS*.

¹ Given by $\frac{M}{L} - 100$, where M is the 1961 index (base, 1948 = 100) of money (or money plus quasi-money) and L is the 1961 index (base, 1948 = 100) of cost of living.

TABLE 18. CENTRAL GOVERNMENT AVERAGE ANNUAL SURPLUSES OR DEFICITS (—)
AS PERCENTAGES OF GROSS NATIONAL PRODUCT, SELECTED COUNTRIES,
SELECTED YEARS¹

Countries	Percentages
Stable countries	-2
Burma	-4
Panama	-1
Ceylon	-3
Ecuador	-1
Pakistan	-4
Venezuela	1
Honduras	—
Israel	-5
Australia	1
New Zealand	-3
Mild inflation countries	-2
India	-5
Peru	-1
Mexico	—
Colombia	—
Strong inflation countries	-5
Korea	-8
Chile	-2

Source: Based on data in *IFS*. ¹ See page 32 for description of "Selected Years."

TABLE 19. FOREIGN COMPANIES CONTROLLED BY U.S. RESIDENTS: PER CENT OF EARNINGS RETAINED, SELECTED COUNTRIES, 1957-60

Countries	Percentages
Stable countries	49 ¹
Dominican Republic	19
Panama	72
Guatemala	-48
Honduras	47
Australia	60
Philippines	46
Japan	54
New Zealand	23
India	64
Mild inflation countries	18 ¹
Venezuela	12
Mexico	22
Colombia	58
Strong inflation countries	33 ¹
Peru	16
Chile	14
Brazil	52
Indonesia	47
Argentina	46

Source: Based on data in *Survey of Current Business*.¹ Weighted by value of direct investments at end of 1957.

TABLE 20. MEXICO: PRICE CHANGES AND NET PURCHASES OF SHORT-TERM FOREIGN ASSETS, 1951-60

Year	Change in Cost of Living Index ¹ (per cent)	Net Purchases of Short-Term Foreign Assets by Mexican Residents (million U.S. dollars)
1951	19	9
1952	—	21
1953	10	2
1954	13	44
1955	17	-23
1956	-2	-13
1957	13	17
1958	9	27
1959	—	-9
1960	8	-4

Sources: Based on data in *IFS* and International Monetary Fund, *Balance of Payments Yearbooks*.¹ Year-end comparisons.

TABLE 21. CHANGES IN VALUE OF U.S. PRIVATE DIRECT INVESTMENT IN SELECTED COUNTRIES, 1950-61

(In per cent)

Countries	Changes in Value
Stable countries ¹	214 ²
Panama	700
Dominican Republic	-1
Philippines	195
Guatemala	19
India	397
Venezuela	204
Honduras	53
New Zealand	52
Australia	373
Mild inflation countries ¹	177 ³
Colombia	120
Mexico	98
Peru	201
Strong inflation countries ¹	55 ⁴
Uruguay	-11
Argentina	78
Brazil	55
Indonesia	153
Chile	34

Source: Based on data in *Survey of Current Business*, August 1962, p. 22.¹ Averages for groups are changes in total value of investments in the countries in the group.² Excluding Panama: 197. Excluding Panama and Venezuela: 188.³ Excluding Peru: 110.⁴ Excluding Indonesia: 54.TABLE 22. COMPARISON OF PRICE RELATIVES OF INVESTMENT AND CONSUMPTION GOODS, SELECTED LATIN AMERICAN COUNTRIES, 1960¹

Countries	At Free Market Exchange Rates	At Parity Rates ²
Stable country		
Ecuador	86	82
Mild inflation countries	100	95
Colombia	92	87
Mexico	95	91
Peru	114	107
Strong inflation countries	120	114
Uruguay	117	110
Brazil	116	110
Argentina	164	157
Paraguay	108	105
Chile	93	88

Source: Economic Commission for Latin America, *Comparative Prices and the Purchasing Power of Currencies in Selected Latin American Countries* (E/CN.12/589), pp. 43, 47.¹ The figures for each country represent the cost of an assortment of investment goods expressed as a percentage of the cost of an assortment of consumption goods. The respective assortments are the same for each country; and, on the average for the nine countries, the cost of the assortment of investment goods is equal to that of the assortment of consumption goods.² As computed in source.

TABLE 23. RATE OF INFLATION AND INVENTORY INVESTMENT, 1950-60
(Based on data in current prices)

Year	Philippines		Ecuador		Colombia		Mexico		Peru		Brazil		Chile	
	A ¹	B ²	A ¹	B ²	A ¹	B ²	A ¹	B ²	A ¹	B ²	A ¹	B ^{2, 3}	A ¹	B ²
1950	...	...	...	...	...	...	...	...	11	15	7	-3	...	...
1951	-9	14	11	17	...	...	...	...	10	16	5	10	22	-6
1952	-6	14	2	12	...	...	15	—	7	9	22	25	21	-9
1953	-4	18	1	26	8	-9	-2	-3	9	7	22	15	25	37
1954	-1	28	3	18	9	-1	5	29	5	10	18	19	77	-20
1955	-1	26	2	17	-1	—	16	20	5	9	19	8	74	-2
1956	2	12	-5	14	6	7	5	18	5	7	22	8	58	21
1957	2	16	2	16	15	34	5	17	8	9	20	15	25	-7
1958	3	10	—	17	14	16	11	17	8	11	16	—	27	-3
1959	-1	9	—	11	7	12	3	17	13	16	37	—	38	5
1960	5	4	2	15	4	13	6	14	...	...	...	...	12	5
Average	1	15	2	16	7	9	7	14	8	11	19	10	38	3

Sources: Based on data in United Nations, *Yearbook of National Accounts Statistics* and *Statistics of National Income and Expenditure*; *IFS*.

¹ Rate of inflation, i.e., percentage change in annual average of cost of living index.

² Inventory investment as percentage of gross domestic investment.

³ Excluding stockpiling of coffee and cotton by the Government.

TABLE 24. VOLUME OF MAJOR AND MINOR EXPORTS, SELECTED COUNTRIES, 1958-59

(1953-54 = 100)

Countries	Major Exports ¹	Minor Exports
Stable countries²	118	139
Malaya	107	153
Philippines	110	181
Central American Republics ³	126	181
India	102	120
Ghana	100	138
Australia	131	135
Sudan	175	114
New Zealand	121	124
Strong inflation countries²	110	100
Turkey	93	79
Uruguay	67	57
Argentina	125	104
Brazil	115	112
Indonesia	92	84
Chile	128	116
Bolivia	66	70

Source: Based on data in Gertrud Lovasy, "Inflation and Exports in Primary Producing Countries," *Staff Papers*, Vol. IX (1962), pp. 65, 66.

¹ The major exports for each country are identified in the source.

² Averages are weighted by 1959 export values.

³ Costa Rica, El Salvador, Guatemala, and Nicaragua.

TABLE 25. DOMESTIC PRICES, EXPORT PRICES AND VOLUMES, AND EXCHANGE RATES, SELECTED COUNTRIES

Countries	Cost of Living, 1959 ¹ (1953 = 100)	Export Prices, 1959 ² (1953 = 100)	Export Volume, 1958-59 ³ (1953-54 = 100)	Exchange Rates, 1959 ⁴ (1953 = 100)
Stable countries ⁵	109	95	124	100 ⁶
Malaya	92	131	126	100
Dominican Republic	102	92	115	100
Ecuador	102	94	150	100
Ceylon	104	107	104	100
Philippines	104	94	132	100
Guatemala	105	76	127	100
Portugal	107	96	127	100
El Salvador	107	74	162	100
Ghana	112	116	106	100
Costa Rica	113	84	120	101
India	115	100	111	100
Sudan	115	90	149	100
Australia	116	74	132	100
Nicaragua	116	82	164	100
Ireland	117	104	111	100
New Zealand	124	98	124	100
Mild inflation countries ⁵	143	90	119	164
Thailand	119	86	114	116
Iceland	130	105	123	...
Finland	130	95	132	139
China (Taiwan)	150	85	136	208
Spain	150	92	108	152
Peru	152	91	143	164
Mexico	154	...	127	145
Colombia	162	80	95	273
Strong inflation countries ⁵	500	84	106	800
Turkey	217	88 ⁷	86	...
Paraguay	240	95 ⁷	110	400
Uruguay	244	70	65	...
Indonesia	311	105	90	500 ⁷
Brazil	325	64	114	600
Argentina	464	75	116	1,000
Chile	1,040	...	125	1,350
Bolivia	2,990	92	67	6,250

¹ Based on data in *IFS*.² Based on U.S. dollar price indices in *IFS*.³ Based on data in G. Lovasy, *op. cit.*⁴ For countries with multiple currency systems, the degree of exchange depreciation was computed by dividing the change in the domestic currency value of imports, recorded in *IFS*, by the recorded change in the U.S. dollar value of imports.⁵ Averages are weighted by 1959 export values.⁶ Changes in fluctuating rates within the limits of the Articles of Agreement of the International Monetary Fund have been ignored.⁷ Estimate.

TABLE 26. HOLDINGS OF SOME FINANCIAL ASSETS BY PRIVATE SECTOR, 1950-62

End of Year	Brazil (billions of cruzeiros)						Argentina (billions of pesos)		
	Money	Quasi-money	Government securities	Life insurance ¹	Total		Money	Quasi-money	Government debt
					Current value	1951 value ²			
1950	..	..	..	..	127	127	22	11	3
1951	91	20	8	8	127	127	27	11	1
1952	104	21	8	10	143	117	30	12	2
1953	124	22	8	11	165	111	38	15	3
1954	151	25	8	13	197	112	44	18	3
1955	178	24	8	14	224	107	52	20	4
1956	217	25	7	17	266	104	60	29	2
1957	291	29	6	19	345	112	68	30	1
1958	353	33	8	25	419	118	99	41	1
1959	501	39	11	28	579	119	142	45	1
1960	692	57	12	32	793	121	179	60	3
1961	1,042	67	..	..	...	130 ³	205	75	3
1962 ⁴	1,368	73	..	..	...	75 ³	...	..	..

Sources: Brazil—from *IFS*. Argentina—money and quasi-money, from *IFS*; government debt prior to 1957, estimates by the author; subsequently, from Banco Central de la República Argentina, *Boletín Estadístico*.

¹ Total assets of life insurance companies.

² Current value divided by cost of living index (base, 1951 = 100).

³ Estimate.

⁴ September.

TABLE 27. AVERAGE ANNUAL CHANGES IN REAL WAGES,¹ SELECTED COUNTRIES, SELECTED YEARS²

(In per cent)

Countries	Change
Stable countries	2
Viet-Nam	1
Australia	1
Burma	1
Philippines	2
Ceylon	4
United Arab Republic	5
Honduras	-3
India	2
Costa Rica	3
Pakistan	—
New Zealand	1
Guatemala	3
Mild inflation countries	2
Finland	3
Mexico	2
Strong inflation countries	1
Peru	2
Brazil	1
Argentina	-1

Source: Based on data in *IFS*.

¹ Average annual change in money wage rates divided by average annual change in cost of living index.

² See page 32 for description of "Selected Years."

TABLE 28. CHANGES IN COST OF LIVING AND IN SHARE OF WAGES AND SALARIES¹ IN NET DOMESTIC PRODUCT

Countries	Average Annual Increase in Cost of Living Index, ² 1950-57	Change from 1950 to 1957 in Percentage Share of Wages and Salaries in Net Domestic Product ³
Stable countries	2	-1
Ceylon	1	-4
Costa Rica	2	-1
Canada	3	1
Mild inflation countries	7	—
New Zealand	6	1
Colombia	6	1
Finland	7	—
Australia	8	-3
Strong inflation country		
Brazil	18	2

¹ Including income of unincorporated enterprises (e.g., farmers) as part of wages and salaries.

² Calculated from *IFS*.

³ From E. H. Phelps Brown and M. H. Browne, "Distribution and Productivity Under Inflation, 1947-57," *Economic Journal*, December 1960, p. 732.

TABLE 29. COMPARISON OF INDICES OF GENERAL WHOLESALE PRICES AND OF PRICES OF BUILDING MATERIALS, SELECTED COUNTRIES, 1959

(1953 = 100)

Countries	General Wholesale Prices (1)	Building Material Prices (2)	Col. 2 ÷ Col. 1 (3)
Stable countries	107	105	99
United Arab Republic	117	109	93
Guatemala	102	107	105
Venezuela	104	98	94
Thailand	115	103	90
Iraq	106	107	101
Syria	101	104	103
Lebanon	102	108	106
Mild inflation countries	157	175	113
Iran	123	168	137
Spain	149	155	104
Mexico	143	161	113
Colombia	187	203	109
Peru	181	187	103
Strong inflation countries	470	478	102
Excluding Paraguay	528	573	114
Paraguay	297	193	65
Turkey	227	278	122
Brazil	305	354	116
Chile	1,053	1,086	103

Source: Columns 1 and 2 are from A. S. Shaalan, "Impact of Inflation on the Composition of Private Domestic Investment," *Staff Papers*, Vol. IX (1962), Table 5, p. 259.

Les conséquences de l'inflation sur la croissance économique

Résumé

Dans de nombreux pays peu développés, le revenu ne croît pas au rythme rapide qui caractérise les aspirations de la collectivité. L'épargne privée y est faible et ne permet pas de dégager des ressources suffisantes pour assurer l'accroissement du capital national. D'autre part, les recettes fiscales ne couvrent qu'une partie des dépenses afférentes aux Services publics demandés par la collectivité, et ne laisse qu'un très faible excédent pour financer le développement. Dans ces conditions, l'inflation peut paraître un moyen facile de financer l'expansion des investissements et par suite d'obtenir les capitaux pour accélérer le taux de production.

Il ne fait aucun doute que dans certains cas une expansion monétaire légèrement supérieure à l'augmentation courante du produit réel peut introduire un élément de souplesse dans l'économie et avoir pour effet que "l'épargne forcée" libère certaines ressources à des fins de développement. Toutefois, le niveau de développement que l'on peut attendre de telles pratiques est strictement limité.

L'inflation réduit le volume des ressources disponibles pour l'investissement intérieur. L'épargne de la collectivité diminue, et une fraction importante de celle-ci est attirée vers l'étranger plutôt que vers les investissements intérieurs, alors que l'entrée des capitaux étrangers est découragée. Une part substantielle des faibles ressources destinées à l'investissement intérieur s'oriente vers des utilisations qui, du point de vue social, ne sont pas d'une priorité absolue. Par conséquent, l'accumulation de stocks importants est encouragée. L'épargne est détournée des marchés de capitaux où les décisions d'investissement sont davantage fonction de facteurs économiques à long terme; par exemple, l'investissement est détourné des utilisations qui seraient profitables à la collectivité toute entière et il favorise la construction de logements en propriété dont l'accès est réservé à quelques privilégiés relativement fortunés. La rentabilité apparente de certains investissements à court terme provoque dans la structure de production, des distorsions qui nuisent à la souplesse de l'économie. Les difficultés de la balance des paiements sont les symptômes de ces tensions profondes. Pour réduire les déficits extérieurs, les autorités sont pratiquement contraintes de recourir à des mesures de contrôle qui, dans la plupart des cas, protègent une production non rentable. Des pressions politiques viennent encore aggraver ces restrictions qui à leur tour provoquent de nouvelles distorsions. Il en résulte une série de déformations successives dans l'évolution de l'activité économique.

Il est exact qu'un rapide développement économique est susceptible de provoquer des pressions inflationnistes. C'est pourquoi, lorsqu'une économie est en voie de développement, l'un des problèmes sur lesquels les autorités doivent se pencher en premier lieu est de contenir l'inflation. Toutefois, si le système économique a réussi à échapper à tout contrôle, il appartient aux autorités de décider s'il convient ou non de stabiliser la situation. Il ne fait aucun doute que l'opération de stabilisation est ardue, mais quelles que soient les difficultés, elle est la condition préalable de l'accélération de la croissance économique.

Los efectos de la inflación sobre el desarrollo económico

Resumen

En muchos de los países de menor desarrollo económico los ingresos no aumentan con tanta rapidez como las aspiraciones de la comunidad. En tales países los ahorros personales son limitados, de suerte que los recursos de que se dispone para la expansión del capital de la comunidad no son sino pocos. Al mismo tiempo, el sistema tributario rinde solamente lo suficiente para hacer frente a parte de los servicios gubernamentales que la comunidad desea obtener, y los fondos que quedan disponibles para el financiamiento del desarrollo son muy pequeños. Ante tales circunstancias la inflación puede aparecer como un método fácil de financiar la expansión de las inversiones y, por tanto, como la forma más sencilla de obtener capital para incrementar más rápidamente la producción.

No cabe duda de que a veces una expansión monetaria un tanto más grande que el aumento corriente de la producción real, imprime cierta flexibilidad a la economía y conduce a que algunos de los recursos que los "ahorros forzosos" dejan libres, se utilicen para el desarrollo. Sin embargo, existen límites estrictos en cuanto al grado de desarrollo que puede así fomentarse.

La inflación disminuye el volumen de los recursos que quedan disponibles para inversiones internas. Los ahorros de la comunidad se reducen, y una parte importante de los mismos se canaliza hacia las inversiones en el extranjero en vez de las inversiones internas, desalentándose, mientras tanto, la afluencia al país de capital extranjero. Una parte substancial de la menguada corriente de recursos para inversiones internas se desplaza hacia usos que no son precisamente

los que se necesitan más urgentemente desde el punto de vista social. Se fomenta la acumulación de grandes existencias. El desplazamiento del ahorro de los mercados de capital, donde las decisiones de los inversionistas están en mayor grado sujetas a un criterio económico a más largo plazo, se ejemplifica en la canalización de las inversiones hacia la construcción de residencias privadas de un número relativamente pequeño de acaudalados y no hacia los usos que resultan productivos para la comunidad entera. La aparente rentabilidad de ciertas inversiones de corta duración conduce a distorsiones en la estructura productiva que restan adaptabilidad a la economía. Las dificultades de balanza de pagos son síntomas de las tensiones básicas. Con el fin de reducir los déficit externos, las autoridades se ven casi forzadas a valerse de controles, que en la mayoría de los casos sirven para proteger la producción antieconómica. Las presiones políticas dan origen a nuevas restricciones que a la postre traen consigo otras distorsiones. El desajuste de la actividad económica se vuelve entonces cada vez más acentuado.

Es innegable que un desarrollo económico rápido puede muy bien dar lugar a presiones inflacionarias y, por lo tanto, uno de los problemas que ameritan la mayor atención de parte de las autoridades en una economía en vías de rápido desarrollo, es el de contrarrestar la inflación. No obstante, cuando se ha dejado que la situación del sistema económico se vuelva casi incontrolable, las autoridades tienen que tomar la decisión de estabilizar o de no estabilizar. No cabe duda de que el proceso de estabilización es arduo, pero por difícil que sea, es un requisito previo para alcanzar un desarrollo económico más rápido.

Recent Developments in Foreign Markets for Dollars and Other Currencies

Oscar L. Altman*

A PREVIOUS paper, "Foreign Markets for Dollars, Sterling, and Other Currencies," was concerned with the structure, operations, characteristics, and implications of foreign markets for dollars, sterling, and the major currencies of Western Europe in the spring of 1961.¹ The present paper describes subsequent developments in these markets through the summer of 1962. It emphasizes the effects of operations in foreign currencies, largely U.S. dollars, upon interest rates and short-term capital markets in Europe and elsewhere, and the significance of these operations for monetary policy.²

I. Size of Foreign Markets for Dollars and Other Currencies

As noted in the earlier paper, "the size of the Euro-dollar market can be nothing but a guess—perhaps a very wild guess." First, data for some financial centers are either not reported (e.g., Amsterdam,

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¹ *Staff Papers*, Vol. VIII (1960-61), pp. 313-52. This is hereafter referred to as "Foreign Markets, 1961."

² Like its predecessor, this paper is for the most part based upon discussions with officials in central banks and commercial banks. These took place in April-June 1962 in London, Paris, Basle, Zürich, Frankfurt, Bonn, Amsterdam, Rome, and Montreal. In addition, discussions were held with officials in commercial banks in New York, and with staff members of the Federal Reserve System in New York and Washington.

Canadian banks conduct large operations in U.S. dollars. These are described in a related paper, "Canadian Markets for U.S. Dollars," *Staff Papers*, Vol. IX (1962), pp. 297-316.

The present paper and the one on Canadian markets for U.S. dollars are included in U.S. Congress, Joint Economic Committee, *Factors Affecting the United States Balance of Payments* (87th Congress, 2nd Session) 1962, pp. 485-540.

Paris, and Zürich) or are seriously inadequate (e.g., London and Montreal/Toronto). Second, a large but unknown amount of overlapping and duplication is created when statistics or estimates of foreign currency deposits of financial centers are added together, since banks accept deposits from, and place them with, each other.³ And third, there are both duplications and omissions in the data reported for any one financial center.

The foreign currency market in London is the largest in Europe. Data published for this market by the Bank of England cover overseas banks in London (British, U.S., and other foreign) and accepting houses, but not clearing banks; in September 1962, the coverage was expanded to include 25 additional foreign banks operating in London. These data do not distinguish foreign assets and liabilities denominated in sterling from those denominated in foreign currencies. They do, however, distinguish between assets and liabilities of residents and those of nonresidents. The amount and trend of foreign currency deposits to the credit of nonresidents in London (those of U.K. residents may be disregarded) must thus be an estimate. Such an estimate must be based on the assumption that the increase of deposits over some base date (e.g., the end of 1958, or some earlier date, suitably adjusted) yields a meaningful figure of foreign currency deposits held by nonresidents. This estimate would have to be adjusted for incomplete coverage, duplications, and the increase in sterling deposits included in the figures. Fortunately, an estimate made by the Bank of England for June 1961 can serve as a bench mark. According to this estimate, foreign currency deposits of overseas and foreign banks in June 1961 were nearly £500 million, equivalent to nearly \$1.4 billion.⁴ Inclusion of the accepting houses, clearing banks, and certain foreign banks, allowing for the increase in their sterling deposits held by nonresidents, would raise this to a minimum of \$2 billion.⁵ Foreign currency deposits in June 1962 may be estimated at approximately \$2½ billion.

Foreign currency deposits of nonresidents in Paris banks were about \$800 million in the spring of 1962. They were perhaps one third

³ The extent of this duplication depends upon three characteristics of the market: the "one-way" length of the foreign currency chain, since there may be a number of financial institutions between the "real" owner of the deposit and the final user; the circular movement of deposits among financial centers, since a London bank may place a deposit with a Paris bank which may subsequently be redeposited in London; and the desire of many banks to be on both sides of the market, accepting and placing deposits at the same time.

⁴ "The Overseas and Foreign Banks in London," Bank of England, *Quarterly Bulletin*, September 1961, p. 20.

⁵ See Appendix II below, "Foreign Currency Deposits in London, June 1961."

larger than those a year earlier. In addition, these banks held about \$400 million of foreign currency deposits for the account of residents. Foreign currency deposits for the account of nonresidents in Italy were \$1.0 billion in March 1962,⁶ and were thus slightly larger than those in Paris. Foreign currency deposits in other European financial centers were considerably smaller than in Paris. For example, those in Germany were about \$450 million in June 1962.⁷ Of all the financial centers in continental Europe, Paris had the widest range of market operations, as regards the number of currencies involved and the diversity of sources and uses of funds. As a market Paris was thus more akin to London than were the other continental centers.

It may be estimated that the size of foreign markets for dollars, sterling, and other currencies in Europe increased somewhat in 1961 and then increased more rapidly in the first half of 1962. Funds in these markets in June 1962, after allowance is made for the pyramiding of deposits among financial centers, were probably more than \$3 billion, without taking into account the foreign currency deposits of Canadian banks.⁸

The operations of Canadian banks in U.S. dollars increased substantially during 1961. Foreign currency deposits placed with Canadian banks increased by \$680 million in 1961 and by \$330 million in the first half of 1962, reaching a total of \$3.7 billion. (These figures are stated in U.S. dollars. They are reported in Canadian dollars in Canadian statistics, which showed \$4.0 billion of deposits in June 1962.) Foreign currency deposits placed by Canadian banks with other banks increased by \$430 million in 1961 and by \$86 million in the first half of 1962, reaching a total of \$1 billion.⁹ The largest part of these foreign currency deposits (apart from working balances) was placed with banks in London, though substantial amounts were placed with banks in continental financial centers. Such deposits would be included in the totals reported for these centers. Foreign currency deposits with financial institutions other than banks in these centers (e.g., finance companies in London), and with European banks outside these centers, would constitute additions to the total for Europe, as would loans made to nonfinancial enterprises.

A world total of dollars and other foreign currencies used in foreign

⁶ Banca d'Italia, *Relazione del governatore sull'esercizio 1961*, Table M 8, p. 225.

⁷ Estimated from Deutsche Bundesbank, *Monthly Report*, August 1962, p. 15.

⁸ "Foreign Markets, 1961" estimated the U.K. total at the end of 1960 as at least \$1 billion, and perhaps as much as \$1¼ billion, and the European dollar market at a minimum of \$2 billion (p. 328). In the light of the figures given here, these estimates were probably too low.

⁹ "Canadian Markets for U.S. Dollars" (cited in footnote 2), pp. 300, 305-6, and Appendix I to that paper.

markets would also include dollar deposits accepted by Canadian banks, with the proceeds invested outside Europe. This would include the large amounts of U.S. dollars invested in the United States in the form of securities, "street" loans, and other loans, and the investments in Canada and in countries outside Europe and North America. Such a world total would be of the order of \$4 billion to \$5 billion.

It is thus impossible to make precise estimates of the size of the foreign markets for dollars and other currencies. Nevertheless, the significance of operations in foreign currencies can be evaluated without respect to such estimates. As already noted, "the significance of these or any other estimates of the foreign dollar market rests not on these numbers, which are meaningless after the market has attained a certain operating size, but on the fact that the market is large and diversified, that it consists of many elements which can and will operate on one side or the other, that large amounts can be loaned or borrowed without noticeably affecting the going rates, and that the operations are competitive. These characteristics would not change even if the market were somewhat smaller or much larger than it now is."¹⁰

II. Currencies in Foreign Markets

Foreign market operations in foreign currencies in 1962 were conducted, as they had been in 1961, largely in U.S. dollars. Continental European currencies, particularly the Swiss franc and the deutsche mark, were held and used in larger amounts in 1962 than in 1961, but they did not increase greatly in relative importance since operations in dollars were also larger. Deposits of sterling in foreign markets (Euro-sterling) continued to be relatively small. Much of the sterling used in foreign markets was purchased ad hoc with other currencies.

Foreign currency deposits with banks in London and Canada are almost exclusively made and denominated in dollars. Foreign currency deposits in Paris for the account of nonresidents in the spring of 1962 were about two thirds in dollars, 15 per cent in Swiss francs, 12 per cent in sterling, and 5 per cent in deutsche mark. In June 1962, more than two thirds of the German banks' short-term liabilities to foreigners (deposits and short-term bank borrowings) in foreign currencies were in dollars.¹¹ In March 1962, 70 per cent of the foreign currency deposits of Italian commercial banks were in dollars (Table 1).

¹⁰ "Foreign Markets, 1961," pp. 328-29.

¹¹ Estimated from Deutsche Bundesbank, *Monthly Report*, August 1962, p. 15.

Data are not available on the distribution by currency of foreign deposits in such other financial centers as Zürich and Amsterdam. The proportion of dollar deposits to total foreign currency deposits in these centers was probably higher than in Italy and Germany.

TABLE 1. ITALY: CURRENCY COMPOSITION OF NONRESIDENT DEPOSITS IN FOREIGN CURRENCIES HELD BY COMMERCIAL BANKS, 1959-62

(In per cent)

	1959	1960	1961	March 1962
Dollars	52	64	69	70
Swiss francs	20	10	12	14
Sterling	21	17	11	11
Deutsche mark	3	5	6	4
Guilders, French francs, and others	4	4	2	1
Total	100	100	100	100

Source: Based on Banca d'Italia, *Relazione del governatore sull'esercizio 1961*, Table M 8, p. 225.

On the whole, deposits in dollars probably constituted about 85 per cent of all deposits in foreign currency markets in Europe. This percentage was slightly lower than in 1961. Sterling represented a smaller percentage, and Swiss francs and other continental currencies a larger one, in 1962 than in 1961. The greater use of continental currencies stems from the smaller forward premium on the dollar, which made it possible, as discussed more fully in a later section, to pay rates of interest on such deposits which were closer to those paid on dollar deposits. This in turn made it possible to obtain and use a larger amount of continental currencies in foreign market operations.

III. Structure of Foreign Currency Markets

Euro-money operations are conducted almost entirely by commercial banks. Banks obtain supplies of dollars and other foreign currencies from their respective central banks, other central banks, other commercial banks, their customers, and anyone else who wishes to deposit foreign currencies. They use these currencies directly, or convert them into other currencies, including their own domestic currency. They may deposit these currencies with (i.e., lend them to) other banks in the same country or banks in London, Paris, and other money markets. At one end of foreign currency operations is a bank that obtains dollars or other foreign currencies from what may (somewhat vaguely) be called "final" owners. At the other end is a bank which

lends these currencies to "final" borrowers, which may be other banks, industrial and commercial enterprises, individuals, and governments. International companies, such as large oil, shipping, and industrial enterprises, are active in these markets both as depositors and as borrowers. Many companies that are large but not international are in the market, especially as borrowers.

Deposits are transferred from one bank to another at small interest margins in the process of moving funds from someone who wants to lend to someone who wants to borrow. Market operations in dollars and other foreign currencies are numerous. It may appear that funds are churned needlessly from one bank to another, and that the amount of froth is out of proportion to the work done. The structure and operations of the market may thus appear to be unnecessarily complicated and expensive. Yet, for the most part, the complexity of the market and the numerous transactions in it merely reflect the many facets of the markets in dollars and other foreign currencies, and the specialized nature of the banks that deal in them.

Some banks prefer to serve as financial intermediaries in foreign currency markets. These banks prefer a minimum of contact with commercial or industrial borrowers, and since they deal with banks, they operate with a minimum of risk. When such banks have prime status, they may secure deposits at a rate perhaps below the market average. They place their funds with prime banking names and are content to earn commissions (on an annual basis) of $\frac{1}{32}$ per cent, $\frac{1}{16}$ per cent, or $\frac{1}{8}$ per cent.¹² Along with the policy of placing funds only with prime names goes that of maximum diversification of risk, which involves limiting the amount of deposits placed with any one bank, in any one market, and at any one maturity. In some cases, this also takes into account the probable use of funds by the prime recipient.

Many banks seek foreign currency funds for their own commercial operations, and use these funds to augment their own capital and deposits. Obtaining foreign currency deposits may be the quickest and most convenient way to secure additional funds—and in the short run it may also be the cheapest. This action, however, increases the risks involved in bank operations by reducing the ratio of capital funds to total assets. It bases an expanded volume of business on funds whose availability and interest cost may vary greatly with the state of the market.

¹² Commissions as high as $\frac{1}{4}$ per cent are spoken of, but these are unusual and would probably cover brokerage expenses. Yet, accepting a deposit of \$5 million for 30 days at one interest rate and placing it simultaneously with another bank at a rate $\frac{1}{4}$ of 1 per cent higher yields a gross profit of only \$1,000.

Relatively few banks that deal in foreign currency markets are clearly of either of these two types. The great majority do a diversified business, placing deposits with other banks, making loans to industrial or commercial customers, and investing in securities and commercial paper. Nevertheless, the relative importance of these activities varies greatly from one bank to another. To a considerable extent, banks are specialized with respect to areas of investment, types of customers, size of commitments, and maturities. The foreign currency markets are, in fact, less homogeneous than might at first appear. Even the money that is dealt with differs with respect to maturity, prospect of renewability, and other factors.

In addition to the large number of banks that are active in dollar and other foreign currency markets, there are many organizations in the market which are not strictly banks. This, of course, complicates the problems of obtaining complete statistics on foreign currency operations in large and highly specialized markets, such as London. There are probably several hundred organizations in the market, counting as separate organizations branches and affiliates that operate with some, though by no means complete, autonomy. The major part of the operations in foreign currencies is carried on by a much smaller number, however, which probably totals no more than 50 if a head office, its branches, and affiliated corporations are counted as one organization. These numbers make for a large and complicated market, in which participants are linked by telephone, telex, and cable. Inevitably, subsidiary groupings have developed in the form of correspondent relationships, customary channels for funds, and the like. Thus, branches of U.S. banks have some advantage in attracting U.S. owned funds, some European companies or banks prefer to deal with their correspondents, and many communist banks have a policy of not dealing with U.S. banks.

Brokers have become an important mechanism for organizing the market as the number of participants has increased. Brokers follow carefully the movements of funds and of interest rates. They keep in close touch with banks and other organizations that may wish to place or to obtain deposits. Brokers act as agents and not as principals. Their job is to put would-be lenders and borrowers of foreign funds in touch with each other. After this has been done, the arrangements are worked out by the principals themselves and the broker is paid a commission.

The most important brokers in Europe are located in Paris, London, and Lausanne. Some 15 firms in Paris do brokerage, and five or six do the bulk of the business. These firms intermediate between the Paris banks, which prefer not to deal directly with each other; they

also intermediate between the banks in Paris and those elsewhere on the Continent and in London. Brokerage operations in London are likewise on a substantial scale. This is not surprising since there are at least 35 organizations in the City that are active in the Euro-dollar market, and several times that number that take part on a small scale, either regularly or under suitable conditions. Brokers are useful for the London banks, particularly the smaller ones, in dealing with other banks in London and on the Continent.¹³ There are six major brokers in London. Finally, one firm in Lausanne conducts an active brokerage business. It has developed lines of communication with many banks in Europe, and regularly advises clients and prospective clients by circular of prevailing rates of interest on deposits of different currencies.

Many banks use the facilities of brokers for part of their transactions. The larger banks in the market, and particularly those with prime names, take pride in arranging their foreign currency operations directly with principals, though they too may use the services of brokers for some transactions. The proportion of banks that use brokers in any period of time is much larger than the proportion of Euro-money turnover arranged through brokers.

Brokers' charges apparently vary somewhat with the size of the placement and the standing of the principals. The charge is usually $\frac{1}{16}$ per cent; it may occasionally be smaller but is seldom larger.

IV. Sources of Dollars and Other Currencies

A large proportion of the dollars dealt with in foreign markets, but only a modest proportion of the other currencies, is directly or indirectly owned by central banks and other monetary authorities. Official funds reach the money markets in three ways.

(1) Central banks and monetary authorities provide their respective commercial banks with dollar funds through swap operations, with a general or a specific understanding that these dollars will be used to acquire foreign currency assets. Thus, for some years, the Deutsche Bundesbank has sold dollars to German commercial banks, and German branches of foreign banks, at the going market rate, with a forward commitment to reacquire dollars at the same rate ("flat") three

¹³ In addition, a specialized service is rendered by some organizations to foreign investors who may wish to invest funds in the United Kingdom other than in the form of deposits. For example, some merchant bankers act as agents for a commission, arranging for the conversion of foreign currencies into sterling and for the investment and management of the proceeds.

months later.¹⁴ The Bundesbank employs such swap transactions, varying their terms and conditions and using interest premiums or discounts, to carry out its monetary policy; the commercial banks engage in swaps to increase their earnings and improve their portfolio of investments. The amounts involved in swap transactions are large and variable. For example, outstanding swap engagements totaled DM 4 billion in August 1961, DM 1 billion in December 1961, DM 4.2 billion in January 1962, DM 2.6 billion in May 1962, and DM 1 billion in October 1962. Similarly, the Ufficio dei Cambi has provided Italian commercial banks with large amounts of dollars through swap operations. These totaled more than \$500 million for several months in 1961. They decreased to \$400 million at the end of the year as they were replaced by dollar deposits, and rose to \$670 million in March 1962 as dollar deposits were reduced.¹⁵

Official swap operations are more advantageous for commercial banks than operations in the open market. While there is no advantage in the spot rate offered by the monetary authorities, the forward rate is generally more favorable than that in the market. The dollar position of the commercial banks is always covered forward in terms of local currency, so that the monetary authorities carry the risk of any losses that would follow from a change in exchange parities.

(2) Central banks and monetary authorities deposit dollars in domestic commercial banks without requiring the surrender of the local currency equivalent. In some instances, such deposits are made to earn higher rates of interest than could be earned in New York. But in Italy, where there have been the largest deposits of dollars with domestic commercial banks, the most important consideration was internal monetary policy. To increase domestic liquidity without interfering with the international credit operations of Italian commercial banks, the monetary authorities made large deposits of dollars, partly to replace the dollars paid back when swap transactions were completed. These deposits increased the resources at the command of the banks. At the end of 1961, these deposits, on which the Italian monetary authorities earned interest at the rate of $3\frac{1}{2}$ per cent, totaled \$300 million.¹⁶ In the first quarter of 1962, when domestic liquidity increased, deposits were partly replaced by swaps and decreased to \$110 million.

¹⁴ The commercial banks also had a reciprocal obligation to sell dollars, i.e., reacquire deutsche mark, at the end of the swap period.

¹⁵ Banca d'Italia, *op. cit.*, pp. 216-18.

¹⁶ *Ibid.*, pp. 217-18. The term of these deposits was not given, but the rate of interest paid appears to be close to the rate on Euro-dollar deposits for 1-3 months.

In August 1962, the Federal Reserve Board sold \$50 million to the Swiss National Bank against Swiss francs.¹⁷ The dollars were, in turn, made available with an exchange guarantee to the Swiss commercial banks, which used them to buy U. S. Treasury bills. These Treasury bills, in all probability, released other commercial bank holdings of dollars to the Euro-dollar market.¹⁸ A similar arrangement between the Federal Reserve Board and the Bank for International Settlements, for \$60 million, was negotiated at the same time.

(3) Central banks in Europe, Latin America, the Middle East, and the Far East deposit dollars with commercial banks in London, Paris, Canada, and other money markets. The Bank for International Settlements receives dollar deposits from its members, which are central banks. Its currency deposits (as distinguished from its gold deposits, which are covered by gold, spot and forward) have grown rapidly in recent years. Its time deposits alone increased from \$125 million in March 1959 to \$300 million in March 1962, and a large part of these must have been placed with banks participating in the Euro-dollar market. The intermediation of the BIS undoubtedly earned for its member central banks higher rates of return than they would care to earn themselves through direct operations.

Although precise data are not available, it is probable that the central banks or monetary authorities of 20 or 25 countries have deposited dollars or sterling outside the United States and the United Kingdom, respectively. The proportion of the funds in foreign currency markets which are owned directly or beneficially (in the form of deposits and swap counterparts with domestic commercial banks) by central banks and monetary authorities can be estimated only very roughly. It would be conservative to assume, however, that two thirds of all the funds in European markets in the summer of 1962 were of this character. This estimate does not include foreign currency deposits made by international organizations other than the BIS, e.g., the European Investment Bank.

The remaining one third represented deposits of funds owned by commercial banks, largely in continental Europe, and of funds owned by business enterprises and individuals in many countries, including the United States.¹⁹ Corporations and individuals in the United States

¹⁷ In general, swap arrangements between the Federal Reserve and a European central bank protect each party against a change in the relative value of the other party's currency, but they do not protect either party against the effects of a parallel devaluation or of a uniform change in the price of gold.

¹⁸ The Swiss banks distribute their dollar assets among various investment media, including Euro-dollar deposits. These additional U.S. Treasury bills resulted in their freeing other funds for investment in the Euro-dollar market, where they would earn higher rates.

¹⁹ See European Monetary Agreement, *Annual Report, 1961*, pp. 50-59.

have made substantial time deposits in Canada and Europe in order to earn interest at higher rates than can be earned at home. Business enterprises and individuals in many other countries, e.g., Canada, Germany, and Switzerland, are allowed to hold dollars and other foreign currencies without restriction as to amount, time, or purpose. Some have themselves deposited funds in the Euro-dollar market, or they have placed them with domestic banks which have done so. In a number of industrial countries where there is a residue of exchange control, as in France, business enterprises can hold dollars and other foreign currencies for limited periods of time through authorized banks.

Individuals and business enterprises may wish to hold dollars because they can earn higher rates of interest on deposits in dollars than on deposits or available investments in domestic currency, because dollar deposits offer great flexibility with respect to amounts and maturities, and because holding dollars (assuming they are to be needed later) avoids costs of conversion.

V. Uses of Dollars and Other Foreign Currencies

Banks and other business enterprises borrow the major part of the dollars and other foreign currencies made available through foreign markets, although governments and official agencies use significant amounts.

Local authorities in the United Kingdom have been important borrowers in the London Euro-dollar market. They borrow sterling funds, largely on very short term. The Euro-dollar market provides sterling through sales or swaps of dollars. Indeed, some participants in the Euro-dollar market accept dollar deposits in order to convert them into sterling to lend to local authorities. The market is wide and generally advertised.²⁰ Investment of funds with local authorities has become a well-recognized medium for interest arbitrage, sometimes (as in the latter part of 1961) on an uncovered basis.²¹ The avail-

²⁰ For example, *The Financial Times* (London) in May 1962 listed the following six categories of investments for sums not less than £20,000: 2 and 7 days notice without minimum periods of deposits; and 7 days' notice for minimum periods of 1, 3, 6, and 12 months.

²¹ The Bank of England's *Quarterly Bulletin* charts only two arbitrage media: U.K. Treasury bills compared with U.S. Treasury bills, covered, 3 months' basis; and interest on London Euro-dollars compared with U.K. local authority rates, covered, 3 months' basis. The Bank of England estimated that some 10 per cent of the foreign currency deposits in London in June 1961 was swapped into sterling (*Quarterly Bulletin*, September 1961, p. 20); this estimate may well be on the low side.

ability of short-term funds through the Euro-dollar market has had important effects upon the debt structure of the local authorities and has encouraged a shift to short-term debt.²²

Governments may be affected, directly or indirectly, by Euro-money markets. Thus, it is generally understood that Belgian banks have accepted substantial amounts of dollar deposits, in part to lend to the Central Government.²³ The chartered banks of Canada, in the 18 months ended June 1962, increased their holdings of short-term U.S. securities by \$400 million, largely as a result of dollar deposits placed with them.²⁴

Most of the dollars and other foreign currencies obtained through the Euro-money market are, however, used by the private sector.

The commercial banks of a large number of countries accept deposits in dollars and other foreign currencies in order to finance export-import operations, or domestic operations, or both. When foreign currencies are borrowed by industrial and commercial enterprises for their own use, they are as a rule first borrowed by those engaged in international trade.²⁵ Importers may borrow dollars or other foreign currencies to pay for imports from the United States or from other countries. Exporters may borrow such currencies to finance their exports. Interest rates on loans in dollars are often lower than those on loans in domestic currency. When exports or imports are invoiced in dollars, the need to cover forward is eliminated except for the profit of the operation. This reduces the cost of forward cover. When the dollar is at a discount, borrowing dollars saves the exporter the disagio on the dollars he would otherwise have to sell forward.

It has been observed that "now firms in many countries are looking more and more to foreign credits as a substitute for, or a complement to, the credit facilities in their domestic markets. Differences in the cost of credits are not the only incentive for so doing; often the ready availability of credit facilities abroad is the decisive factor."²⁶ Banks

²² Short-term debt, with a maturity of one year or less, increased from 11 per cent in 1958 to 22 per cent in 1961, of which three eighths (\$1.4 billion) was repayable at call or in 7 days. Maturities have been shortened further since 1961. London's merchant banks, overseas banks, and foreign banks are important lenders to local authorities. *The Economist* (London) estimated that "perhaps over a half of the increase in temporary borrowing of the local authorities in the first quarter of 1962 was of foreign origin" (August 25, 1962, p. 720). See also *The Statist*, February 9, 1962, p. 410, and July 13, 1962, p. 119; and Bank of England, *Quarterly Bulletin*, June 1962, pp. 98-99.

²³ Compare the comment in National Bank of Belgium, *Report for 1961*, p. 37, n. 1; and European Monetary Agreement, *op. cit.*, p. 61.

²⁴ "Canadian Markets for U.S. Dollars" (cited in footnote 2), p. 306.

²⁵ To this rule borrowings of U.S. dollars in Canada are an outstanding exception.

²⁶ European Monetary Agreement, *op. cit.*, p. 60.

may also lend local currency purchased with dollars and other foreign currencies.

The number of countries involved in financing production and trade with dollars and other foreign currencies has increased as Euro-money operations have become more familiar and as the size of the Euro-money market has grown. In Europe, as has already been noted, foreign currency deposits are accepted and used by banks in Belgium, France, Germany, Italy, the Netherlands, Switzerland, and the United Kingdom.²⁷ Banks in Norway have accepted significant amounts of dollar deposits, of which the major part was loaned to the shipping industry.²⁸ Banks in Denmark have accepted dollar deposits to finance export and import trade. Many countries in the communist bloc, including the U.S.S.R., Hungary, and Bulgaria, actively solicit deposits of dollars and European currencies from banks in Western Europe; in addition, they borrow from the Moscow Narodny Bank and the Banque Commerciale pour l'Europe du Nord, which are themselves in the Euro-money market. A number of countries in the Middle East, including Israel, have accepted foreign currency deposits. Some Euro-dollar deposits have been placed with banks in South America, the Far East, and Australia. The commercial banks in Japan accept large deposits in dollars and smaller amounts in sterling and other currencies; in the spring of 1962, such deposits probably totaled about \$400 million.

An accurate list of all the countries that accept foreign currency deposits cannot, of course, be drawn up without a detailed knowledge of the customers of each bank. Nevertheless, it may be conservatively estimated that commercial banks in 25 or 30 countries accept and use foreign currency deposits. Banks in many other countries would undoubtedly wish to do the same, but cannot do so because of government regulations on foreign borrowing or the unwillingness of banks to lend.

²⁷ For example, "The hire purchase companies, when they became associated with or controlled by the Clearing Banks, also found that their credit standing was such that they could compete for this kind of money [sterling funds arising from the conversion of dollars and other foreign currencies], and very large sums have been deposited with them through the operations of the international money market." Sir George Bolton, "International Money Markets," Bank of London & South America Limited, *Quarterly Review*, July 1962, p. 117. See also "Sources of Funds of Hire Purchase Finance Companies, 1958-62," in Bank of England, *Quarterly Bulletin*, December 1962, pp. 257-58.

²⁸ It has been estimated that a large part of the foreign exchange debt of Norwegian commercial banks on April 30, 1962—which was about Nkr 1,100 million (\$154 million)—probably consisted of Euro-dollars; and that about 80 per cent of this was passed on in loans to Norwegian shipowners. See International Monetary Fund, *International Financial News Survey*, Vol. XIV (1962), p. 229.

The number of countries that benefit from operations in foreign currency markets is considerably larger than the number whose banks accept deposits in such currencies. Many British, U.S., Canadian, French, and Italian banks have branches or affiliates in foreign countries. The head offices may accept funds which their branches lend in many different countries, sometimes in convertible currencies and sometimes, after swaps, in local currencies. Thus, the Bank of London & South America, which is generally considered to be a large taker of dollars and other foreign currency deposits, employs part of its funds to finance production and trade in many Latin American countries.

Commercial banks are themselves important users of dollar deposits, which serve as an important money market instrument. A bank that temporarily needs additional liquidity may accept dollar and other foreign currency deposits instead of discounting with its central bank or selling assets in the open market. This role of the Euro-money markets in transferring funds from one bank to another is analogous to that of the federal funds market in the United States.²⁹ Commercial banks may also borrow funds to increase their resources and their ability to extend credit. If they are loaned up to the limit of their resources, or if they are subjected to a domestic credit squeeze by their monetary authorities, they can obtain additional liquidity by accepting dollar deposits.

Moreover, since deposits can be accepted or placed in a wide range of maturities and qualities, banks use them very flexibly. A bank may be on both sides of the Euro-money market at the same time, depending upon its liquidity needs, the kind of balance sheet it wishes to present, and the character of the domestic market for short-term government securities and commercial paper. A commercial bank may prefer to place part of its liquid funds in short-dated Euro-dollar deposits rather than to invest all such funds in short-term government securities, particularly if the latter are less liquid or yield lower rates of return. Alternatively, a bank may improve its liquidity position by simultaneously accepting dollar deposits for one or three months and placing dollar deposits at call or seven days, thus improving its balance sheet at small cost. Such a transaction permits it to operate with less liquidity in domestic currency, or to lengthen somewhat the maturity of its other investments.

Part of the dollar deposits obtained by U.S. banks in Europe is used

²⁹ This market deals with borrowing and lending deposit balances in the Federal Reserve Banks. See Board of Governors of the Federal Reserve System, *The Federal Funds Market—A Study by a Federal Reserve System Committee* (Washington, 1959), and "The Federal Funds Market," Federal Reserve Bank of St. Louis, *Monthly Review*, April 1960.

to make dollar investments there, such as loans to European companies and to branches and affiliates of U.S. companies. The relative importance of such activities depends upon bank policy, and varies from one bank to another; it also reflects the interest rate that a U.S. branch can charge in relation to the prime rate charged by its head office in New York. But the major part (probably three quarters) of the dollar funds obtained by the branches in Europe is made available to their head offices. For example, in June 1962, U.S. branches in London reported \$1.1 billion of nonresident deposits (largely dollars) and \$780 million of advances to overseas banking offices (largely to their head offices).

VI. Interest Rates Paid on Dollar Deposits

Interest rates on dollar deposits are determined on a highly competitive basis. Rates are usually quoted for periods of 1, 2, 7, 30, 60, 90, and 180 days. Most of the dollar deposits are dealt with on the basis of 90 days or less, but deposits can be arranged for periods up to 18 or 24 months. At any one time there is a range of rates in the market rather than one unique rate. This range, which may be as much as $\frac{3}{4}$ per cent, reflects the status of the borrowers and their particular need for funds, as well as other factors which are difficult for any outside observer to appraise.

Rates of interest paid by U.S. banks on time deposits, and those that can be earned on other short-term investments in the United States, e.g., Treasury bills and bankers' acceptances, help to determine the amount of dollars offered in foreign markets by foreigners and by Americans, and thus are one of the factors affecting Euro-dollar interest rates and operations.

The rate of interest on 90-day deposits of Euro-dollars in London is necessarily higher than the rates on competing investment media in the United States. In 1961, the Euro-dollar rate in London averaged 3.58 per cent, compared with 2.35 per cent on new issues of U.S. Treasury bills and 2.80 per cent on prime bankers' acceptances in New York. In the first ten months of 1962, the Euro-dollar rate averaged 3.73 per cent, compared with 2.70 per cent on new issues of U.S. Treasury bills and 3.02 per cent on U.S. bankers' acceptances (Table 2).

It should not be assumed that these differentials between interest rates on Euro-dollar deposits in London and interest rates on various investment media in the United States are necessary or permanent.

TABLE 2. RATES OF INTEREST ON THREE-MONTH EURO-DOLLAR DEPOSITS IN LONDON AND ON OTHER INVESTMENTS, 1961-62

(In per cent per annum)

End of Period	Euro-Dollars ¹ (1)	U.S. Bankers' Acceptances ² (2)	U.S. Treasury Bills ³ (3)	U.K. Treasury Bills ⁴ (4)	U.K. Local Authorities ⁵ (5)	Sterling Forward Discount ⁶ (6)
1961						
Jan.	3.86	2.86	2.23	4.15	4.75	.80
Feb.	3.60	2.81	2.50	4.40	5.06	.98
Mar.	3.69	2.88	2.39	4.49	5.50	2.14
Apr.	3.66	2.78	2.19	4.41	5.38	1.88
May	3.66	2.68	2.35	4.44	5.38	1.88
June	3.50	2.75	2.22	4.54	6.12	3.68
July	3.38	2.75	2.24	6.69	7.56	4.11
Aug.	3.31	2.88	2.32	6.70	7.32	3.92
Sept.	3.38	2.75	2.23	6.53	7.56	3.82
Oct.	3.44	2.75	2.32	5.73	6.62	2.75
Nov.	3.63	2.75	2.61	5.39	6.25	2.67
Dec.	3.88	3.00	2.59	5.36	6.68	2.58
Average	<u>3.58</u>	<u>2.80</u>	<u>2.35</u>	<u>5.24</u>	<u>6.18</u>	<u>2.60</u>
1962						
Jan.	3.44	3.00	2.71	5.24	6.38	2.49
Feb.	3.50	3.00	2.66	5.55	6.38	2.66
Mar.	3.66	3.00	2.72	4.45	5.75	2.04
Apr.	3.41	3.00	2.74	4.05	5.00	1.51
May	3.81	2.88	2.70	3.82	4.56	.80
June	3.75	2.98	2.79	3.92	4.56	.80
July	3.84	3.13	2.89	3.89	4.56	.62
Aug.	3.78	3.13	2.84	3.77	4.38	.62
Sept.	3.94	3.13	2.75	3.64	4.50	.62
Oct.	4.13	3.00	2.69	3.86	4.25	.36
Average	<u>3.73</u>	<u>3.02</u>	<u>2.70</u>	<u>4.22</u>	<u>5.03</u>	<u>1.25</u>

¹ Rate on last working day of month, as reported in Bank of England, *Quarterly Bulletin*. Data for January and February 1961 were estimated independently.

² Rate in last week of month, *Federal Reserve Bulletin*.

³ Rate on new issues, last week of month, *Federal Reserve Bulletin*.

⁴ Tenders, last week of month, from Deutsche Bundesbank, *Monthly Report*.

⁵ Bank of England, *Quarterly Bulletin*.

⁶ International Monetary Fund, *International Financial Statistics*. Computed from end-of-month rates (average of buying and selling) for spot and 90-day forward exchange, the resulting percentage being expressed as an annual rate.

The Euro-dollar market is only a few years old. Interest differentials required to attract investors to a new market, and particularly to a new international market, are higher than those required to attract investors to a seasoned one; moreover, interest differentials required to attract investors are higher than those required to retain them. It follows that the Euro-dollar market could flourish on interest differentials lower than those that have been experienced to date. This would be consistent with the growing internationalization of short-term capital markets.

There would be no demand for Euro-dollars unless they could be used profitably. The range of opportunities to use dollars determines the maximum interest rates that can be paid on dollar deposits.

Covered interest arbitrage, in the pure sense of borrowing cheap to invest dear, is a factor, though not a major one, in the demand for Euro-dollars. In the past few years such arbitrage has taken place between Euro-dollars and investments in sterling. Interest rates on Euro-dollars have consistently been too high to permit covered interest arbitrage in U.K. Treasury bills, though not too high to rule out uncovered arbitrage. There have been periods in the last few years—for example, in the latter half of 1961—when there was a substantial movement of uncovered funds into sterling. During such periods it is possible that some Euro-dollars were used to finance the purchase of Treasury bills. Deposits of funds with local authorities and finance houses in the United Kingdom in 1961–62 were often attractive on a covered basis and always so on an uncovered basis. Interest rates paid on 90-day deposits by local authorities averaged 6.18 per cent in 1961 and 5.03 per cent in the first ten months of 1962 (Table 2); and those paid by finance houses were even higher. On the average during this period, the covered yield on deposits with local authorities, allowing for the cost of dollar-sterling swaps, was virtually the same as interest rates on Euro-dollars. This is not surprising, since dollar funds swapped into sterling were an important source of financing for the local authorities. These averages, however, suggest smaller investment opportunities than in fact existed. The spread in interest rates on Euro-dollar deposits, and the spread in interest rates paid by local authorities, make it reasonable to infer that it was practically always possible to use some dollars profitably in this way.

Rates of interest that can be paid on dollar deposits in the major financial centers are for the most part related to the rates that can be charged on loans to commercial and industrial borrowers (and on deposits placed with other banks that make such loans), as well as to the gross interest margins on which banks are willing to undertake such operations. A detailed discussion of interest rates charged on

loans to customers, and applicable gross interest margins, is reserved for Section VIII; but a few general considerations may be noted at this point. Rates of interest charged to customers on dollar loans vary greatly from one country to another; and within any one country they vary greatly from one class of customer to another. Gross interest margins earned by banks, i.e., the differences between the rates they must pay to obtain dollar deposits and the rates they charge for dollar loans, also vary widely. Banks cannot charge higher rates of interest on loans in dollars and other foreign currencies than those charged on loans in domestic currency. Under special conditions they may be able to charge as much as the applicable domestic rate. In most cases, however, they are compelled to undercut the domestic rate, either to meet domestic competition or, more particularly in the case of companies that have access to credit in other countries, to meet international competition. Gross interest margins applicable to operations in dollars and other foreign currencies reflect the fact that individual transactions are large and that the business is wholesale rather than retail.

For this kind of wholesale banking, applicable overhead costs and direct expenses other than interest are both small. Even a bank engaged in large Euro-dollar operations seldom has more than several hundred accounts, considering both the suppliers and the users of funds. Additional personnel requirements are minor, since these banks already have international lending officers and exchange and interest arbitragers. A modest gross interest margin may thus yield a comfortable profit, entirely apart from allied benefits: the possibility of additional commercial loan business and of additional exchange operations and trust and registrar functions, and the undoubted advertising value of keeping one's name in the market. These possible benefits account for the fact that much of this prime business is done on gross interest margins lower than 1-2½ per cent. Commercial banks may borrow dollars for three months in London at, say, 3½ per cent and consider it profitable, even normal, to lend them to their best customers at 4 or 4¼ per cent. A margin of ½ per cent, or even of 1 per cent, between the cost of money to a bank and the price of money charged by a bank is, of course, virtually unknown in domestic banking operations. However, many foreign currency transactions between banks and commercial or industrial businesses take place at very low gross interest margins. There is intense competition for this business, which from time to time has taken on the character of cutthroat competition.

Euro-dollar operations, however, are by no means confined to chan-

neling funds to borrowers who may be entitled to the prime rate in New York. Foreign currencies are loaned to borrowers who are entitled to the prime rate only in their own countries, as well as to borrowers who cannot command the prime rate anywhere. In such cases, the upper limit that can be charged on foreign currency loans is not the effective prime rate in New York but the effective domestic prime rate, or some domestic rate which may be substantially higher.

Accurate statistics on effective rates of interest charged on commercial loans and on overdrafts are not available for the European countries that are large borrowers of Euro-dollars.³⁰ Comprehensive statistics on the structure of interest rates and supplementary charges would be very helpful in determining how high interest rates really are and how rates in different countries compare with each other. Among other things, such statistics would suggest how high rates on Euro-dollar loans can go and still remain competitive, and how large gross interest margins are in different countries and for different groups of customers. Nevertheless, it is known that nominal prime rates on local currency loans vary widely from one European country to another, that the prime rates in every European country except the Netherlands and Switzerland are as high as, or higher than, the prime rate in New York, and that other domestic rates are very much higher than the corresponding prime rate.³¹ Even in such low-interest countries as Switzerland and the Netherlands, rates for prime customers are in many cases higher than the New York prime rate.

There are various reasons why this situation prevails. Every country has its own structure of interest rates, which reflects to a great extent domestic credit conditions and monetary policy. There are inherent rigidities in what is called a "customer" or "banking" relationship. Banking structures and money market procedures and instruments vary from country to country for legal and historical reasons. These elements have created patterns of interest rates which vary in terms of customary levels and margins. The effects of a prolonged period of inconvertibility, capital scarcity, and balance of payments difficulties, marked by controls on capital movements and exchange

³⁰ Such data as are available, namely, rates of interest on commercial paper, Treasury bill yields, high-grade bond yields, or (as in Italy) the agreed schedule of minimum rates for loans in lire with its complicated schedule of surcharges, are misleading as indications of rates of interest actually paid on commercial loans of various qualities.

³¹ See, for example, the survey of prime rates in February 1962 published by the First National City Bank of New York in its *Monthly Letter*, March 1962. Effective prime rates are frequently higher than the stated rates by reason of commissions, stand-by fees, or other supplementary charges.

transactions, have not yet been completely liquidated. In practically every country, moreover, there are agreements and understandings among banks, or regulations for banks, that govern rates of interest paid on deposits and charged on loans.³²

VII. Interest Rates Paid on Deposits of Other Currencies

One of the interesting developments in foreign currency markets in the latter part of 1961 and in 1962 has been the greater use of continental currencies, which is related to the greater strength of the dollar in forward markets. For example, as the forward premium on Swiss francs was reduced in this period, the arbitrated rate of interest that could be paid in foreign markets on Swiss franc deposits increased. This brought forth additional supplies of Swiss francs. An Italian importer who needed dollars to pay for imports from the United States might borrow Swiss francs, which cost 3.20 per cent in London, and use these to buy spot dollars, rather than borrow dollars, which cost 3.75 per cent.³³ The cost of dollars was the same if he bought forward cover, but the Swiss francs were cheaper if he did not. After 90 days, he would buy Swiss francs with lire. Spot lire and spot Swiss francs were both at the ceiling with respect to the dollar and were expected to remain there. Since both currencies were at similar premiums with respect to the dollar, the rate for forward Swiss francs in terms of lire was close to par. Hence, there was little reason to buy Swiss francs forward, even if the cost was small.

In general, rates of interest paid on deposits of sterling and other non-dollar currencies are closely related to those paid on dollars. Published data tend to understate the closeness of this relationship, because they do not report precisely the prices at which transactions are carried out.³⁴

³² The Bank for International Settlements surveyed this field in 1957 in *Credit and Its Cost* (C.B. 268). It would be most helpful if this question could now be resurveyed. It is even more important now to obtain adequate continuing statistical series, on an over-all or sample basis, describing nominal and effective interest rates paid on various kinds and sizes of loans in domestic and foreign currency. Compare the comment of the Banca d'Italia on the need to obtain and compare the effective debtor and creditor rates of interest in different countries (*Relazione del governatore sull'esercizio 1961*, p. 416).

³³ The rates paid to Italian banks would be higher than the London rates quoted, but the differential would not necessarily be eliminated.

³⁴ Published data on interest rates and on spot and forward exchange rates are not compiled for exactly the same points in time. Neither can they take proper account of the range of deposit rates and of spreads between the buying and selling rates of both spot and forward exchange.

In the first ten months of 1962, the difference between the actual interest rate on sterling deposits in Paris (4.95 per cent) and the calculated cost of sterling obtained through swapping dollar deposits (4.98 per cent) was negligible (Table 3). In 1961, considerable amounts of sterling were sold without forward cover in the first half

TABLE 3. RATES OF INTEREST ON 90-DAY STERLING DEPOSITS IN PARIS,
AND ON STERLING OBTAINED THROUGH DOLLAR SWAPS, 1961-62

(In per cent per annum)

End of Month	Interest on Sterling Deposits ¹ (1)	Cost of Sterling from Dollar Swaps			Difference in Cost Between Sterling Deposits and Dollar Swaps (Col. 1 - 4) (5)
		Interest on dollar deposits ² (2)	Discount on forward sterling ³ (3)	Cost of sterling (Col. 2 + 3) (4)	
1961					
Mar.	6.00	3.69	2.14	5.83	.17
Apr.	5.38	3.66	1.88	5.54	-.16
May	5.38	3.66	1.88	5.54	-.16
June	7.38	3.50	3.68	7.18	.20
July	7.75	3.38	4.11	7.49	.26
Aug.	7.25	3.31	3.92	7.23	.02
Sept.	7.56	3.38	3.82	7.20	.36
Oct.	6.25	3.44	2.75	6.19	.06
Nov.	6.38	3.63	2.67	6.30	.08
Dec.	6.69	3.88	2.58	6.46	.23
Average	<u>6.60</u>	<u>3.55</u>	<u>2.94</u>	<u>6.50</u>	<u>.10</u>
1962					
Jan.	6.19	3.44	2.49	5.93	.26
Feb.	6.00	3.50	2.66	6.16	-.16
Mar.	5.75	3.66	2.04	5.70	.05
Apr.	5.13	3.41	1.51	4.92	.21
May	4.31	3.81	.80	4.61	-.30
June	4.50	3.75	.80	4.55	-.05
July	4.50	3.84	.62	4.46	.04
Aug.	4.38	3.78	.62	4.40	-.02
Sept.	4.38	3.94	.62	4.56	-.18
Oct.	4.38	4.13	.36	4.49	-.11
Average	<u>4.95</u>	<u>3.73</u>	<u>1.25</u>	<u>4.98</u>	<u>-.03</u>

¹ In Paris, as reported in Bank of England, *Quarterly Bulletin*.

² In London, as reported in Bank of England, *Quarterly Bulletin*.

³ International Monetary Fund, *International Financial Statistics*.

of the year, and considerable amounts were bought without forward cover in the latter half of the year. Even so, the difference between the rate of interest on sterling deposits (6.60 per cent) and the calculated cost of sterling obtained by swapping dollar deposits (6.50 per cent) was only 10 basis points.

Similarly, the interest rate that can be paid on any other non-dollar currency tends to correspond to the dollar rate adjusted for swap costs. Thus, analysis of the interest rates paid by one bank on deposits of various currencies showed that when the interest rate on 90-day dollars was 3.75 per cent, the calculated cost of dollars obtained via other currencies was as follows: Swiss francs, 3.61 per cent; deutsche mark, 3.72 per cent; and guilders, 3.52 per cent.

These relationships hold for any one institution, whatever the rate it pays for dollar deposits in relation to the prevailing range of market rates. Thus, when the National Bank of Hungary offered (on February 5, 1962) to pay 4.38 per cent for 90-day dollar deposits, or at least $\frac{3}{4}$ per cent over the London rate, its rates on other currencies were correspondingly above their market rates: dollars via Swiss francs cost 4.22 per cent, and via deutsche mark, 4.35 per cent. In general, however, the rates of interest on deposits of different currencies paid by the banks in the communist bloc appear to be less closely arbitrated than those in Western Europe.³⁵

Although the preceding discussion has emphasized forward cover (swaps and covered interest arbitrage), it should not be inferred that all transactions are continuously covered. Banks may carry open positions for considerable periods. They have been known to carry short positions in particular currencies over a long string of weekends when they expected changes in exchange parities. On the whole, there is a greater incentive for banks and other business enterprises to cover when transactions are for short periods than when they are for long periods, and when the costs of cover are moderate rather than large. Published reports invariably understate the extent to which banks operate with uncovered positions, since banks window-dress on reporting dates. Nevertheless, commercial banks and exchange dealers arbitrage and cover to such an extent that unarbitrated differentials are reduced to very small proportions.

According to Einzig, arbitrage is undertaken now on much smaller margins than before World War II. In normal conditions, banks and foreign exchange dealers "are now content with a profit margin of $\frac{1}{16}$

³⁵ This is not true of the two communist-run banks in Western Europe: the Moscow Narodny Bank in London and the Banque Commerciale pour l'Europe du Nord in Paris.

per cent or even less. Very often they are prepared to operate without a profit, just in order to be in the market. . . ."³⁶

Thus, when commercial and industrial enterprises borrow foreign currencies, they are faced with a structure of interest rates which is implicitly arbitrated. Many such enterprises do not cover forward, preferring to carry the exchange risk themselves. A continental European importer may prefer to maintain an uncovered (short) position in dollars; and, indeed, the risk of doing so is small relative to the expected profit from his commercial transactions. Moreover, it should be remembered that the cost of forward cover is larger for commercial and industrial enterprises than for banks and exchange dealers, because of differences in the forward rate, in applicable stamp taxes, and the like.

VIII. Interest Rates and Interest Margins on Loans

Interest rates charged on dollar loans, and interest margins earned by banks in borrowing and lending Euro-dollars, may conveniently be described with respect to four kinds of transactions: (1) between one bank and another, both being of prime status; (2) other transactions between one bank and another; (3) between banks and commercial or industrial business enterprises having prime status or its near equivalent in one or more foreign money markets; and (4) between banks and other commercial and industrial customers.

(1) The activity of a bank in attracting deposits of dollars and other foreign currencies, for the purpose of placing them with other banks of prime status, is conducted, as has already been noted, on narrow margins. Gross interest margins, on an annual basis, may range from $\frac{1}{32}$ per cent to $\frac{1}{8}$ per cent or perhaps $\frac{1}{4}$ per cent; margins greater than $\frac{1}{4}$ per cent are rare. It is clear that a bank cannot accept Euro-dollar deposits with the intention of lending them to banks with prime status unless it itself has a prime name in the market. Indeed, only by capitalizing on its reputation, which enables it to secure deposits at rates somewhat below the market average, can it successfully operate in this way.

(2) When a bank places deposits with other classes of banks, or with banks in other kinds of situations, interest margins vary with estimates of risk, including appraisals of how the borrowing bank will

³⁶ A *Dynamic Theory of Forward Exchange* (London, 1961), p. 50 and Chapter 5; see also his "The Relations Between Practice and Theory of Forward Exchange," Banca Nazionale del Lavoro, *Quarterly Review* (Rome), September 1962, pp. 227-39.

use the funds. Thus, dollar deposits have been placed with banks in some of the countries of the communist bloc at interest rates for 90-day dollar deposits ranging from $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent, i.e., at a premium of $\frac{3}{4}$ per cent to $1\frac{3}{4}$ per cent over the prevailing London rate.³⁷ The U.S.S.R. accepts deposits of dollars and other foreign currencies, and apparently pays lower interest rates than any other country in the communist bloc.

Japanese banks accept large amounts of dollars and other foreign currency deposits, paying interest rates $2-2\frac{1}{2}$ per cent higher than those prevailing in the London money market. The usual (and first) explanation of such large interest premiums is greater risk.³⁸ This explanation, however, is not so convincing as may appear at first glance. Risks involved in placing deposits with Japanese banks do not appear to be substantially greater than those attached to deposits with banks in many other countries, in view of Japan's economic and political importance, its high rate of growth, and the close supervision exercised by the Japanese Ministry of Finance over the short-term obligations of the Japanese commercial banks. The premiums paid by Japanese banks ever since they entered the Euro-dollar market appear to be attributable in large part to two factors other than risk. First, the banks that place dollar deposits with Japanese banks limit their total commitments to Japan in line with their policy of diversification, so that premium interest rates do not bring forth much larger supplies. Rather, they are interpreted as additional evidence of risk. Second, because of the high rates of interest that they can charge Japanese borrowers, Japanese banks compete vigorously for the limited amount of deposits that are available. Since the yield on capital in Japan is high, there is continuous pressure on loanable resources to finance production and foreign trade. A substantial part, perhaps as much as one half, of the foreign currency deposits is swapped into yen and used for domestic financing.

Most other banks outside Europe pay rates of interest within the

³⁷ Deposits are also placed with these communist bloc banks by the Moscow Narodny Bank and the Banque Commerciale pour l'Europe du Nord. These two communist-dominated banks have excellent standing in Western markets and can attract dollar and other foreign currency deposits at going rates, so that they can do a profitable business with banks in the communist bloc at the rates charged by other banks in Western Europe.

³⁸ Compare the comments of the Nederlandsche Handel-Maatschappij (Netherlands Trading Society) in its *Annual Report, 1961* (p. 10): "... a limited part of our investing [in 1961] was transacted in Japan. At a later date we reduced the latter investments in view of a deterioration in the Japanese balance of payments. In general, of course, the amount of our foreign investments is partly determined by the maximum risks we feel we can properly run in each country, while paying close attention to the political circumstances in the countries concerned as well as to the state of their balances of payments."

range of those paid by banks in the communist bloc and in Japan, though a few are thought to pay even higher rates.

(3) A commercial or industrial company with international connections has increasingly become able to borrow dollars or other foreign currencies outside its own country. Under these circumstances, it can compel the domestic commercial bank with which it regularly does business (or one of its competitors) to make loans in dollars or other foreign currencies at rates of interest lower than those charged on domestic currency loans. In many cases, such a company can compel domestic banks to lend dollars at less than the prime rate in New York.

The prime rate in the New York market has been $4\frac{1}{2}$ per cent for some time. But "a canvass of a small number of large U.S. banks known to be important in international business indicates that prevailing rates charged prime foreign corporate borrowers on short-term loans (July 1962) range from $4\frac{3}{4}$ to 5 percent, or about one-fourth to one-half percent higher than rates charged U.S. companies of prime credit standing."³⁹ If allowance is made for the requirement that borrowers must keep compensating balances of 10-20 per cent (say, 15 per cent) against their loans, the effective prevailing prime rate in New York must be about $5\frac{3}{4}$ per cent. In comparing these rates with those in Europe, it must be kept in mind that the U.S. credit is made available in the form of a loan rather than, as in Europe, an overdraft, which more precisely reflects the needs of the borrower.⁴⁰

The maximum gross margin which foreign banks (including foreign branches of U.S. banks) can earn by dealing in loans to prime name borrowers in New York is thus the difference between the rate on (say) 90-day Euro-dollars, viz., $3\frac{1}{2}$ - $4\frac{1}{2}$ per cent, and a lending rate of some $5\frac{1}{4}$ - $5\frac{7}{8}$ per cent. In fact, however, competition limits banking opportunities with respect to "blue chip" industrial and commercial customers to those banks that are willing to engage in large-scale operations offering a substantially smaller margin than this maximum. A bank may well be satisfied with lending dollars to such customers at a markup of $\frac{1}{2}$ of 1 per cent over the cost of obtaining dollar deposits. Some "blue chip" customers can borrow dollars at the same interest markups as those paid by banks with prime names. Even smaller markups are not unknown. Very low markups are associated

³⁹ Data supplied by W. McC. Martin, Chairman of the Federal Reserve Board, in U.S. Congress, House, Committee on Banking and Currency, *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings . . . on H.R. 12080* (87th Congress, 2nd Session), July 1962, p. 87.

⁴⁰ For a convenient summary of the significance of the prime rate and its relation to other lending rates, see Federal Reserve Bank of New York, *Monthly Review*, April and May 1962.

with attempts by banks to secure new customers; alternatively, they may constitute one element in a well-rounded customer relationship in which the bank expects to make more money on other kinds of transactions.

(4) Finally, there is a broad range of transactions in which banks accept deposits of dollars and other foreign currencies in order to lend them to enterprises that are intermediate between those with international standing and those that cannot borrow foreign currencies because they lack bargaining power, because they are too small, or because they are prevented from doing so by gentlemen's agreements or exchange control regulations.

For foreign currency loans to such intermediate customers, an exceptionally good interest markup, from the point of view of the lending bank, would be 2 per cent, and a profitable one would be 1-1½ per cent. In many cases, interest margins are undoubtedly lower than these.

Minimum interest rates established by the gentlemen's agreements of Italian commercial banks implied interest markups for foreign currency loans to domestic clients in the spring of 1962 that ranged from 1.56 per cent for dollars to 2.40 per cent for Swiss francs (Table 4).

These agreed minima are subject to severe competition among Italian banks and from foreign banks, and the opinion is widespread in Italy that they tend to overstate actual rates of interest charged, particularly to prime customers. It is likely that many dollar and other foreign currency loans are made at considerably smaller markups, perhaps of the order of ¾ per cent to 1 per cent. The relatively high markup on Swiss francs is noteworthy; it more than offset the exchange loss sustained by the banks in buying Swiss francs, when they were at a spot premium, with dollars obtained from the Ufficio dei Cambi.⁴¹ Their commercial borrowers were probably willing to pay a higher markup on Swiss francs than on dollars because they

⁴¹ A premium on forward Swiss francs for 90 days at 1¼ per cent was reported by the Banca d'Italia (*op. cit.*, p. 226); the premiums reported for 1961-62 in International Monetary Fund, *International Financial Statistics*, were much smaller. It should be noted that not all Swiss francs loaned by the banks were obtained from dollars. From June 1961 to March 1962, outstanding loans in Swiss francs by Italian banks to domestic clients increased from \$179 million to \$379 million. The banks' foreign assets in Swiss francs increased from \$97 million to \$123 million, while their deposit liabilities increased from \$91 million to \$138 million. Thus, of the increase of \$226 million of assets denominated in Swiss francs, \$47 million was borrowed abroad, and the balance of \$179 million was financed by buying Swiss francs with dollars. With respect to the former amount, the commercial banks retained the entire interest markup without sustaining an exchange loss incident to buying Swiss francs with dollars.

repaid their Swiss franc loans with francs they acquired by selling lire. As compared with a dollar-lira transaction, this arrangement either did not call for forward cover or involved forward cover at a much smaller cost.⁴²

TABLE 4. ITALY: MINIMUM AGREED INTEREST RATES AND ESTIMATED INTEREST MARKUPS ON FOREIGN CURRENCY LOANS BY ITALIAN BANKS TO DOMESTIC CUSTOMERS, MARCH 1962

(In per cent per annum)

Currency	Minimum Rate ¹ (1)	Estimated Cost of Money to Banks ² (2)	Approximate Interest Markup (Col. 1 - 2) (3)
Dollars	5.25	3.69	1.56
Swiss francs	5.25	2.85 ³	2.40
Sterling	7.50	5.75	1.75
Other convertible currencies	5.25-6.50	3.37 ⁴	1.88 ⁵

¹ From Banca d'Italia, *Relazione del governatore sull'esercizio 1961*, Table M 9, p. 230. These minimum rates, stated in the gentlemen's agreement between Italian banks (see below, p. 76), were reported as virtually unchanged since June 1960, though Euro-dollar interest rates changed frequently from June 1960 until March 1962, and varied between 3.31 per cent and 3.86 per cent.

² Rates on dollars (London) and sterling (Paris) are from Bank of England, *Quarterly Bulletin*.

³ Average of rates quoted privately by a number of participants in foreign currency markets.

⁴ Average of rates on deutsche mark and guilders quoted privately by a number of participants in foreign currency markets.

⁵ Assuming (as is likely) that the minimum rate on loans in deutsche mark and guilders was 5.25 per cent.

Data relating to other countries suggest a similarly wide range of interest markups on loans in foreign currencies; the markup tends to be smallest for dollars, which are subject to the broadest and most intense competition. It may be concluded that an interest markup of $\frac{3}{4}$ per cent to $1\frac{1}{2}$ per cent would apply to the vast majority of dollar loans. Markups of $\frac{1}{2}$ per cent would be on the low side but are not uncommon, and markups as large as 2 per cent are unusual and explained by particular factors of risk and bargaining power.

Rates of interest on loans in dollars and other foreign currencies are competitive both with the prime rate in New York and with loan rates everywhere in Europe, particularly in view of the willingness of indi-

⁴² Outstanding loans in Swiss francs to Italian customers as a proportion of all domestic loans made in foreign exchange rose from 21 per cent in 1960 to 37 per cent in March 1962, when they totaled \$379 million (Banca d'Italia, *op. cit.* pp. 226 and 229). The borrowing customers must have converted a large part of this into other currencies, largely dollars, since imports from Switzerland in 1961 were \$150 million.

vidual banks to adjust their dollar rates to individual situations.⁴³ In many countries, the cost of loans in dollars and other foreign currencies is lower, and often substantially lower, than the cost of loans in domestic currency. In Switzerland, the prime rate agreed by one of the major commercial bank associations is about $4\frac{1}{2}$ per cent for overdrafts, yet foreign banks have made dollar loans in Switzerland at this rate, as well as at rates fractionally lower. In the Netherlands, the prime rate is equal to the bank rate plus $1\frac{1}{2}$ per cent. From 1958 to April 1962, the bank rate was $3\frac{1}{2}$ per cent; it was then increased to 4 per cent, and the prime rate went to $5\frac{1}{2}$ per cent. It was possible to lend dollars profitably at prime rates of $5-5\frac{1}{2}$ per cent, and only the competitiveness of the larger banks, and their willingness to reduce their interest rates on guilder loans, prevented the wider use of dollar facilities. In France, interest rates on loans are set by the Conseil National du Cr dit. Trade bills in francs can be discounted at 4 per cent but loans may cost 6-8 per cent. Any company that cannot finance via trade bills, and that is eligible to borrow dollars, finds it cheaper to borrow dollars than to borrow French francs. In Germany, overdraft rates for prime customers are about $5\frac{1}{2}$ per cent to $6\frac{1}{2}$ per cent,⁴⁴ and those for other customers, about $7\frac{1}{2}$ per cent.⁴⁵ The level of interest rates in Norway is suggested by the news report that interest rates on credits in Euro-dollars extended to shipowners by commercial banks in the spring of 1962 were about $1\frac{1}{2}$ per cent below normal domestic market rates.⁴⁶ In Denmark, where the rediscount rate has been $6\frac{1}{2}$ per cent since the early part of 1961, commercial bank rates range from 7 to $8\frac{1}{2}$ per cent, plus, in most cases, a commission fee.

The major change in the commercial credit markets between 1961 and 1962 is the increased interest rate competition between loans in foreign currency and those in domestic currency. This competition has created a larger and more widely distributed volume of loans in foreign currency, and evoked statements in many European countries that

⁴³ It should be re-emphasized that if nominal rates in the United States must be adjusted for compensating balance requirements, nominal interest rates in Europe must be adjusted for such additional costs as stand-by charges and fees.

⁴⁴ This is roughly equivalent to the Lombard rate (rate for central bank advances on securities) of 4 per cent plus $2-2\frac{1}{2}$ per cent. The Lombard rate is equal to the central bank discount rate (now 3 per cent) plus 1 per cent.

⁴⁵ David Rockefeller, President of the Chase Manhattan Bank, which has a branch in Germany, testified in 1962 that "I would say that they [interest rates in the Federal Republic] would be perhaps 2 percent higher than ours for loans. Money market rates are little if any higher than in the United States." *Higher Interest Rates on Time Deposits of Foreign Governments* (cited in footnote 39), p. 44.

⁴⁶ International Monetary Fund, *International Financial News Survey*, Vol. XIV (1962), p. 229.

foreign currency loans disturb and threaten the domestic loan market. In some cases, such competition has led to the view that loans in dollars and other foreign currencies constitute unfair competition and that they should be regulated.

Foreign currency loans in Europe have thus carved out an important role on a competitive basis. This role would be larger if existing limitations and special interests did not restrict it.⁴⁷

IX. Limitations on the Use of Euro-Dollars

Loans in dollars and other foreign currencies are limited or regulated in three ways.

First, attempts have been made to regulate (i.e., increase) the rate of interest charged on loans in dollars and other foreign currencies. Italy is the clearest example of this, but similar tendencies are apparent in other countries.

Although it is clear (despite the fact that there are no authoritative data) that commercial interest rates in Italy on lira loans have declined substantially in the past decade, the demand for loans in dollars and other foreign currencies is great, because rates on these loans are highly attractive. At the end of 1961, outstanding loans made in foreign currencies totaled \$860 million, including \$550 million in dollar loans; this is equal to almost 7 per cent of short-term credits extended by all Italian banks to the domestic private sector (\$12.4 billion).⁴⁸ Agreements among banks which for many years have set minimum rates of interest charged on loans in lire were supplemented in the summer of 1961 by two agreements covering rates of interest on loans in foreign currencies. One schedule of rates, agreed by the large commercial banks in Italy, is revised weekly. Another schedule of rates, agreed by a much larger number of banks, is revised infrequently. Each schedule specifies minimum rates of interest applicable to loans made in dollars, sterling, and ten other foreign currencies. The minima are related, through a system of stated margins, to rates of interest on these currencies in London and other foreign markets.

How effectively these schedules limit competition with respect to

⁴⁷ In considering the role of foreign markets for currencies in countries other than the industrial countries of Europe, and in Canada, additional factors come into play. In nonindustrial countries, the demand for any kind of capital, including foreign currency deposits, is very large. Substantial exchange and other risks, however, severely limit the amounts that the market is prepared to lend, not only at market rates but at substantially higher ones.

⁴⁸ Banca d'Italia, *op. cit.*, Table S 1, p. 370.

interest rates charged on loans in dollars and other currencies is questionable. Nevertheless, the attempt to limit competition by agreement is clear.

Second, under the stress of competition, it is agreed or understood by the banks in some countries, e.g., Germany, that loans in foreign currencies should be made only to the import or foreign trade sector, where they are considered to be "natural," and not made to the domestic sector, where they are considered to be "unnatural." This view would divide the domestic loan market, charging an internationally competitive rate in one part and a domestically regulated rate in the other. Such a division inevitably involves problems of administration and competition for commercial banks, as well as complaints and shopping around by customers. It is probably basically unstable. Under the force of competition, such arrangements are modified for strong companies or industries. Even when an attempt is made to set up such a two-price market—one for importers and one for everyone else—exporting companies, international oil companies, and other large companies have in many cases won for themselves the right to be accorded loans in foreign currencies, with the lower rates of interest applicable to them. In some cases this right spills over to other companies.

Third, in many European countries, the competitive effect of foreign currency loans and, therefore, of lower interest rates is restricted by exchange or capital control regulations.⁴⁹ Under such regulations, it is impossible for any company in the United Kingdom, France, Italy, the Netherlands, Norway, Denmark, or other European countries to borrow foreign currencies, except with the permission of the authorities. In France, for example, only a restricted class of companies is permitted to borrow dollars or other foreign currencies: the major importing companies (including the wool and cotton importers), the oil companies, and some companies engaged in exporting. In most European

⁴⁹ For example, the U.K. Exchange Control Act of 1947 provides: "Except with the permission of the Treasury, no person, other than an authorised dealer, shall, in the United Kingdom, and no person resident in the United Kingdom, other than an authorised dealer, shall, outside the United Kingdom, buy or borrow any gold or foreign currency from, or sell or lend any gold or foreign currency to, any person other than an authorised dealer" (Chap. 14, Pt. I, par. 1(1)). In France, Decree 47-1337 of July 15, 1947 provides: "Any natural person having his usual residence in France, any French juridical person or any foreign juridical person insofar as its agencies in France are concerned, shall be forbidden, except upon authorization of the Minister of Finance, to enter into a contract with a party . . . when the obligations originating from said contract would be stipulated in terms of a currency other than the franc" (Art. 59). And in the Netherlands: "It is illegal for residents, otherwise than by virtue of a licence, to obtain under onerous title . . . foreign means of payment" (Royal Decree on Foreign Exchange Control, October 10, 1945, Chap. II, Art. 17, par. (1)(c)).

countries with exchange controls, exceptions are made to finance shipping and transportation companies, exports and imports, and domestic companies engaged in foreign trade and construction. In the United Kingdom, however, exceptions under the Exchange Control Act regulations are much more limited.

The size of the Euro-dollar market is thus artificially limited by gentlemen's agreements, competitive restraints, and exchange and capital controls. Elimination of any or all of these impediments could greatly increase the demand for dollars and other foreign currencies and intensify the pressure upon domestic interest rates in all the industrial countries of Europe.

X. Regulation Q and the Euro-Dollar Market

It is often argued that the Euro-dollar market developed because commercial banks in the United States were forbidden by Regulation Q to pay rates of interest on time deposits which were competitive with those paid on dollar deposits in Europe. Two conclusions have been drawn from this proposition: first, that the Euro-dollar market is temporary, and exists only by reason of the limitations on interest rates imposed by Regulation Q;⁵⁰ and second, that the United States should abolish Regulation Q, or at least raise ceiling rates substantially on all foreign time deposits, in order to limit or "kill" the Euro-dollar market.⁵¹

In February 1961, the President of the United States, in his Message to Congress on the "U.S. Balance of Payments and the Gold Outflow from the United States," recommended that Regulation Q be amended so that the Federal Reserve Board could set maximum rates of interest on time deposits held by foreign governments and monetary authorities which would be different from those on time deposits held by others.⁵²

⁵⁰ See the statement of Sir Charles Hambro, Chairman of Hambros Bank and a director of the Bank of England, reported in *The Economist* (London), May 26, 1962, p. 821, and his speech to the Annual Meeting of Hambros Bank Ltd., reported in *The Financial Times* (London), June 15, 1962, p. 4. The contrary view is strongly stated by Sir George Bolton in "International Money Markets," Bank of London & South America Limited, *Quarterly Review*, July 1962, pp. 113-19; and in an article in *The Times* (London), May 22, 1962, p. 18.

⁵¹ For example, "Dollar Defense Now Aims at Killing 'Eurodollars'," in *The Journal of Commerce* (New York) July 17, 1962. Less dramatic comments have referred to "the challenge of the Euro-dollar market" and the need "to mount an offensive" against it.

⁵² Part I, Section 3. The Secretary of the Treasury had had the authority for many years to issue securities to foreign governments and monetary authorities at special rates.

A bill to exclude rates of interest paid on foreign official time deposits from the general ceilings of Regulation Q failed to pass in 1961 but, after extensive hearings, was enacted into law in October 1962.⁵³

It was expected that, after this legislation was approved, the greatest increases in interest rates would be on time deposits with maturities of 30–90 days, or 30–180 days, since rates on such maturities showed the greatest disparities compared with those on competitive investment media (Table 5). For maturities of less than 180 days, the rates that

TABLE 5. INTEREST RATES ON TIME DEPOSITS, CERTIFICATES OF DEPOSIT, AND TREASURY BILLS IN THE UNITED STATES, AND ON EURO-DOLLAR DEPOSITS IN LONDON, AUGUST 1962

(In per cent per annum)

Period	Time Deposits		Certificates of Deposit ³	U.S. Treasury Bills and Notes	Euro-Dollars ⁴
	Maxima ¹	Actual ²			
30 days	1.0	1.0	3.00	2.60	3.59
90 days	2.5	2.5	3.00	2.90	3.78
180 days	3.5	3.2	3.30	3.05	4.00
360 days	4.0	3.5	3.50	3.18	—

¹ Revised maximum rates set under Regulation Q, effective January 1, 1962, for all deposits, domestic and foreign. Since October 1962, these do not apply to foreign official deposits. Interest cannot be paid on time deposits for periods of less than 30 days.

² Rates for 180 and 360 days are estimated. Rates of $3\frac{1}{8}$ per cent for 180–270 days by New York City banks and of $3\frac{1}{4}$ per cent for 180 days by one bank in San Francisco were reported in *The Wall Street Journal* (September 14 and October 17, 1962). See also Chase Manhattan Bank, *Business in Brief*, May–June 1962.

³ Rates quoted are by a large New York dealer.

⁴ Rates in London quoted by one large participant in the market.

banks could previously pay were below those on Treasury bills, so that, as Under Secretary of the Treasury Roosa testified, “there would be increases ranging from 1 to $2\frac{1}{2}$ percent above present levels.”⁵⁴ Mr. Roosa also estimated that foreign governments and international institutions held more than \$2 billion of time deposits and that, with higher interest rates, this amount might gradually be doubled.

⁵³ See U.S. Congress, House, Committee on Banking and Currency, *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings . . . on H.R. 12080* (87th Congress, 2nd Session), July 1962, and *Report*, August 1962; and U.S. Congress, Senate, Committee on Banking and Currency, *Interest Rates on Foreign Official Time Deposits: Hearings . . . on H.R. 12080* (87th Congress, 2nd Session), September 1962, and *Report*, September 1962.

⁵⁴ See U.S. Congress, House, Committee on Banking and Currency, *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings . . . on H.R. 12080* (87th Congress, 2nd Session), pp. 3, 13–14, and 16.

By December 1962, a few banks had increased their rates on foreign official deposits to $2\frac{3}{4}$ per cent on 30-day deposits, 3 per cent on 90-day deposits, and $3\frac{1}{4}$ per cent on 180-day deposits.⁵⁵ The effect upon the total volume of foreign official time deposits in the first three months after the amendment of Regulation Q was small, but it was still expected to increase as foreign official liquid assets of all kinds were adjusted to the new opportunities.⁵⁶ The rates quoted on time deposits for 180 days and longer were the same for foreign and domestic funds, and continued unchanged. At $3\frac{1}{4}$ per cent for 180 days and $3\frac{1}{2}$ per cent for 360 days, they remained below the maxima set by Regulation Q.

The proposition that it is feasible and desirable to raise interest rates on time deposits for foreign governments and monetary authorities may conveniently be discussed under four interrelated headings: (1) the level and structure of domestic interest rates; (2) the ownership and use of foreign-owned liquid dollar assets; (3) the effects upon the U.S. balance of payments; and (4) the implications for interest arbitrage of interest rate differentials between the United States and Europe. Two collateral but less direct questions are not discussed in this paper: the extent to which rates of interest influence foreign governments to convert dollar holdings into gold;⁵⁷ and the extent to which there is a fairly regular relationship between balance of payments deficits (or surpluses) and gold outflows (or inflows).⁵⁸

First, eliminating interest ceilings on foreign official time deposits would not necessarily increase the actual rates of interest paid by commercial banks. The rates set under Regulation Q are not mandatory; they are maxima. Few large banks have raised their rates on deposits of 180 days and more to the maxima permitted by Regulation Q. Commercial banks have succeeded in their attempts to sell certificates of deposit (usually for a period of one year), which have brought in more than \$2 billion of time funds. These certificates in

⁵⁵ *The Economist* (London), December 29, 1962, p. 1296; and *The Wall Street Journal* (New York), October 22 and 23, 1962.

⁵⁶ All time deposits held for foreigners—governments and official agencies, international institutions, foreign banks, and certain foreign branches of U.S. banks—by leading banks in New York City were \$1.74 billion in mid-December 1962, compared with \$1.55 billion at the beginning of October, when Regulation Q was amended, and \$1.68 billion one year earlier.

⁵⁷ For a recent article suggesting that foreign official institutions do not appear to adjust their holdings between gold and dollars in response to short-term or cyclical movements in interest rates, see R. F. Gemmill, "Interest Rates and Foreign Dollar Balances," *The Journal of Finance*, Vol. XVI (1961), pp. 363-76.

⁵⁸ For a recent statement that gold inflows and outflows in the period 1946-61 were regularly and closely correlated with balance of payments surpluses and deficits, see O. L. Altman, "Quelques aspects du problème de l'or," *Cahiers de l'Institut de Science Economique Appliquée*, Series R, No. 8 (Paris, July 1962).

December 1962 were sold to yield approximately $3\frac{1}{4}$ per cent for six months and $3\frac{1}{2}$ per cent for one year.⁵⁹ Moreover, the large New York City banks have been able to attract large amounts of Euro-dollar deposits in London and other foreign markets, most of which are advanced to their head offices in the United States. In general, U.S. banks paid the lowest rates of interest in these markets. When they wanted additional funds for their domestic or other operations they paid, when necessary, rates somewhat higher than those that they paid in the United States.⁶⁰

From the point of view of the 50 or 60 larger U.S. banks with foreign accounts, the legislation resulted in three sets of rates on deposits instead of two: a domestic rate for domestic customers and foreign corporations; a higher domestic rate for foreign governments and central banks for deposits up to 180 days; and one or more rates in London and other foreign markets for depositors of Euro-dollars, including domestic customers and foreign corporations.

It is, however, unreasonable to expect that commercial banks will pay a higher rate to foreign governments and central banks than they would have to pay to secure an equivalent amount of funds from anyone else.⁶¹ The amount of funds they can attract with domestic rates lower than the permissible maxima set under Regulation Q, and with certificates of deposit, limits the amount of time deposits they may wish to attract from foreign governments and monetary authorities at special rates, and the amount of Euro-dollar deposits they may wish to attract from anyone.

There may be persuasive reasons for wishing to realign the structure of interest rates in the United States on time deposits and other forms of savings, and on loans, mortgages, and bonds, to present national and international conditions. This is a complex subject beyond the scope of this paper. But differential increases in the domestic rates of interest on time deposits are not very effective for this purpose. Indeed—though this is considered a virtue—to the extent that additional funds can be obtained in this way, rates of interest on the bulk of time deposits will be unaltered. This will minimize the effects of the

⁵⁹ These certificates are negotiable and are generally issued in denominations of \$1 million. They are actively traded, and four large dealers now make a market in them. Certificates with a wide range of maturities are traded in the open market.

⁶⁰ For example, in the summer of 1962, the Chase Manhattan branches in Europe paid $\frac{1}{4}$ per cent more there than in the United States on deposits with terms up to 180 days. See *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings* (cited in footnote 54), pp. 62–63.

⁶¹ Unless, of course, they obtained some unusually profitable additional business as a consequence.

cost of money upon rates of interest charged on commercial loans and on securities generally.

Second, if higher rates of interest are paid on dollar deposits of foreign governments and central banks, foreign commercial banks in some countries may be able to deposit dollars with their central banks, and share in the higher interest returns.⁶² On the other hand, dollar funds that central banks now make available to their commercial banks, by swaps and deposits, and that are invested in Euro-dollar deposits and commercial loans, might be placed with commercial banks in the United States as time deposits.⁶³

Increases in interest rates on time deposits must be considered in the light of alternative investment opportunities in the United States. Foreign governments and their official agencies, foreign commercial banks, other foreigners, and international agencies other than the International Monetary Fund, hold large amounts of demand deposits, Treasury bills, and other money market instruments. In May 1962, their holdings totaled approximately \$20.8 billion, distributed as follows: deposits with Federal Reserve Banks, \$0.2 billion; deposits with other banks, \$10.6 billion; government securities, \$8 billion; other liquid assets, \$2 billion.⁶⁴ Of the \$10.6 billion of deposits, about \$3.0 billion was in the form of time deposits, including \$2.2 billion held by foreign governments and international institutions. Of the \$8.0 billion of government securities held by foreigners, about \$6 billion was owned by foreign governments and official agencies.⁶⁵

Rates of interest on U.S. Treasury bills and on prime commercial and banking paper are lower, for all maturities, than rates on Euro-dollar deposits. If rates on foreign official time deposits are raised above those on Treasury bills, foreigners will tend to shift funds out of Treasury bills into deposits. Such shifts could take place on a very

⁶² Thus, David Rockefeller, President of the Chase Manhattan Bank, in testifying on Regulation Q, said that "it is often difficult to draw a line between central bank deposits and other foreign deposits, particularly those of foreign commercial banks. If special rates were offered to central banks, one might well find certain foreign commercial banks lending their dollar deposits to the central bank to gain advantage of the special rate. Such relations between central banks and commercial banks do exist in some countries." Consistent with this view, he recommended "freeing from restrictions the interest rates which can be paid for time deposits from all foreign sources, central banks and other." *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings* (cited in footnote 54), pp. 40-41.

⁶³ Alternatively, central banks might require higher rates of interest from their commercial banks.

⁶⁴ From International Monetary Fund, *International Financial Statistics*, December 1962.

⁶⁵ *Federal Reserve Bulletin*, July 1962, p. 862 (as reported by Weekly Reporting Banks), and *Higher Interest Rates on Time Deposits of Foreign Governments: Hearings* (cited in footnote 54), pp. 3, 14, 16, 32-33, 51-52, and 143.

large scale without affecting Euro-dollar deposits very much. On the other hand, if interest rates on time deposits are raised to a much greater extent, i.e., enough to affect Euro-dollar deposits substantially, the disinvestment in Treasury bills could be enormous.

Third, the case for raising interest ceilings under Regulation Q, or excluding interest rates paid to foreign governments and central banks from the Regulation, or abolishing the Regulation, has a strong international justification. Such action would add another degree of freedom to the international money market which has been evolving in the United States, and would therefore be desirable.⁶⁶

But the argument is often extended beyond this. It is argued that higher domestic rates on time deposits, by attracting funds that would otherwise go to the Euro-dollar market, will improve the U.S. balance of payments. This argument is not justified. Higher interest rates on time deposits will have little or no effect on the U.S. balance of payments unless rates of interest on commercial loans and on bonds are also raised. Foreigners have acquired most of their dollar deposits because the United States has had a balance of payments deficit; and they will continue to acquire dollar funds if the deficit continues.⁶⁷ Once foreigners own the dollars, the place where they deposit them makes no difference to the U.S. balance of payments. When they transfer their deposits from a New York bank to a London bank, they do not draw out capital—they merely transfer ownership of an existing dollar deposit to another foreigner. When they transfer their deposits from a London bank to a U.S. one, they reacquire the claim on the United States that the London bank had previously. Neither of these transactions affects the balance of payments.

Nevertheless, payments of higher rates of interest on already existing foreign-owned dollar balances may well increase the balance of payments deficit in the future. For if the U.S. banks attract more time deposits, they will seek out more loans and investments. Some of these will inevitably be foreign.⁶⁸ These will create increases in foreign-held deposits—as a minimum, to the extent of compensating balance requirements—which will be counted as negative items in the balance of payments as reported by the U.S. Department of Commerce. The fact that the commercial banks will acquire offsetting foreign assets does not change this statistical result.

⁶⁶ This general point was made by Under Secretary Roosa. *Ibid.*, pp. 2-6.

⁶⁷ Unless, as is unlikely, all the dollars paid out to finance the deficit are converted into gold and/or paid over to the International Monetary Fund in connection with a U.S. drawing of foreign currencies.

⁶⁸ In May 1962, for example, deposits of all foreigners (including international institutions) were about \$11 billion, whereas commercial loans to foreigners (including those with an original maturity of one year) were more than \$6 billion. See *Federal Reserve Bulletin*, October 1962, pp. 1366-72.

Fourth, to the extent that a higher rate of interest is paid on time deposits in the United States, and the supply of funds in the Euro-dollar market is reduced, rates of interest paid on Euro-dollar deposits will also rise. To increase interest rates on Euro-dollar deposits, while maintaining unchanged the rates of interest paid on time deposits to U.S. residents, will stimulate an outflow of capital on the part of U.S. residents. The result would be two-way interest arbitrage. Foreign official funds would move from Euro-dollar markets into U.S. time deposits, and U.S. funds would move into the Euro-dollar market. The net effect on the U.S. balance of payments, as reported by the U.S. Department of Commerce, would certainly be adverse. The transfers by U.S. residents would be counted as a capital outflow, while the additional time deposits in U.S. commercial banks acquired by foreigners would not be considered as capital inflow.

But there is a far more important consideration. To the extent that an increase in the rate of interest on time deposits in the United States increased interest rates on Euro-dollar deposits, loans made with these dollars would lose some of their competitive edge in Europe over loans in domestic currencies. This would reduce—and if carried far enough, would eliminate—the pressure of loans in Euro-dollars upon interest rates in Europe. Raising interest rates on Euro-dollars would thus slow down the further reduction of interest differentials between the United States and Europe. It would throw a larger part of such a realignment of interest rates, which is generally considered desirable, upon the United States. To assume otherwise is to assume that banks will absorb the full effect of higher rates on Euro-dollar deposits in their profit margins. It is impossible to estimate what effect smaller gross interest margins would have on the operations of European commercial banks (and on the growing operations of European branches of U.S. banks). Once in the business of making loans in dollars and other foreign currencies—a business which in any case is conducted on small margins—they may well be prepared to continue on even smaller margins. But this is not self-evident. Gross interest margins have fallen substantially in the past few years, and there is much question about how much further they can fall without reducing the scope of Euro-dollar operations in Europe.

XI. International Markets and Domestic Monetary Policy

The preceding discussion has emphasized the extent to which short-term money markets in the major industrial countries have become internationalized and unified since 1958. These developments have

affected the private cost of credit and the availability of credit for financing both domestic trade and international trade. They have mobilized liquid capital on a large scale, which is often as important in determining the source and direction of financing as favorable rates of interest. Euro-money deposits, by providing a new and extremely flexible monetary instrument, have supplemented the investment media open to banks in their respective countries.

Euro-dollars have provided a number of central banks with a powerful and flexible monetary instrument which can be used to control domestic liquidity and the import or export of short-term capital. At the same time, the increasing "oneness" of money markets has facilitated the movement of private capital in response to interest rate differentials.

The Deutsche Bundesbank adjusts domestic liquidity by open market operations with dollars, as well as by operations with domestic assets. It has frequently varied the terms of dollar swap transactions, most often by modifying premiums or discounts. These variations reflect changes in the domestic credit situation, changes in rates of interest at home and abroad, and the state of the balance of payments. In the past 18 months, the Bundesbank made more changes in the terms of swap transactions than in those of all other monetary instruments combined. This does not imply that open market operations in dollars were a substitute for other monetary instruments, such as changes in reserve requirements, definition of reserves, and discount rates. Rather, open market operations in dollars are a supplementary instrument, which can be used to achieve a finer adjustment of instruments to policy.⁶⁹

The Banca d'Italia has similarly used dealings in dollars to carry out or reinforce its domestic monetary policy. But, as noted by Guido Carli, Governor of the Bank, "the effects of all this went far beyond domestic liquidity control; they served also to intensify our banking system's international business and to adapt the average cost of borrowing on the Italian market more closely to the rates on the principal financial centres abroad. As a result, Italian banks have been able to improve and to cheapen their service to their clients."⁷⁰

⁶⁹ Swap transactions and allied instruments are discussed in the Deutsche Bundesbank's *Report for the Year 1961*, and in its *Monthly Reports* for January, April, July, and October 1962. As one German bank stated it, "The Bundesbank deliberately encouraged this export of money by the banks; it did so by letting them fix the forward exchange rate on cheap terms, sometimes even allowing a premium on the employment of funds abroad." (Berliner Bank A.G., *Report . . . for the Year 1961*, p. 11.)

⁷⁰ "An Active Control of Bank Liquidity," Supplement to *The Statist*, April 6, 1962, p. 6.

Some of the recent swap transactions between the Federal Reserve Board and European central banks serve similar domestic purposes, although they are often considered only as a way of adding currencies to the international reserves of the United States. One important purpose of the Swiss authorities served by the swap of \$50 million in the summer of 1962 between the Federal Reserve Board and the Swiss National Bank was the reduction of Swiss domestic liquidity. The parallel swap for \$60 million with the Bank for International Settlements had the same effect. Under both arrangements, the Swiss francs came from deposits made by Swiss commercial banks.⁷¹

On the other hand, the Euro-dollar market, and the growing internationalization of short-term and long-term capital markets, will probably make it more difficult to carry out large changes of monetary policy.⁷² It is easy to expand liquidity and encourage domestic commercial banks to supplement their domestic assets with foreign assets. It is quite another matter to reverse the process. An attempt to tighten liquidity will stimulate the repatriation of funds. An increase of domestic interest rates at home will permit both domestic and foreign banks to make loans on the home market in dollars and other foreign currencies at international rates.

This suggests that the extent to which domestic situations can be corrected by sharp movements of interest rates has become much more limited in the past few years. The use of large changes of interest rates has not only become limited—it has perhaps become dangerous because it stimulates capital flows on a large scale without any long-run purpose. Such capital flows may be so large that countries may find them increasingly difficult to finance with their own reserves. In this event, unless they resort to direct controls, they will have to rely upon drawings from the International Monetary Fund and ad hoc borrowing arrangements. This compulsion may be even greater if interest arbitrage is accompanied by speculative capital movements which are large enough to cast doubt upon the existing exchange parities. The benefits achieved by the Bank of England in raising the bank rate to 7 per cent in 1960 were considerable and immediate. But the effects upon international capital flows, confidence in its gilt-edged market, and the shifting of U.K. local authority financing toward the short end of the market were also considerable.

⁷¹ See *Neue Zürcher Zeitung*, July 29, 1962; International Monetary Fund, *International Financial News Survey*, Vol. XIV (1962), pp. 245 and 288; and *Federal Reserve Bulletin*, September 1962, pp. 1148-49.

⁷² See, for example, Paul Einzig's "Statics and Dynamics of the Euro-Dollar Market," *The Economic Journal*, September 1961, pp. 592-95, and "Towards an International Money Market," *The Statist*, November 17, 1961, pp. 925-26.

XII. Foreign Currency Markets: Stability and Speculation

Other important aspects of the markets for foreign currencies are their stability, and the extent to which they foster or facilitate speculation. These aspects are vitally important for central banks, since it is they and not commercial banks who are responsible for the proper functioning of the domestic and the international monetary systems.

On the first point, there has as yet been no evidence that the market for Euro-dollars has been, or could become, very unstable, or that attempts by banks and other participants in the market to reduce or unwind their positions could be very damaging.⁷³ On the contrary, operations of the Euro-dollar market have shown surprisingly moderate fluctuations in interest rates despite the very large movements of funds into and out of the market.

On the second point, misgivings have been expressed that the operations of the Euro-dollar market facilitate, if indeed they do not encourage, speculation and unsound credit. It is, indeed, quite likely that the major part of speculation in gold is financed with bank credit. Gold can be purchased in major European markets with a downpayment as small as 5 per cent. The amount of the downpayment varies with the closeness of the customer relationship as well as with the price of gold. As the purchase price rises over \$35 an ounce, the amount of the downpayment increases, in line with the greater risk that the price may fall. The rate of interest charged on the unpaid balance is moderate, and is often related to the rate on Euro-dollars, which constitute funds for some of this financing. But there was speculation in gold financed by bank credit long before there were Euro-dollars. Commercial banks in many countries have substantial resources which can be and are used to finance speculations in gold. Interest differentials are not decisive in gold speculation, which is undertaken in the hope of wide gains.

Views on the relationship of Euro-dollars to gold speculation are purely conjectural. There is no information as to the total volume of gold purchases financed with bank credit, let alone with funds obtained from the Euro-dollar market. In the interests of completeness, it might be added that, while gold production in the free world is known, while Russian sales of gold can be estimated fairly well, and while the gold additions to monetary reserves are known with a high degree

⁷³ Paul Einzig has discussed "the perturbing potentialities of foreign currency deposits in general and of Euro-dollars in particular," in his "Dangerous Possibilities of Euro-Dollar System," *Commercial and Financial Chronicle* (New York), January 25, 1962, p. 11.

of accuracy, there are only estimates ranging from fair to indifferent about the volume of hoarding, the amount of gold turnover on the London and other markets, and the quantities of gold bought and sold at any price in any market. For example, no exact data have ever been made public, if indeed they exist, on the volume of gold that changed hands at different prices during the speculative bubble on the London gold market in the last quarter of 1960.

Somewhat different considerations apply to the question whether the Euro-dollar market facilitates speculation against sterling or the dollar. It is fairly difficult to measure leads and lags in international payments with any precision and, even more, to evaluate the extent to which Euro-dollar and Euro-sterling dealings influence them. In one sense, it may be said that anyone who borrows dollars or sterling is speculating in that currency unless he covers forward. It is reasonable to suppose that some speculation against the dollar and sterling can be facilitated by Euro-money operators. It is important, however, to keep this possibility in perspective. The fact that dollars are placed in the Euro-dollar market rather than used to buy gold for official reserves indicates that somebody is not speculating against the dollar. Moreover, the pressure on the dollar that could be caused by even a minor shift in the rate of payments to and from the United States (leads and lags) would be greater than the amount of speculation that could be financed by the Euro-dollar markets.

XIII. Summary

An earlier article (written in 1961) concluded that operations in foreign markets for dollars, sterling, and other currencies had (1) influenced the structure and the level of interest rates in a number of European countries; (2) reduced the cost of foreign trade financing, and probably increased the amount of such financing available to Japan and perhaps a few other countries; (3) increased the importance of the dollar as an international currency used in trade and finance; (4) increased liquidity, both national and international; and (5) limited or, at the least, modified the scope of domestic monetary policy, by bringing interest rates in various industrial countries into a new and closer alignment.⁷⁴ Recent developments in these markets have strengthened these findings.

The size of foreign currency markets, already substantial in 1961, has increased further. In June 1962, deposits in these markets in

⁷⁴ See footnote 1, page 48.

Europe were at least \$3 billion. Canadian banks also have large operations in U.S. dollars. When allowance is made for duplications between Canadian and European markets, the world market for foreign currencies may have reached \$4-5 billion in June 1962. U.S. dollars constituted about 85 per cent of the funds in European markets, and a much higher percentage of those in Canadian markets.

Foreign currencies were borrowed, often to finance foreign trade, in 25 to 30 countries, including practically every country in Western Europe and many countries in the communist bloc. At least two thirds of the funds in European markets were made available directly or indirectly by central banks and monetary authorities in 20 or 25 different countries, with the largest amounts from Germany and Italy.

Foreign markets for dollars and other currencies in mid-1962 did not appear to be overextended; instead, they were artificially limited. If these limitations were reduced, the demand for dollars and other foreign currencies would increase, with intensified pressure upon interest rates in Europe.

Foreign markets for dollars and other currencies are a logical development of the convertibility of all major currencies and the growing internationalization of capital markets. Elimination of the balance of payments deficit of the United States would not eliminate these markets, but would bring more European currencies into them. If we disregard increases in official restrictions and in bank agreements to limit competition, the major factor that could limit the demand for loans in foreign currencies, and therefore the markets for them, would be a closer alignment of interest rates and credit availabilities in Europe and the United States.

In October 1962, the United States freed foreign official time deposits from the ceilings on interest rates imposed by Regulation Q. Ceilings applicable to deposits up to six months had been far below interest rates on U.S. Treasury bills and bankers' acceptances, which in turn were below those on Euro-dollar deposits. To increase the amount of time deposits held by foreign official agencies, a substantial increase in these interest rates would be required. Such an increase would divert funds from other U.S. investments. It would also divert funds from the Euro-dollar market. This would weaken an important force that is reducing commercial interest rates in Europe, and it could easily worsen the U.S. balance of payments, as currently measured, by stimulating the outflow of U.S. funds.

APPENDICES

I. Overseas Deposit Accounts and Advances of Overseas Banks and Accepting Houses in London, 1955-62¹

(In millions of U.S. dollars)

	1955	1956	1957	1958	1959	1960	1961				1962		
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	March	June	Sept.	Dec.	March	June	Sept.
I. British Overseas Banks²													
A. Current and deposit accounts													
1. Overseas banking offices	856	863	796	916	943	972	1,051	1,023	1,046	1,044	1,089	1,154	...
2. Other overseas residents	227	160	169	229	414	582	542	610	598	568	601	679	...
3. Total overseas deposits	1,082	1,023	965	1,145	1,357	1,554	1,593	1,633	1,644	1,612	1,690	1,833	2,059
B. Advances and other accounts													
1. Overseas banking offices	159	135	154	220	277	381	503	526	540	529	531	534	...
2. Other overseas residents	38	52	45	55	59	114	158	150	85	105	171	168	...
3. Total overseas advances	198	187	199	275	336	495	661	676	625	634	702	702	841
II. U.S. Banks³													
A. Current and deposit accounts													
1. Overseas banking offices	74	69	70	81	199	558	662	607	631	567	600	679	...
2. Other overseas residents	31	27	74	108	161	254	247	381	369	341	355	372	...
3. Total overseas deposits	105	96	145	189	361	812	909	988	1,000	908	955	1,051	1,166
B. Advances and other accounts													
1. Overseas banking offices	46	39	36	32	155	621	720	747	752	629	693	780	...
2. Other overseas residents	5	6	45	42	34	32	56	102	76	77	82	73	...
3. Total overseas advances	51	45	81	74	188	654	776	849	828	706	775	853	894
III. Other Foreign Banks⁴													
A. Current and deposit accounts													
1. Overseas banking offices	290	167	193	307	371	592	612	549	470	532	648	577	...
2. Other overseas residents	47	49	54	101	85	111	120	114	109	104	126	128	...
3. Total overseas deposits	337	216	247	408	455	703	732	663	579	636	774	705	660
B. Advances and other accounts													
1. Overseas banking offices	39	45	43	55	120	197	171	209	200	198	195	198	...
2. Other overseas residents	8	10	9	12	33	44	50	47	44	51	62	57	...
3. Total overseas advances	46	54	52	66	153	241	221	256	244	249	257	255	235

IV. Accepting Houses⁵

A. Current and deposit accounts

1. Overseas banking offices	89	93	85	129	180	365	367	342	386	433	462	515	...
2. Other overseas residents	139	143	139	184	228	335	313	321	328	365	442	422	...
3. Total overseas deposits	228	236	224	313	407	700	680	663	714	798	904	937	899

B. Advances and other accounts

1. Overseas banking offices	18	19	21	32	58	142	107	156	186	197	183	255	...
2. Other overseas residents	28	36	37	44	66	108	74	162	136	148	157	190	...
3. Total overseas advances	46	55	58	77	123	249	181	318	322	345	340	445	504

V. Total—Overseas Banks

A. Current and deposit accounts

1. Overseas banking offices	1,309	1,191	1,145	1,433	1,693	2,486	2,692	2,521	2,533	2,576	2,799	2,925	...
2. Other overseas residents	442	378	437	623	887	1,282	1,222	1,426	1,404	1,378	1,524	1,601	...
3. Total overseas deposits	1,752	1,570	1,582	2,056	2,580	3,768	3,914	3,947	3,937	3,954	4,323	4,526	4,784

B. Advances and other accounts

1. Overseas banking offices	263	238	254	339	609	1,341	1,501	1,638	1,678	1,553	1,602	1,767	...
2. Other overseas residents	79	104	135	153	192	298	338	461	341	381	472	488	...
3. Total overseas advances	342	342	389	493	801	1,639	1,839	2,099	2,019	1,934	2,074	2,255	2,474

Source: Bank of England, *Quarterly Bulletin*, December 1962, Tables 11A, 11B, 11C, and 12, and notes to them. The following definitions apply to the terms used in these tables: (1) *Current and Deposit Accounts*: bank customers' funds whether transferable or withdrawable on demand (current accounts) or lodged for a definite period or subject to agreed notice of withdrawal (deposit accounts). Data include deposits denominated in sterling and the sterling equivalents of foreign currency deposits. (2) *Overseas Banking Offices*: all banking offices located outside the United Kingdom, irrespective of the locations of the registered (or head) offices. (3) *Other Overseas Residents*: governments, companies, persons, etc., whose registered address or permanent domicile is outside the United Kingdom. These tables do not include the London clearing banks or the Scottish or Irish banks. (4) The contributing institutions to the tables are those which, at the dates shown, were members of the following groups: Overseas Banks Association, American Banks in London, Foreign Banks and Affiliates Association, and the Accepting Houses Committee. The banks included under each heading are described in *Quarterly Bulletin*, September 1961, pp. 230–31. The statistics for September 30, 1962 differ to a certain extent from those for earlier dates, as explained in *Quarterly Bulletin*, December 1962, pp. 267–69.

¹ Data include components in sterling as well as those denominated in foreign currencies.

² A group of 33 banks, including the Bank of London & South America Limited and all the Canadian banks with offices in the United Kingdom.

³ Eight U.S. banks with branches in London.

⁴ A group of 19 foreign banks other than U.S. and British overseas. The list does not include all the foreign banks in the United Kingdom. Published statistics do not include data for the Bank of Tokyo, the Sanwa Bank, the Moscow Narodny Bank, and the London agency of the Banca Nazionale del Lavoro, and a number of other foreign banks.

⁵ The accepting houses cover 17 companies, including Brown, Shipley & Co. Ltd., Samuel Montagu & Co. Ltd., and Hambros Bank Ltd.

II. Foreign Currency Deposits in London, June 1961

The data presented in Appendix I cover the deposits to the credit of non-residents—classified as overseas banks and other nonresidents—denominated in sterling and foreign currencies. The latter are included at their sterling equivalent. The data do not separate deposits in sterling from those denominated in dollars and other foreign currencies.

Deposits of nonresidents increased sharply after 1957. Part of this increase is attributable to deposits made and denominated in sterling. However, as the Bank of England observed, "most of the steep rise shown since 1958 has occurred in foreign currency deposits, predominantly in U.S. dollars or Euro-dollars."⁷⁵ It may be that, if complete statistics were available, part of the increase of \$470 million in 1958 would be accounted for by deposits denominated in foreign currencies.

Gross deposits of the clearing banks, which are overwhelmingly sterling deposits of residents of the United Kingdom and the rest of the sterling area, increased by 4 per cent between 1957 and 1958 and by 6 per cent between December 1958 and June 1962 (Appendix III). Deposits of U.K. residents with the overseas banks and accepting houses, also in sterling, increased more than this, largely because these enterprises paid higher rates of interest on time accounts than did the clearing banks. For the same reason, sterling deposits for the account of nonresidents with overseas banks and accepting houses might also be expected to increase. Thus, the nonresident deposit figures of overseas banks and accepting houses, which include deposits in sterling and in other currencies, should be adjusted for the increase of deposits denominated in sterling in order to obtain estimates of deposits denominated in foreign currencies.

The Bank of England's estimate of nearly \$1.4 billion of foreign currency deposits with the overseas banks in June 1961 was based on a special survey.⁷⁶ According to regularly published figures, deposits of nonresidents with the overseas banks increased from \$1.7 billion in 1958 to \$3.3 billion in June 1961, or by \$1.6 billion. If the end of 1958 is assumed to mark the beginning of Euro-dollar operations by overseas banks, these figures suggest that sterling deposits increased by \$200 million (12 per cent) from December 1958 to June 1961. There may be some question, however, whether 1957 is not a more appropriate starting point, and whether part of the \$300 million increase of nonresident deposits in overseas banks in 1958 may not also represent deposits of dollars. If 1957 is a more appropriate starting point than 1958, the Bank of England's estimate of \$1.4 billion would be too low by at least \$250 million.

In the same way, the data covering accepting houses suggest that their foreign currency deposits in June 1961 totaled at least \$300 million. Use of end-1957 as a starting date instead of end-1958 suggests a minimum of \$350 million.⁷⁷

⁷⁵ Bank of England, *Quarterly Bulletin*, September 1961, p. 19.

⁷⁶ *Ibid.*, p. 20.

⁷⁷ Hambros Bank, which is classified in the Bank of England statistics as an accepting house, was the first important financial institution in London to distinguish publicly between its deposits in sterling and in foreign currencies. Its Balance Sheet at March 31, 1962 showed that deposits in sterling were £30 million in 1962 and £72 million in 1961, and that deposits in foreign currencies were £28 million and £9 million, respectively (as reported in *The Financial Times*, London, June 15, 1962). Total deposits in all currencies in earlier years were as follows: 1960, £74 million; 1959, £67 million; 1958, £57 million; and 1957, £50 million. On the assumption that Hambros' Euro-dollar operations began after March 31, 1958, these figures show that in the next four years sterling deposits increased by £23 million (40 per cent), and foreign currency deposits by £28 million. If these figures were representative, the accepting houses reported in the *Quarterly Bulletin* increased their Euro-dollar deposits in the same period by only

There are other omissions in the estimate of \$1.4 billion for June 1961. The clearing banks accept foreign currency deposits and at least one of them is active in the Euro-dollar market. A number of foreign banks, notably the Moscow Narodny Bank, the Sanwa Bank, and the Bank of Tokyo, are not included in the regularly published totals or in the survey. The Bank of England recently expanded its coverage of overseas banks, and reported that 35 banks not previously included in the statistics held £255 million of current and deposit accounts for overseas residents on September 20, 1962.⁷⁸ Comparable figures for earlier dates were not given. It may be estimated, on the basis of the analysis in this Appendix, that these new contributors held about \$300 million of deposits denominated in currencies other than sterling for overseas residents in June 1961.

On the whole, an estimate of \$2 billion for foreign currency deposits (largely in dollars) in June 1961 in London is conservative.

III. UNITED KINGDOM: DEPOSITS OF OVERSEAS BANKS, ACCEPTING HOUSES, AND CLEARING HOUSE BANKS, 1957-62

	Deposits of Nonresidents ¹ (\$ billion)			Deposits of Residents ² (£ million)		Gross Deposits of Clearing Banks ³ (£ billion)
	Total	Overseas banks	Accepting houses	Overseas banks	Accepting houses	
1957	1.6	1.4	0.2	174	71	6.9
1958	2.1	1.7	0.3	194	100	7.2
1961						
Mar.	3.9	3.1	0.7	405	167	7.2
June	3.9	3.3	0.7	397	193	7.4
Dec.	4.0	3.2	0.8	391	209	7.6
1962						
Mar.	4.3	3.4	0.9	397	229	7.4
June	4.5	3.6	0.9	420	261	7.6
Sept.	4.8	...	...	463	312	7.6

¹ Deposits by overseas banks and other nonresidents, from Appendix I. Data are rounded, and may not add to totals.

² Bank of England, *Quarterly Bulletin*, December 1962, Tables 11A, 11B, 11C, and 12.

³ From Central Statistical Office, *Economic Trends* (London).

\$210 million. This increase is probably too small, since it is unlikely that Hambros Bank held as much as 13 per cent of the Euro-dollar deposits held by all accepting houses in March 1962.

⁷⁸ *Quarterly Bulletin*, December 1962, pp. 267-69.

Faits nouveaux survenus récemment sur les marchés étrangers du dollar et des autres monnaies

Résumé

Les faits nouveaux qui sont intervenus récemment sur les marchés étrangers du dollar, de la livre sterling et des autres monnaies corroborent les conclusions exposées dans un article qui a été publié dans le numéro des *Staff Papers* de décembre 1961. Les marchés de devises en Europe ont vu leurs opérations s'accroître en 1961-62. En juin 1962, les dépôts y ont atteint au minimum \$3 milliards, et selon toute probabilité le chiffre de \$3,5 milliards serait plus exact. De même, le volume des opérations en dollars E.U. des banques canadiennes a augmenté. Si l'on tient compte des chevauchements entre les marchés canadiens et européens, la somme des opérations sur monnaies étrangères effectuées sur le marché mondial a peut-être atteint \$4-5 milliards en juin 1962. Le pourcentage de dollars E.U. par rapport au total des fonds sur les marchés européens a été d'environ 85 pour cent, et ce chiffre est encore supérieur sur les marchés canadiens.

Des monnaies étrangères ont été empruntées, souvent pour financer le commerce extérieur, par 25 à 30 pays, dont pratiquement tous les pays d'Europe occidentale et de nombreux pays du bloc communiste. Les banques centrales et les autorités monétaires de 20 ou 25 pays ont accordé, directement ou indirectement, au moins les deux tiers des fonds utilisés sur les marchés européens, l'Allemagne et l'Italie fournissant les sommes les plus importantes.

L'activité des marchés étrangers du dollar et des autres monnaies est la suite logique du retour à la convertibilité de toutes les monnaies principales et témoigne du caractère de plus en plus international des marchés de capitaux. La suppression du déficit de la balance des paiements des Etats-Unis n'entraînerait pas la disparition de ces marchés mais accroîtrait le volume de monnaies européennes qui pourrait y être traité. Si l'on néglige l'augmentation du nombre des restrictions officielles et des accords conclus par les banques en vue de limiter la concurrence, le principal facteur susceptible de limiter la demande d'emprunt en monnaies étrangères, et par suite les opérations sur ces monnaies, serait d'aligner plus étroitement les taux d'intérêt et les disponibilités de crédit en Europe et aux Etats-Unis.

En octobre 1962, les Etats-Unis ont supprimé la restriction imposée par le Règlement Q sur le taux de l'intérêt applicable aux dépôts officiels à terme de l'étranger. En effet, les taux d'intérêt maximum en vigueur pour les dépôts d'une échéance n'excédant pas six mois étaient

très inférieurs à ceux qui étaient appliqués aux bons du Trésor des Etats-Unis et aux acceptations de banque, lesquels à leur tour étaient en deçà des taux pratiqués pour les dépôts en Euro-dollars. Pour accroître le montant des dépôts à terme détenus par les organismes officiels étrangers, un relèvement substantiel de ces taux d'intérêt serait nécessaire; il aurait pour effet de détourner des fonds des autres investissements américains et également du marché de l'Euro-dollar. Il en résulterait un affaiblissement du mouvement en faveur de la réduction des taux d'intérêt commerciaux en Europe, voire une aggravation du déficit de la balance des paiements des Etats-Unis tel qu'il est actuellement calculé, car les sorties de capitaux américains ne feraient que s'accroître.

La reciente evolución de los mercados extranjeros del dólar y otras monedas

Resumen

La reciente evolución registrada en los mercados extranjeros del dólar, la libra esterlina y otras monedas, viene a corroborar las conclusiones expuestas en un artículo publicado en el número correspondiente a diciembre de 1961 de *Staff Papers*. Durante el periodo 1961-62 se incrementó la magnitud de los mercados europeos de divisas extranjeras. Los depósitos en esos mercados alcanzaron en junio de 1962 un total de por lo menos US\$3.000 millones; la cifra de US\$3.500 millones constituiría con toda probabilidad un cálculo más exacto. También los bancos canadienses acrecentaron sus operaciones en dólares de los Estados Unidos. Si se toma en consideración la duplicación de transacciones que pudiera haber ocurrido entre el mercado de Canadá y los mercados europeos, el mercado mundial de divisas extranjeras puede muy bien haber llegado en junio de 1962 a una cifra de US\$4.000 millones a US\$5.000 millones. Alrededor del 85 por ciento de los fondos de los mercados europeos estaba constituido por dólares de los Estados Unidos y en los mercados canadienses el porcentaje de dólares era mucho más elevado.

Se obtuvieron préstamos en monedas extranjeras, a menudo para financiar el comercio exterior, en 25 a 30 países, entre los cuales se encontraban prácticamente todos los países de la Europa Occidental y muchos del bloque comunista. Dos tercios, por lo menos, de los fondos de los mercados europeos fueron suministrados, directa o indirecta-

mente, por los bancos centrales y autoridades monetarias de unos 20 a 25 países, habiendo sido los más cuantiosos los suministrados por Alemania e Italia.

Los mercados extranjeros del dólar y otras monedas constituyen la consecuencia lógica del restablecimiento de la convertibilidad externa de todas las monedas más importantes y de la creciente internacionalización de los mercados de capital. La eliminación del déficit de la balanza de pagos de los Estados Unidos no acabaría con esos mercados, sino que implicaría un aumento de las monedas europeas que a ellos concurrieran. Haciendo caso omiso de la imposición de nuevas restricciones oficiales y de la concertación de nuevos acuerdos entre los bancos con el fin de restringir la competencia, el factor que mayor influencia ejercería en coartar la demanda de préstamos en monedas extranjeras y, por ende, en limitar los mercados de dichas monedas, sería una aproximación más estrecha entre las tasas de interés y las disponibilidades de crédito en Europa y en los Estados Unidos.

En octubre de 1962 los Estados Unidos suprimieron la limitación que la Regulación Q imponía a las tasas de interés pagaderas sobre depósitos a plazo de organismos oficiales extranjeros. Las tasas máximas de interés pagaderas sobre depósitos a un plazo máximo de seis meses eran mucho más bajas que las que se pagaban sobre las letras del Tesoro de los Estados Unidos y sobre aceptaciones bancarias, y estas tasas eran a su vez más reducidas que los intereses devengados sobre depósitos de "Eurodólares." Para poder incrementar el monto de los depósitos a plazo mantenidos por los organismos oficiales extranjeros habría que incrementar substancialmente las tasas de interés sobre dichos depósitos. Tal aumento lograría atraer fondos de otras inversiones norteamericanas y también del mercado del "Eurodólar." Esto debilitaría una fuerza importante merced a la cual se están ahora reduciendo las tasas de interés comercial que rigen en Europa y podría fácilmente contribuir a agravar el déficit de la balanza de pagos de los Estados Unidos, tal como éste se calcula en la actualidad, al estimular la salida de fondos de dicho país.

Export Norms and Their Role in Compensatory Financing

Marcus Fleming, Rudolf Rhomberg, and Lorette Boissonneault*

THERE ARE many purposes, both of national and of international policy, for which it may be necessary to isolate short-term fluctuations in an economic variable by establishing a medium-term norm, or trend value, from which positive and negative deviations can be measured. In recent years, this need has presented itself especially with respect to fluctuations in the export prices or proceeds of countries exporting primary products. The purpose in question may be to devise a national export marketing scheme that aims, through fiscal action, to stabilize the prices or proceeds received by domestic producers; or an international commodity arrangement that aims, through buffer stocking, at stabilizing the prices or proceeds received by producing countries; or a compensatory financing scheme whereby short-term fluctuations in the export receipts of primary producing countries would be automatically offset, in whole or in part, by some form of international transfer. Under all these schemes, prices or proceeds would have to be stabilized with reference to some medium-term norm, or trend.

Part I of this study considers what are the desirable characteristics of a medium-term norm, having in mind such purposes as those described above, and how such a norm can best be estimated in practice, given the limited amount of relevant information available at the time when the estimate has to be made. For purposes of illustration, attention is confined to export proceeds. Similar problems would, however, arise, and a similar treatment be appropriate, in arriving at suitable norms for export prices.

Part II of the study concentrates attention on international schemes, of a more or less "automatic" character, for compensating short-term

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fluctuations in exports, with special emphasis on the manner in which the norm can in practice be determined. Alternative schemes are then evaluated by tests based respectively on the "ideal" norm discussed in Part I, suitably adjusted for the purpose of compensatory financing, and on a criterion of "smoothness."

Part I. A Comparison of Formulae for Determining Export Norms

For various types of stabilization activities, of the kind indicated above, it is desirable to find a moving norm, or trend, which will yield positive deviations (excesses) and negative deviations (shortfalls) that approximately balance over a fairly short period (say three to five years). For this purpose, the norm, ideally, should fulfill two conditions:

1. It should respond to medium-term trends or movements in the original series (i.e., for the data under consideration, in export proceeds). The shorter the period within which an approximate balance between positive and negative deviations is to be attained, the more responsive the norm must be to the movements in actual exports.

2. Its movements should be synchronized with the medium-term tendency of movements in actual exports; that is, the norm should reflect not only the actual exports of the more or less recent past but also those of the more or less immediate future. Otherwise, if the movement in actual exports has a persistent tendency in one direction, the movement in the norm will lag continuously behind actual exports. If the persistent trend is upward, positive deviations of actual exports from the norm will predominate; if the trend is downward, negative deviations will be the rule.

This statement of desiderata strongly suggests the selection, as the ideal export norm for any particular year, of a moving average of actual exports over a number of years symmetrically distributed before and after the year in question. The choice probably lies between a centered seven-year and a centered five-year moving average. For the purpose of this paper we shall take as the definition of the ideal norm an unweighted moving average of actual exports for the five years beginning two years before and ending two years after the year in question.¹ This definition seems—from the charts shown below

¹ This is identical with the statistical definition of normal exports adopted in an earlier article, "Fund Policies and Procedures in Relation to the Compensatory Financing of Commodity Fluctuations," *Staff Papers*, Vol. VIII (1960-61), pp. 1-76.

(pp. 112-24)—to yield deviations that correspond reasonably well with what economists usually have in mind when they speak of short-term export fluctuations.

Any attempt, however, to apply plans for stabilization or financial compensation on the basis of an ideal norm, as thus defined, runs into the difficulty that the value of the norm for any year cannot be derived from export data that are already established at the time when action has to be taken. For practical purposes, therefore, the norm for any year has to be estimated on the basis of data relating to the same or previous years. Indeed, it has usually been assumed that such "practical" norms can be based on data relating only to previous years and not to the year for which the norm is calculated. This, however, seems to be an unnecessary restriction. Certainly, the data must relate to periods prior to the time when the estimate is made, but that estimate may well be made after the year to which the norm relates. In any event, any estimate of a deviation from normal exports involves estimating not only the norm but also the actual amount of exports for the year in question; and whatever estimate is made for actual exports can also be used in the calculation of the norm. If a preliminary estimate of actual exports for any year is made on a partially forecast basis before the end of that year, the same preliminary estimate can be used in calculating the norm; this will reduce the effect of any errors in estimating actual exports on the measurement of the compensable variation.

The question arises of how to assess the relative merits of alternative methods of estimating the practical norm. In a general sense, it would seem that the more closely such a norm approximates the ideal norm, the more satisfactory it will be. This opens up the possibility of a statistical testing of alternative practical norms in terms of their closeness of fit, as determined by least-squares regression, to the ideal norm. However, it must be borne in mind that the ideal norm has been chosen as such by reason of a complex of qualities—notably a certain degree of smoothness and an approximate balancing of shortfalls and excesses within a fairly short period of years, etc.—which are difficult to measure or even to define precisely. It is quite possible, as we shall see, that the result of one formula may deviate slightly less, in a statistical sense, from the ideal norm than another, and yet constitute on the whole a less satisfactory practical norm.

In this part of the paper we therefore seek to evaluate alternative formulae for determining practical norms, partly by comparing their closeness of fit to the ideal norm (as defined) and partly by comparing their movements on time charts relative to the movements of actual exports and of the ideal norm, respectively.

For some purposes, particularly that of determining appropriate national policies, estimates of export norms can be made on the basis of a combination of quantitative and qualitative information relating to the circumstances of the particular country. Even in such cases it may be helpful, if only as a stage in the process of arriving at a practical norm, to combine relevant statistical data for immediately preceding years in dynamic formulae derived by statistical regression. The formulae, however, can be tailored to fit the circumstances of each country and may differ, in respect to both the determining variables and the relative weights assigned to them, from country to country. Moreover, though the actual exports of immediately preceding years will always bulk large in the estimation of export norms, data reflecting other economic magnitudes likely to affect future exports, e.g., domestic cost trends or the level of economic activity in other countries, might well find a place in such calculations.

For most international purposes, however, there is need of a formula of a type that is recognizably uniform as between countries, and that can be applied to an individual country both quickly and without resort to potentially controversial statistical manipulations. The present paper deals exclusively with formulae of this relatively simple and uniform type. These formulae are tested for their relative degree of approximation to ideal export norms as defined above. The approximation can never be as close for formulae applied uniformly to all countries as for formulae that are tailored to suit the circumstances of individual countries.

THE RELATIONSHIPS TESTED

Practical norms have been calculated for 48 primary exporting countries² over the period 1951–61 according to a variety of formulae. In all of these, the practical export norm, \bar{x} , is expressed as a weighted sum of actual exports, x , in the current year and in preceding years, i.e.,

$$\bar{x}_t = a_0x_t + a_1x_{t-1} + a_2x_{t-2}, \text{ etc.},$$

where the subscript signifies the year to which the variable refers and a_0, a_1, a_2 , etc., are constant coefficients. These formulae fall into two main categories:

² The 48 countries are Argentina, Bolivia, Brazil, Burma, Ceylon, Chile, China (Taiwan), Columbia, Costa Rica, Cyprus, Dominican Republic, Ecuador, El Salvador, Ethiopia, Ghana, Greece, Guatemala, Haiti, Honduras, India, Indonesia, Iran, Iraq, Jordan, Korea, Lebanon, Libya, Malaya, Mexico, Morocco, Nicaragua, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Saudi Arabia, Sudan, Syria, Thailand, Tunisia, Turkey, United Arab Republic, Uruguay, Venezuela, Viet-Nam, and Yugoslavia.

A. Those in which the coefficients a_0, a_1, a_2 , etc., measuring the extent to which the practical norm for year t is influenced by the actual exports of years $t, t-1, t-2$, etc., respectively, are determined a priori; and

B. Those in which the coefficients a_0, a_1, a_2 , etc., are determined, by least-squares regression analysis, so as to minimize the percentage discrepancy between \bar{x}_t and N_t , the ideal norm (defined as a centered five-year moving average).³

For certain countries, the practical norms so calculated have been charted (pp. 112-24); for a somewhat larger group of schemes, the norms are given in Table 1 (p. 103); and for a still larger group, they are presented in Table 3 (p. 110).

Category A formulae

In one type of Category A formula, equal weights are given to the exports in such years as are included. Thus, in the examples set forth in Table 1, the practical export norm of any year is equal, respectively, to

- (1) the actual exports in the current year, $[\bar{x}_t = x_t]$,
- (2) the actual exports in the preceding year, $[\bar{x}_t = x_{t-1}]$,
- (3) the "unweighted" (i.e., equally weighted) mean⁴ of the exports in the two preceding years, $[\bar{x}_t = \frac{1}{2} (x_{t-1} + x_{t-2})]$,
- (4) the "unweighted" mean of the exports in the three preceding years, $[\bar{x}_t = \frac{1}{3} (x_{t-1} + x_{t-2} + x_{t-3})]$,
- (5) the "unweighted" mean of exports in the current year and preceding year, $[\bar{x}_t = \frac{1}{2} (x_t + x_{t-1})]$, and
- (6) the "unweighted" mean of exports in the current year and two preceding years, $[\bar{x}_t = \frac{1}{3} (x_t + x_{t-1} + x_{t-2})]$.

Norms based on the "unweighted" means for longer periods of years than those given above show a poorer approximation to the ideal norm and are generally less satisfactory.⁵

Table 1 also shows

- (7) a particular unequally weighted mean for the current year and the two previous years, $[\bar{x}_t = \frac{1}{2}x_t + \frac{1}{4}x_{t-1} + \frac{1}{4}x_{t-2}]$. This particular formula is not, strictly speaking, of an a priori character, since it represents a rounding of one of the formulae arrived at by least-squares regression.

A second type of Category A formula is also shown in Table 1, namely, one in which the practical export norm for any year is equal to

³ The precise method by which these coefficients have been arrived at is set forth in the Appendix to Part I.

⁴ The term "mean" signifies that the coefficients sum to unity.

⁵ For "unweighted" means covering four years, see Table 3.

- (8) a figure arrived at by extrapolating a straight-line trend fitted (by least squares) to actual exports over the preceding seven years, and
- (9) the value for the current year of a straight-line trend fitted to actual exports over a five-year period ending in the current year.

Trends for longer or shorter periods than those shown here yield practical norms that approximate less closely to the ideal norms (Table 3). As is demonstrated in the Appendix to Part I, norms arrived at by trend fitting as in (8) and (9) above can be expressed as weighted means of actual exports, over the years in question, with unequal coefficients or weights. They therefore belong, where we have put them, in Category A.

Category B formulae

For each practical norm in Category B, the coefficients expressing the influence on the practical norm for any year of actual exports in the several preceding or current years have been arrived at by a single least-squares regression calculation including all countries. More precisely, the coefficients are such as to minimize the average squared *percentage* discrepancy between \bar{x}_t and N_t for all 48 countries and all the years covered in the calculation in question. Of the practical export norms of Category B, four are included in Table 1, viz., those expressing the practical norm for any year as a weighted sum of actual exports in

- (1) the two preceding years,
- (2) the three preceding years,
- (3) the current year and the preceding year, and
- (4) the current year and two preceding years.

In all these examples, the regressions have been calculated (to permit comparison) over the same period, 1951 to 1959 inclusive. Formulae including a larger number of previous years' exports could have been—and some have been—calculated (Table 3). With each addition of a year to the formula, the "fit" between \bar{x}_t and N_t necessarily improves. But with each such additional year, the number of years that can be included in the regression calculation declines, and one can feel less and less confident of the validity of the results. As can be seen from Table 3, the closeness of fit does not in fact increase very materially even when the number of years for which exports are included rises from three to seven. It has therefore been decided to stop short, in Table 1, at the former figure.

Table 2 sets forth the coefficients or weights assigned by regression analysis under the various Category B formulae to actual exports in each of the years covered by each formula.

As shown by the table, all the coefficients are positive, and the later the year, the higher is the coefficient. (These features are not implicit in the nature of the calculation.) For formulae including year $t-4$, the regressions yielded coefficients for that year that were both small in magnitude and statistically of low significance. In general, the coefficients add to more than unity, and the further back in time is the average year covered by the formula, the higher is the sum of the coefficients. In this way, the general upward trend in the exports of the 48 countries is reflected in the calculation.

TABLE 1. EXTENT OF DISCREPANCY BETWEEN "PRACTICAL" EXPORT NORM (ON ALTERNATIVE DEFINITIONS) AND "IDEAL" EXPORT NORM (DEFINED AS A CENTERED FIVE-YEAR MOVING AVERAGE OF ACTUAL EXPORTS) FOR 48 PRIMARY PRODUCING COUNTRIES, SELECTED FORMULAE

Basis of Estimate	Standard Percentage Deviation ¹	
	1951-59	1955-59
A: A Priori Formulae		
1. Current year's exports	13.3	11.0
2. Preceding year's exports	15.5	12.6
3. Preceding two years' exports, equal weights	14.9	11.8
4. Preceding three years' exports, equal weights	16.9	13.7
5. Current year's and preceding year's exports, equal weights	10.0	8.0
6. Current year's and preceding two years' exports, equal weights	9.7	7.8
7. Current year's and preceding two years' exports, weights 50:25:25	8.5	7.0
8. Trend of seven preceding years extrapolated to current year		17.2
9. Current year's value of trend of five years ending in current year		8.8
B: Formulae with Coefficients Based on Regression		
1. Preceding two years' exports	14.0	11.2
2. Preceding three years' exports	13.9	11.2
3. Current year's and preceding year's exports	9.9	7.9
4. Current year's and preceding two years' exports	8.3	6.9

¹ Root mean square percentage deviation of "practical" norm from "ideal" norm.

TABLE 2. COEFFICIENTS BY WHICH ACTUAL EXPORTS IN EACH OF THE YEARS COVERED BY A CATEGORY B FORMULA ARE MULTIPLIED TO YIELD A "PRACTICAL" EXPORT NORM FOR THE CURRENT YEAR¹

Formula	t	$t-1$	$t-2$	$t-3$
B.1		.71	.31	
B.2		.71	.22	.10
B.3	.57	.43		
B.4	.55	.22	.25	

¹ Fitted over the period 1951-59.

Coefficients for Category B formulae have been worked out by regression analysis not only for the period 1951-59 but also for overlapping subperiods. As shown in Table 4, the coefficients arrived at for the various formulae are remarkably stable in the various subperiods.

Comparison of formulae

In Table 1, the standard percentage deviations of the selected practical norms from the ideal norm are shown both for the period 1951–59 as a whole and for the subperiod 1955–59.⁶ This has been done largely to facilitate comparison between the results for formulae A.8 and A.9 (which are not available for the earlier part of the period) and those for other formulae, but it also shows how stable, as between different periods, is the ranking of the different practical norms with respect to the magnitude of their standard deviations—a fact that is brought out even more convincingly in Table 3, where standard deviations are given for various subperiods. The general decline in the standard deviation in successive subperiods results from the greater stability of export earnings as the disturbances following the Korean war were left behind.

EVALUATION OF THE TESTS

1. Formulae that give a substantial weight to the current year's exports in the computation of the practical norm fit the ideal norm more closely than those that exclude the current year.

2. From the nature of the mathematical process involved, it follows that formulae for which the coefficients or weights are assigned by least-squares regression yield a better fit than those for which weights are assigned a priori. The reason why the results of formula A.7 in Table 1 are close to those of B.4 is that the weights of the former were specifically chosen as an approximation to those of the latter. On the other hand, the results of A.5 are close to those of B.3, because the least-squares coefficients of the latter happen to be close to the equal weights of the former.

3. Among the formulae using "unweighted" means, a closer fit to the ideal norm is obtained by using the exports of the preceding two years (A.3) than by using the exports of the preceding three years (A.4). This is somewhat to be expected in view of the definition of the ideal norm itself, which gives weight to the last preceding and second last preceding years but not to the third last preceding year.

4. Similar considerations help to explain the fact that formula A.6 gives a closer fit than formula A.5. However, the fact that formulae A.7 and B.4 give a closer fit than formula A.6 (i.e., the fact that a better fit is obtained when the current year is given an especially large

⁶ The Category B formulae for which standard deviations are shown for the subperiod 1955–59 have coefficients arrived at by regression for that subperiod, not for the period 1951–59. For a comparison of the two sets of regression weights, see Table 4.

weight) does not follow from the definition of the ideal norm, but indicates that the current year is a better predictor of the years immediately following than are past years.

5. The "unweighted" arithmetic means of the previous two years (A.3) and of the previous three years (A.4) lie, in general, further from the ideal norm than does the current level of actual exports (A.1). This does not mean that A.3 and A.4 fluctuate more widely than A.1. On the contrary, such moving averages of several years' exports necessarily pursue a smoother course than do the exports of a single year. Their wider deviation from the ideal norm results from the fact that where the long-term trend of exports is upward (downward) the practical norms A.3 and A.4 may lie for extended periods substantially below (above) the ideal norm.

6. Over the 1951-59 period, the standard percentage deviation of the practical with respect to the ideal norm for the closest fitting of the practical norms (A.7 and B.4) is 50 to 51 per cent less than for the practical norm with the poorest fit (A.4), and 36 to 38 per cent less than for current actual exports.

7. Even for the practical norm showing the closest fit to the ideal norm (B.4), the standard deviation over the 1951-59 period is more than 8 per cent, and of the a priori norms other than A.7, those showing the closest fit have a standard deviation for the same period of about 10 per cent.

COMMENTS ON THE CHARTS

The charts in this paper show, for 13 primary producing countries, the movements over the period 1950-61 of four different practical norms, together with actual exports and (up to 1959) the ideal norm. The four practical norms selected for charting are not confined to those which best fit the ideal norm but include some of those most frequently considered as practical norms in connection with schemes of compensatory financing, together with some that show a better approximation to the ideal norm. They are, running from top to bottom of the charts,

A.4—Preceding three years' exports: equal weights,

A.3—Preceding two years' exports: equal weights,

A.6—Current year's and preceding two years' exports: equal weights, and

B.4—Current year's and preceding two years' exports: weights determined by least-squares regression.

Examination of the charts illustrates certain features of the various practical norms that are not revealed by the single statistical measure

of standard percentage deviation from the ideal norm, discussed in the previous section.

Thus it is clear that, where the long-term trend in actual exports is definitely upward, the deviations of actual exports from the practical norm are in all cases predominantly negative; and that where the long-term trend is downward, the deviations are positive. Of course, this is the more serious, the greater (up to a point) is the average length of time between the years on whose exports the practical norm for the current year is based and the current year itself, i.e., the larger are the weights given to the more distant preceding years.

The practical norms all lag to some extent behind actual exports. Here, again, the lag is the longer, the larger are the weights given to the more distant preceding years. Of the formulae illustrated in the charts, the lag is greatest for the scheme shown in the top panel of each chart (A.4), where the practical norm is the unweighted mean of the exports of the three preceding years. In this case, the average lag (of two years) appears to correspond roughly to half the length of the average export cycle in many countries, and in those countries the practical norm therefore appears to move countercyclically to actual exports. Any attempt to stabilize or compensate on the basis of such a practical norm would tend to overshoot the mark.

Though the practical norm shown in the second panel of each chart (A.3), representing the unweighted mean of the exports of the two preceding years, fits the ideal norm more closely than does that shown in the top panel (A.4), its movements are more abrupt and it is doubtful whether, on balance, it is superior to A.4. A similar objection could be brought against the practical norm shown in the fourth panel (B.4), an unequally weighted function of the current and two previous years, compared with that shown in the third (A.6), an unweighted mean of the same years. In the latter comparison, however, it is arguable that the lesser smoothness of the unequally weighted norm is outweighed by the better timing of its movements and by the resulting better balance of surpluses and deficits of actual exports with respect to it.

CONCLUSION

As we have seen, the merits of different formulae for arriving at a practical export norm cannot be assessed by any single measure. However, a very important measure would appear to be the smallness of the deviation of the practical norm in question from an ideal norm defined as a centered five-year moving average of actual exports. Judged by this test as well as by other characteristics, such as smoothness, promptness of response to changes in long-term trend, etc., for-

mulae that give weight to the current year and the two preceding years appear to be preferable to those giving no weight to the current year. As the weight assigned to the current year's exports rises above one third, the practical norm will move still closer to the ideal norm, but with some loss of smoothness.

APPENDIX TO PART I

This Appendix sets out the procedure by which the standard deviations given in Tables 1 and 3 have been computed and the methods by which the coefficients in Tables 2 and 4 have been derived.

The normal level of exports, or the ideal norm, N , for country j at time t is defined as the centered five-year moving average of exports, x :

$$N_{jt} = \frac{1}{5} (x_{j,t+2} + x_{j,t+1} + x_{j,t} + x_{j,t-1} + x_{j,t-2}).$$

A particular practical norm, \bar{x} , of the form

$$\bar{x}_{jt} = a_0 x_t + a_1 x_{t-1} + \dots + a_n x_{t-n} \quad (1)$$

will differ from the value of the ideal norm for the country and year in question by a discrepancy or "error," $U_{jt} = N_{jt} - \bar{x}_{jt}$. The criterion of goodness of fit which has been chosen in this study uses these deviations expressed as fractions (u_{jt}) of the respective values of the ideal norm ($u_{jt} = U_{jt}/N_{jt}$). This procedure makes the errors for different countries comparable and permits an evaluation of the closeness with which a particular practical norm approximates the ideal norm, on the average, for all countries and for all years included in the computation. The measure of the average discrepancy given in Table 1 is the root mean square of the "errors" u_{jt} ($j = 1, 2, \dots, 48$; $t = 1951, 1952, \dots, 1959$).

Since this procedure does not distinguish between the errors for different countries and for different years, the notation may be simplified accordingly. We write u_i for the difference between the two norms for any year-country, expressed as a fraction of the ideal norm,

$$u_i = \frac{N_i - \bar{x}_i}{N_i} = 1 - \frac{\bar{x}_i}{N_i}$$

where the subscript i runs over all countries and all years. We can write

$$u_i = 1 - a_0 X_{i0} - a_1 X_{i1} - a_2 X_{i2} - \dots - a_n X_{in} \quad (2)$$

where X_{i0} stands for the ratio of the exports of the country and the year to which i refers to the respective ideal norm, and $X_{i1}, X_{i2}, \dots, X_{in}$ stand for the corresponding ratios of the country's exports in the first, second, \dots , n th, preceding year to the ideal norm of the current year. The coefficients a_0, a_1, \dots, a_n are the same as in equation (1).

To determine the root mean square deviation σ for any chosen practical norm we compute

$$\sigma = \sqrt{\frac{\sum_{i=1}^m u_i^2}{m}}$$

where m is the number of countries (in the present study 48) multiplied by the number of years for which the computation is carried out (for instance, nine years when the period is 1951-59). These calculations are facilitated by obtaining the expression Σu_i^2 from equation (2) in terms of the coefficients a_k ($k = 0, 1, \dots, n$), their squares and cross-products, and of the sums, the sums of squares, and the sums of cross-products of the X_{ik} ($i = 1, 2, \dots, m$; $k = 0, 1, \dots, n$). After we have obtained these moments once, the goodness of fit of any (linear) practical norm can be derived by substituting the numerical weights of this norm, including zeros where applicable, into the expression for Σu_i^2 . For instance, for the practical norm that gives equal weights to the preceding three years we would have

$$\Sigma u_i^2 = m - 2(a_1 \Sigma X_{i1} + a_2 \Sigma X_{i2} + a_3 \Sigma X_{i3} - a_1 a_2 \Sigma X_{i1} X_{i2} - a_1 a_3 \Sigma X_{i1} X_{i3} - a_2 a_3 \Sigma X_{i2} X_{i3}) + a_1^2 \Sigma X_{i1}^2 + a_2^2 \Sigma X_{i2}^2 + a_3^2 \Sigma X_{i3}^2 \quad (3)$$

with $a_1 = 0.33$, $a_2 = 0.33$, and $a_3 = 0.33$.

In order to find the set of weights, a_k^* , which will minimize σ for a practical norm that takes account of a given number, n' , of current or past years' exports, we set the first derivative of Σu_i^2 with respect to each of the weights equal to zero and obtain n' equations of the form

$$\frac{\partial \Sigma u_i^2}{\partial a_k} = 2\Sigma(1 - a_0 X_{i0} - \dots - a_{n'} X_{in'})(-X_{ik}) = 0$$

$$(k = 0, 1, \dots, n')$$

which are similar to the so-called normal equations of standard least-squares regression procedure. These n' equations can be solved for the n' values of a_k^* :

$$\{a_k^*\} = \left[\sum_i X_{ik} X_{ij} \right]^{-1} \left\{ \sum_i X_{ik} \right\}$$

$$(k = 0, 1, \dots, n'; j = 0, 1, \dots, n')$$

where braces enclose column vectors and the brackets contain the matrix of the second moments around the origin of the X_{ik} . It follows from the method of their derivation that these "optimal" weights, a_k^* , yield the smallest possible percentage deviation of any practical norm from the ideal norm for the period over which they have been fitted.

Table 4 shows the weights a_k^* which were computed for the different subperiods. Optimal weights have been derived for three overlapping subperiods, 1951-55, 1953-57, and 1955-59, in addition to the computations for the full period 1951-59. It is seen that the optimal weights remain fairly stable from one fitting period to another. The standard errors of these weights have been found to range from 0.01 to 0.06. The weights that apply to the current year and to the two preceding years are generally at least 5 to 10 times their standard errors.

Another type of practical norm mentioned in the text is the extrapolation of a straight-line trend fitted over the preceding θ years. For instance, if $\theta = 6$, we compute a trend equation from the exports of years 1 to 6 and make the extrapolated value for year 7 our practical norm for that year; similarly, extrapolation to year 8 of a trend equation fitted to years 2 to 7 gives the norm for year 8, etc. Alternatively, the practical norm can be defined as the trend value for the current year computed from a trend equation fitted to the export data for the current and the $(\theta - 1)$ preceding years.

While this method appears at first sight to be quite different from the one discussed previously, it can easily be reduced to similar terms. The practical norm may be expressed as a linear function of the θ preceding years' exports with coefficients which are given by the standard regression procedure of fitting a linear trend.

In fitting a trend line to θ observations of a variable y_t , we get the estimated trend values, \hat{y}_t :

$$\hat{y}_t = c_0 + c_1 t,$$

where
$$c_0 = \frac{\Sigma t^2 \Sigma y_t - \Sigma t \Sigma y_t t}{\theta \Sigma t^2 - (\Sigma t)^2} \quad \text{and} \quad c_1 = \frac{\theta \Sigma y_t t - \Sigma t \Sigma y_t}{\theta \Sigma t^2 - (\Sigma t)^2} \quad (t = 1, 2, \dots, \theta).$$

all summations being from 1 to θ . The extrapolation one year beyond the fitting period is

$$\hat{y}_{\theta+1} = c_0 + c_1(\theta + 1).$$

By substituting for c_0 and c_1 and rearranging terms, we obtain

$$\begin{aligned} \hat{y}_{\theta+1} &= A_\theta \Sigma y_t + B_\theta \Sigma y_t t \\ &= (A_\theta + B_\theta) y_1 + (A_\theta + 2B_\theta) y_2 + \dots + (A_\theta + \theta B_\theta) y_\theta \end{aligned}$$

where
$$A_\theta = \frac{\Sigma t^2 - (\theta + 1) \Sigma t}{\theta \Sigma t^2 - (\Sigma t)^2} \quad \text{and} \quad B_\theta = \frac{\theta(\theta + 1) - \Sigma t}{\theta \Sigma t^2 - (\Sigma t)^2} \quad (t = 1, 2, \dots, \theta).$$

We can now apply this formula to our problem by supplying the appropriate coefficients in equation (2). The proportional deviation of the ideal norm from the practical norm, defined as the extrapolated value of the straight-line trend over the preceding θ years, is then

$$u_i = 1 - [A_\theta + \theta B_\theta] X_{i1} + [A_\theta + (\theta - 1) B_\theta] X_{i2} + \dots + [A_\theta + B_\theta] X_{i\theta}. \quad (4)$$

A similar formula applies when the practical norm is taken to be the trend value computed over θ years ending in the current year. For any given trend period θ —say, a seven-year trend— A_θ and B_θ are given constants and the coefficients of the X 's in (4) are given coefficients. From the moments of the X 's and a formula analogous to (3), the standard percentage deviations, σ , for different moving trends can be immediately derived without actually fitting the individual trend equations.

This approach to the problem shows that the moving-trend extrapolation method of determining the practical norm is merely one of an indefinitely large number of possible weighting schemes of the past θ export values. Such a set of weights can never be superior to the set a_k^* ($k = 1, 2, \dots, \theta$), which is derived by minimizing Σu_k^2 , and it could be equally good only by coincidence. The weights implied by the various moving-trend methods of defining a practical norm are given in Table 3, where they can be compared with the corresponding optimal weights determined by least squares and with the a priori weights that have been considered.

TABLE 3. EXTENT OF DISCREPANCY BETWEEN "PRACTICAL" EXPORT NORM (ON ALTERNATIVE DEFINITIONS) AND THE "IDEAL" EXPORT NORM (DEFINED AS A CENTERED FIVE-YEAR MOVING AVERAGE OF ACTUAL EXPORTS) FOR 48 PRIMARY PRODUCING COUNTRIES

	"Practical" Norm: Weights Applied to Exports of Period								Standard Percentage Deviation ¹			
	t	t-1	t-2	t-3	t-4	t-5	t-6	t-7	1951-59	1951-55	1953-57	1955-59
1.	1.0								13.3	14.7	12.2	11.0
2.		1.0							15.5	17.8	14.1	12.6
3.	.5	.5							10.0	11.4	9.7	8.0
4.		.5	.5						14.9	17.6	13.8	11.8
5.*	.57	.43							9.9	11.2	9.6	7.9
6.*		.71	.31						14.0	16.4	12.7	11.2
7.	.33	.33	.33						9.7	11.3	9.2	7.8
8.		.33	.33	.33					16.9	19.6	16.5	13.7
9.	.5	.25	.25						8.5	9.7	8.2	7.0
10.		.5	.25	.25					15.1	17.5	14.2	12.4
11.*	.55	.22	.25						8.3	9.4	8.0	6.9
12.*		.71	.22	.10					13.9	16.0	12.5	11.2
13.	.25	.25	.25	.25					12.1	13.9	11.8	10.2
14.		.25	.25	.25	.25					19.2	15.8	
15.**	.7	.4	.1	—	.2				12.2	14.0	12.4	9.1
16.**		1.0	.5	0	—	.5			—	—	22.4	17.7
17.*	.54	.22	.21	.04					8.3	9.2	7.9	6.9
18.*		.73	.19	.04	.05					—	12.5	11.2
19.**	.6	.4	.02	0	—	.2					11.9	8.8
20.**		.8	.5	.2	—	.1	—	.4			20.2	17.6
21.*	.54	.22	.19	.03	.03						7.9	6.9
22.*		.73	.19	.02	.02	.04					12.4	11.2
23.**	.52	.38	.24	.10	—	.05	—	.19			11.2	9.4
24.**		.67	.47	.27	.07	—	.13	—	.33			17.5
25.*	.54	.22	.19	.02	.03	.01					7.9	6.9
26.*		.68	.32	—	.03	.01	—	.01	.05			11.2
27.**	.46	.36	.25	.14	.04	—	.07	—	.18			10.1
28.**		.57	.43	.29	.14	0	—	.14	—	.29		17.2
29.*	.52	.27	.25	—	.04	—	.02	0	.03			6.8
30.*		.68	.32	—	.03	.01	—	.01	.04	.01		11.1

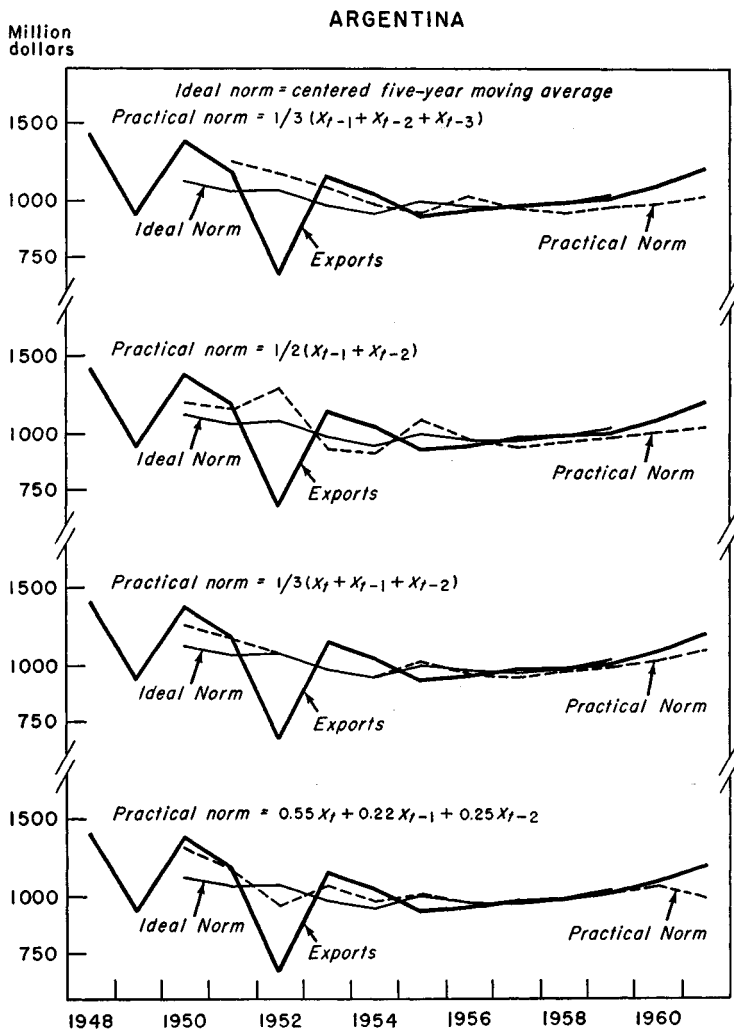
* Weights determined by regression. The weights given refer to the period 1951-59 or the first subperiod for which the calculation could be made. The regression weights for the other subperiods are shown as Table 4.

** Weights implied by extrapolation from moving trends. See discussion in the Appendix. (p. 108).

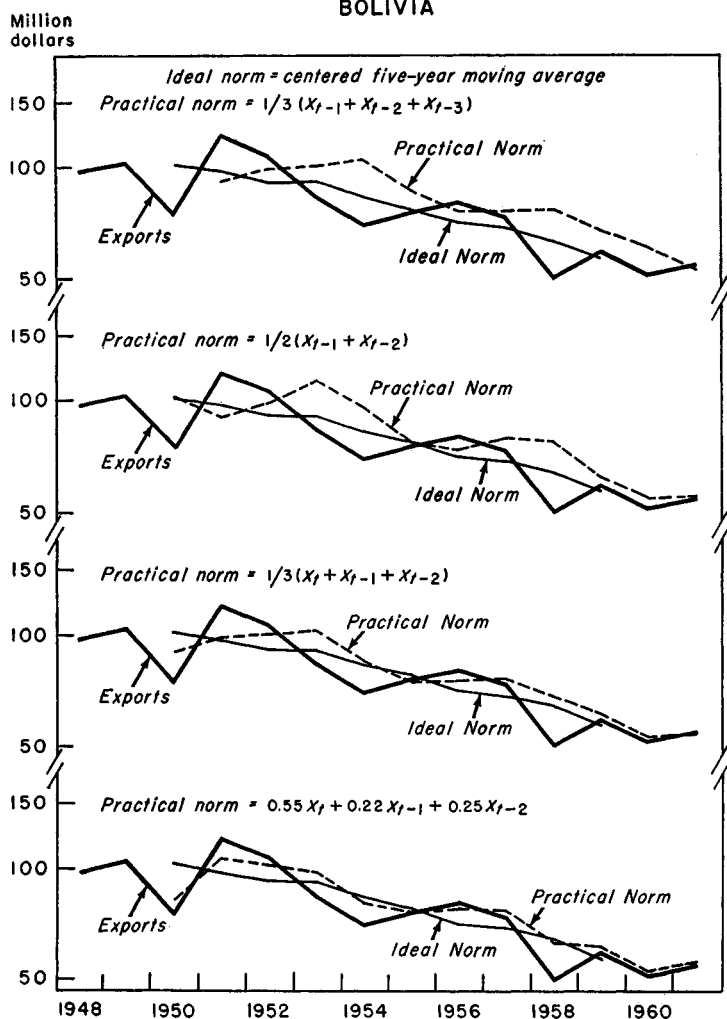
¹ Root mean square percentage deviation of "practical" norm from "ideal" norm.

TABLE 4. WEIGHTS DETERMINED BY REGRESSION

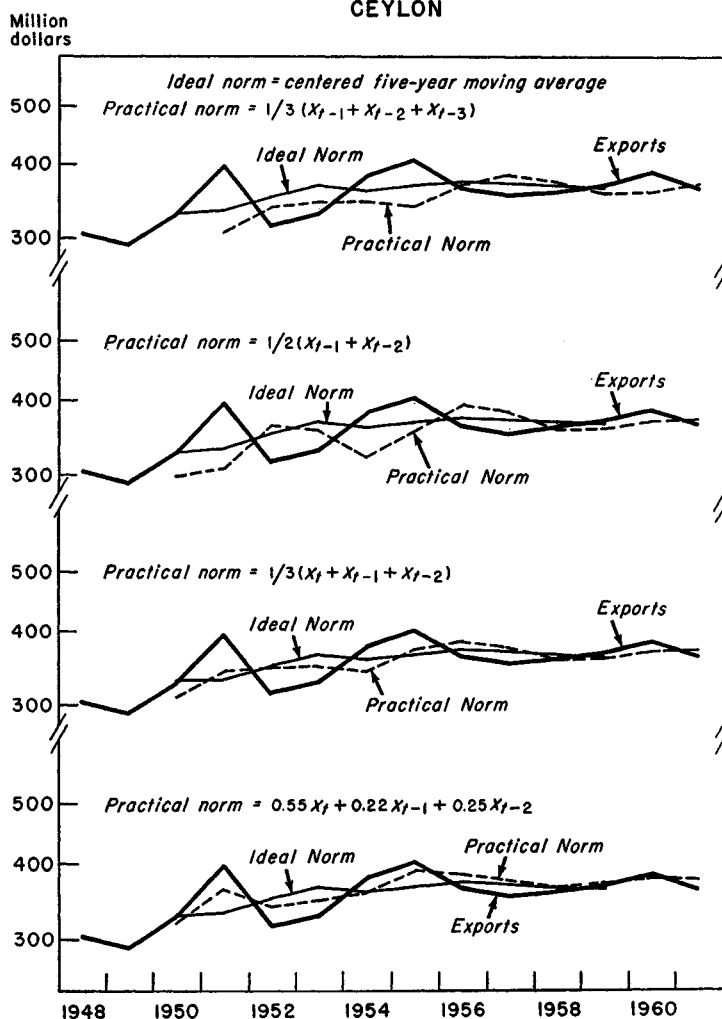
Number of Years in Formula	Line of Table 3	Fitting Period	Regression Weights Applied to Exports of Year							
			<i>t</i>	<i>t</i> -1	<i>t</i> -2	<i>t</i> -3	<i>t</i> -4	<i>t</i> -5	<i>t</i> -6	<i>t</i> -7
Two	5	1951-59	.57	.43						
		1951-55	.59	.41						
		1953-57	.57	.43						
		1955-59	.57	.44						
	6	1951-59		.71	.31					
		1951-55		.74	.29					
		1953-57		.74	.28					
		1955-59		.69	.33					
Three	11	1951-59	.55	.22	.25					
		1951-55	.58	.18	.26					
		1953-57	.55	.22	.24					
		1955-59	.52	.26	.23					
	12	1951-59		.71	.22	.10				
		1951-55		.73	.15	.15				
		1953-57		.74	.19	.09				
		1955-59		.68	.32	.01				
	17	1951-59	.54	.22	.21	.04				
		1951-55	.57	.18	.19	.07				
		1953-57	.55	.22	.18	.06				
		1955-59	.52	.26	.25	-.03				
Four	18	1953-57		.73	.19	.04	.05			
		1955-59		.68	.32	-.02	.03			
	21	1953-57	.54	.22	.19	.03	.03			
		1955-59	.52	.27	.25	-.03	0			
Five	22	1953-57		.73	.19	.02	.02	.04		
		1955-59		.68	.32	-.02	.01	.02		
Six	25	1953-57	.54	.22	.19	.03	.03	.01		
		1955-59	.52	.27	.25	-.03	-.02	.03		
	26	1955-59		.68	.32	-.03	.01	-.01	.05	
Seven	29	1955-59	.52	.27	.25	-.04	-.02	0	.03	
	30	1955-59		.68	.32	-.03	.01	-.01	.04	.01

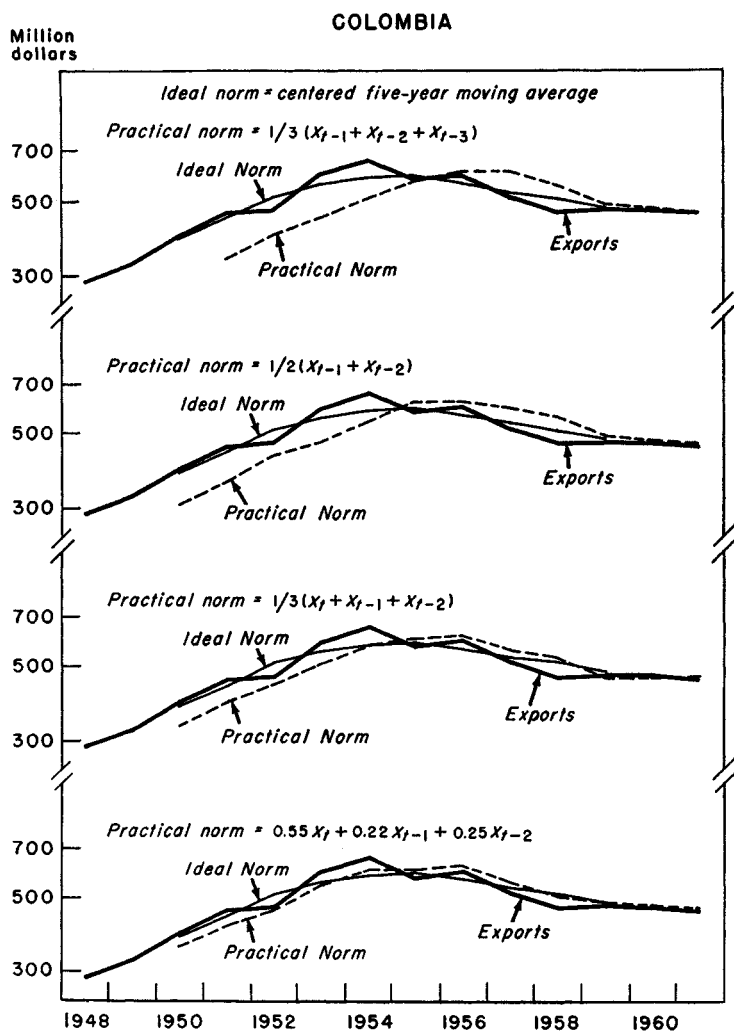


BOLIVIA



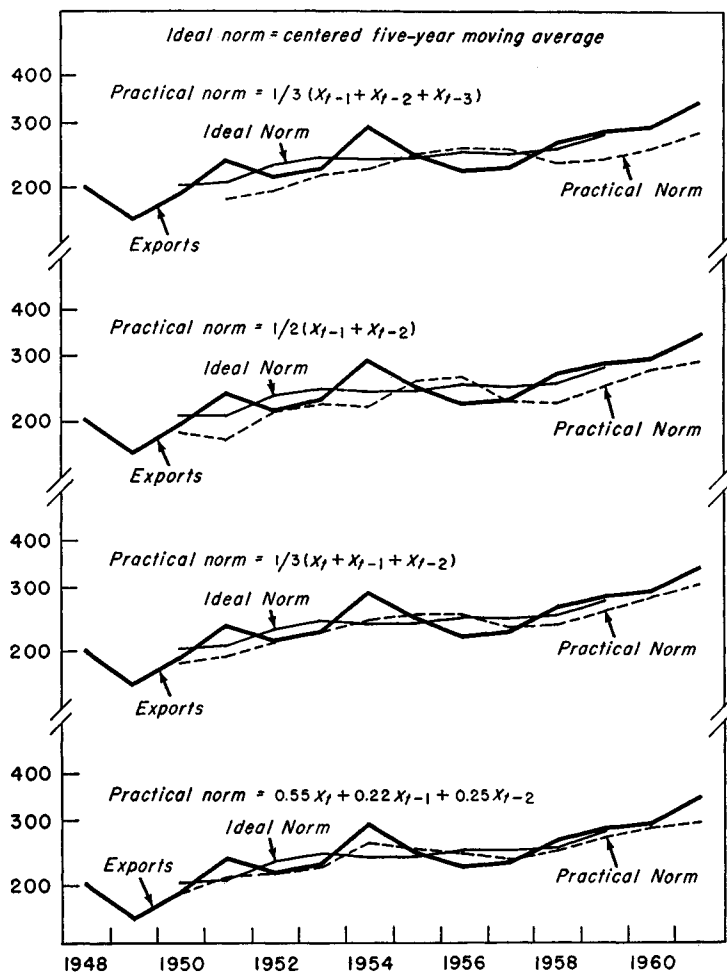
CEYLON

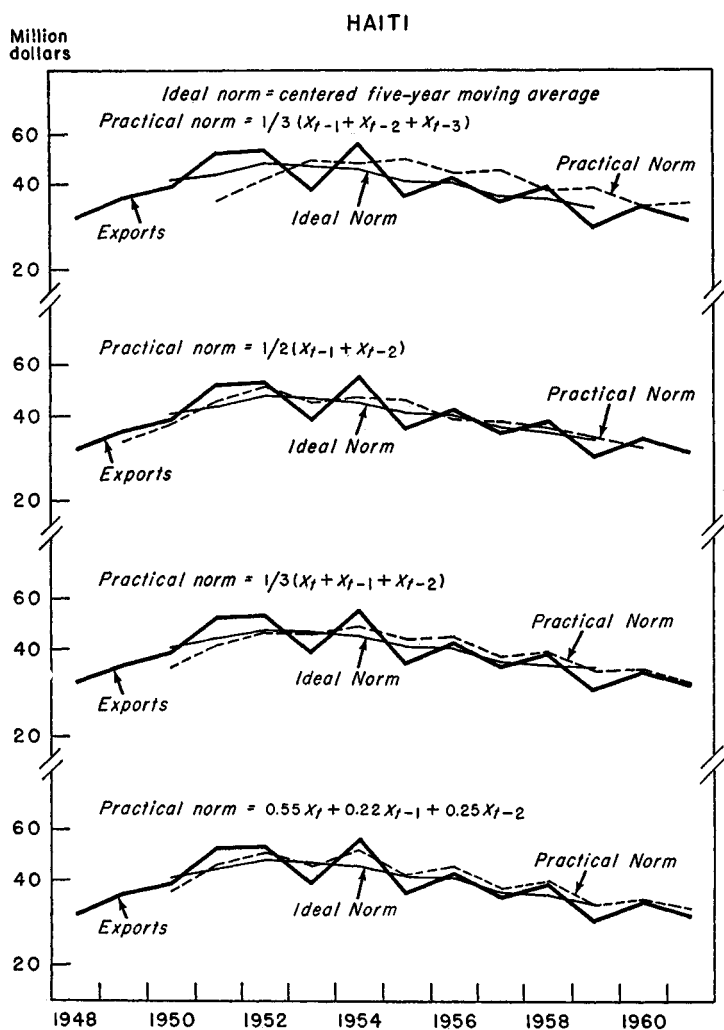


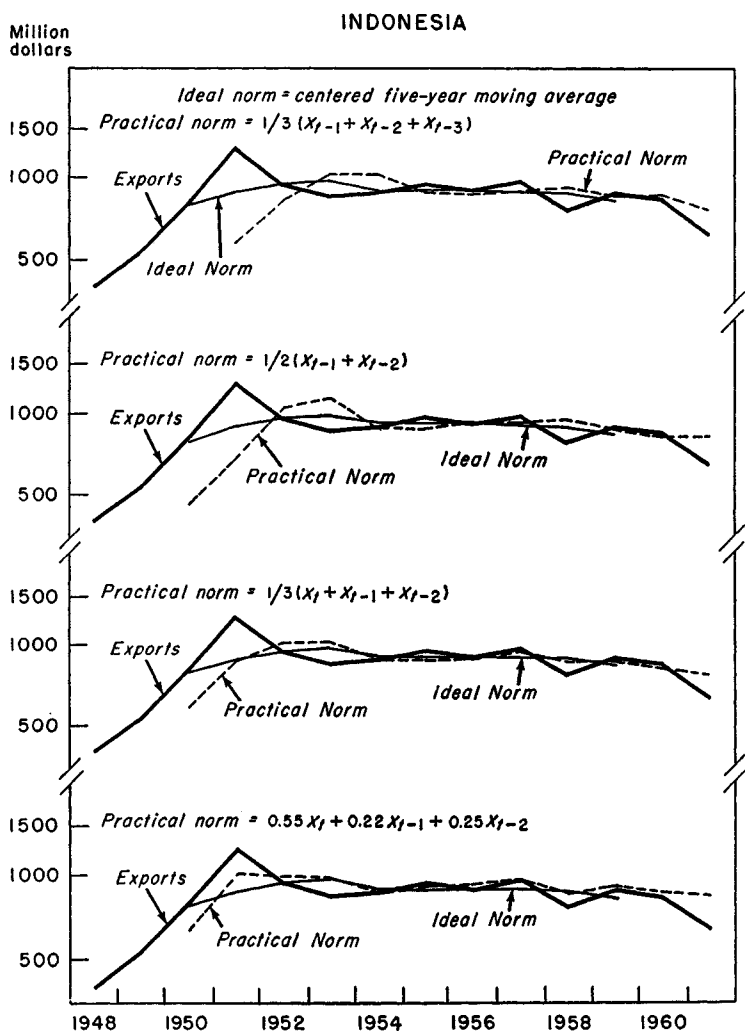


GHANA

Million
dollars

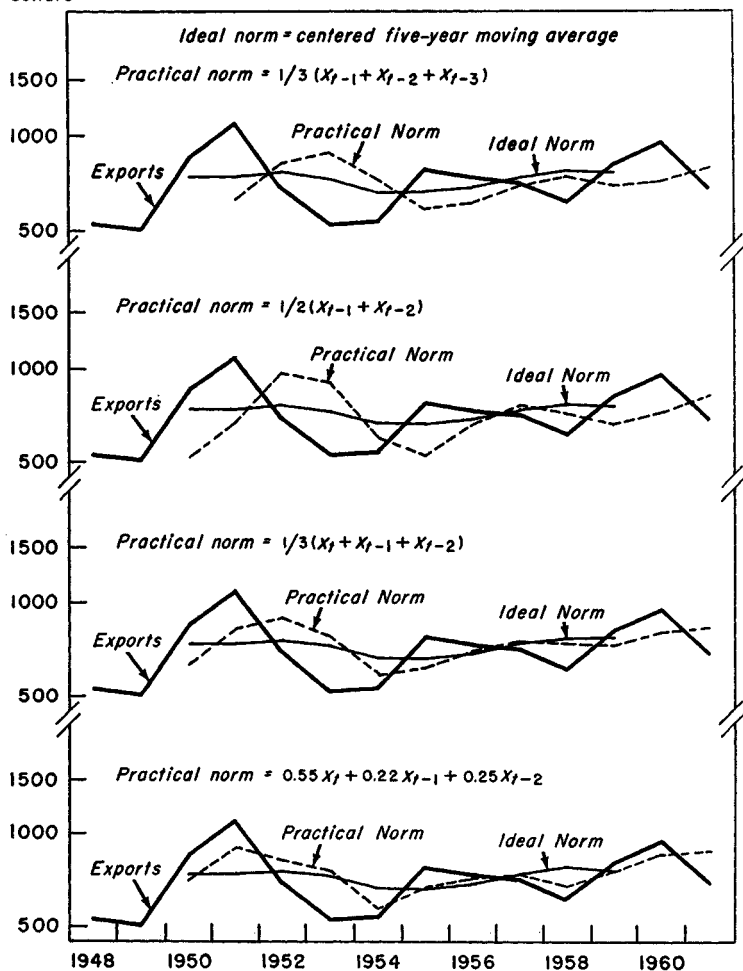


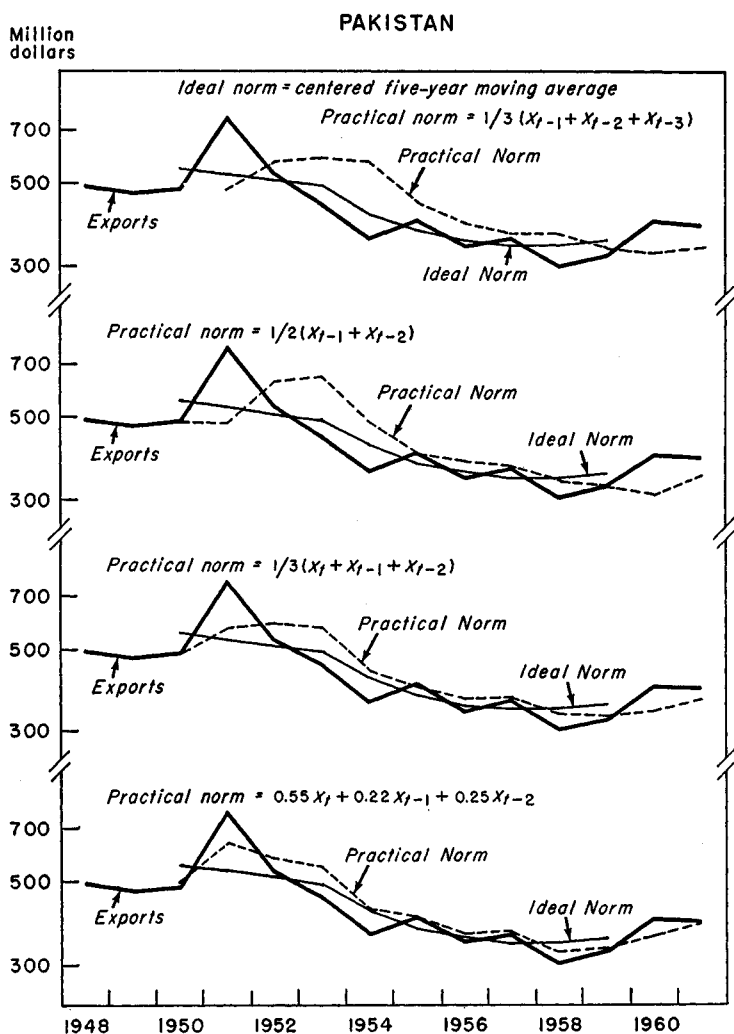


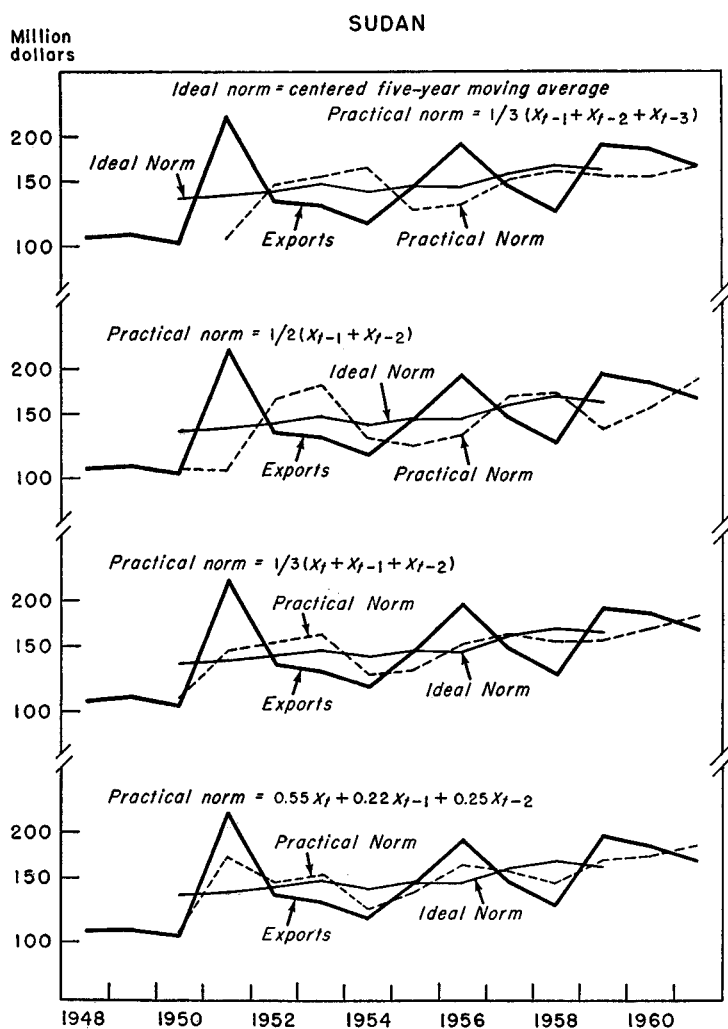


MALAYA

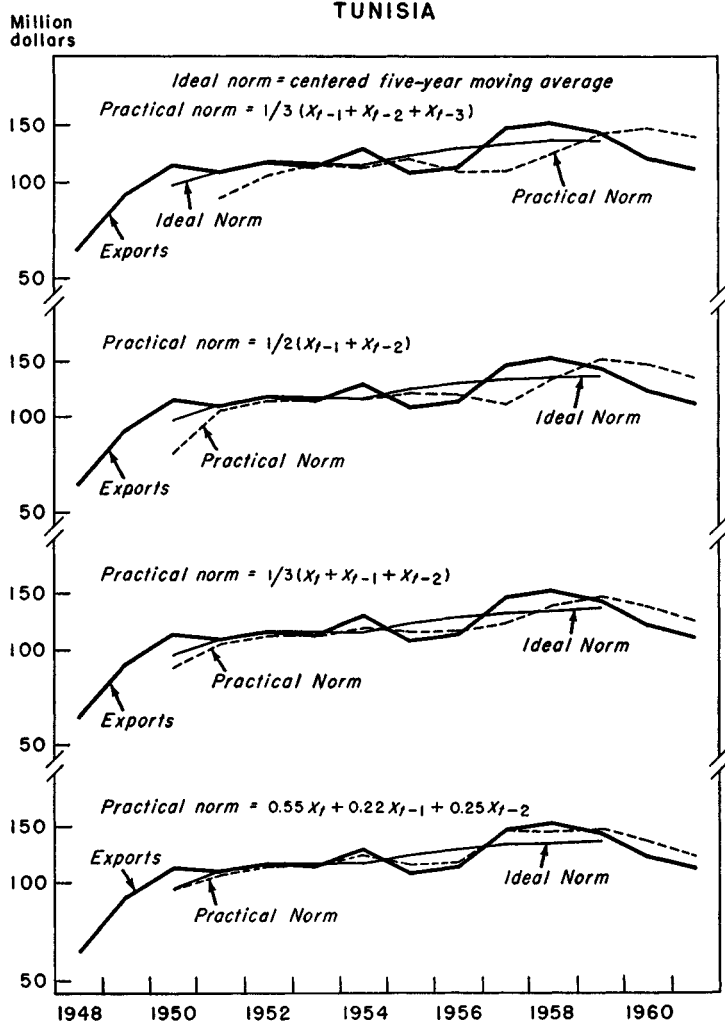
Million dollars

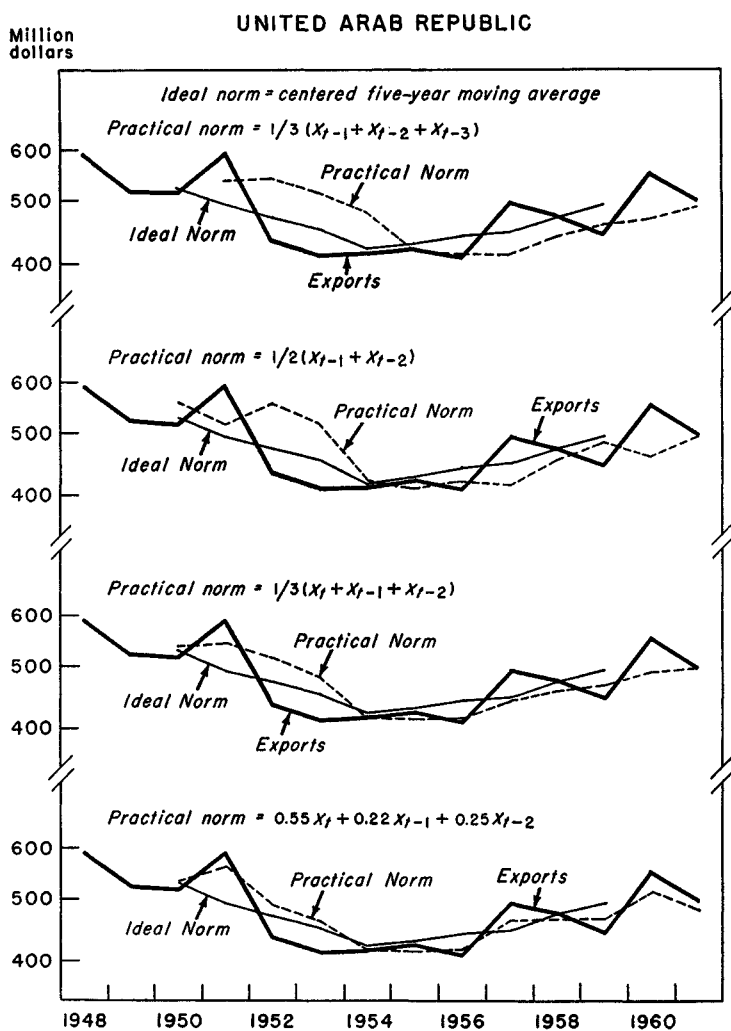




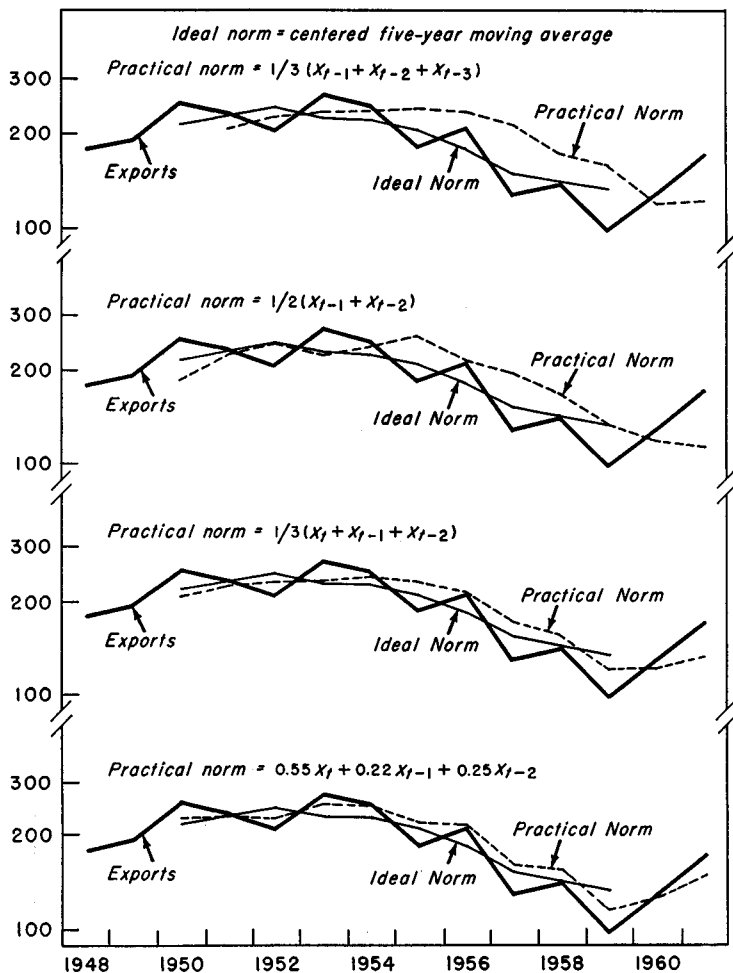


TUNISIA





URUGUAY

Million
dollars

Part II. Statistical Testing of Alternative Schemes of Compensatory Financing

In this part of the paper, we apply certain statistical tests, based on the concept of the ideal norm employed in Part I and on a concept of "smoothness," to a number of schemes for the compensatory financing of export fluctuations. These comprise the scheme for an International Fund for Stabilization of Export Receipts, prepared by an Expert Group of the Organization of American States (OAS), and 136 alternatives.

The OAS scheme⁷ envisages a permanent organization administering a revolving fund from which low-income primary producing countries would be entitled to borrow when their export proceeds fell short of the average of such proceeds over the preceding three years, and to which they would be obliged to repay outstanding loans when their export proceeds exceeded this average. In the terminology of Part I, the average value of exports over the preceding three years is thus the practical norm of the OAS scheme. In any year, countries would be entitled to borrow, in the form of "stabilization credits," two thirds of the shortfall of exports below the practical norm up to a limit on the cumulative outstanding debt of 20 per cent of average exports over the three preceding years. Similarly, countries with outstanding stabilization credits (excluding the "deferred credits" referred to below) would repay an amount equal to two thirds of the excess of exports over the practical norm. Debts are to be repaid in the order in which they were contracted. "Interim credits" may be obtained before the final determination of the value of exports for any year; these would be adjusted after the final export data become known. Stabilization credits that have not been repaid out of excess exports within three years from the date of issue would be converted into "deferred credits," which would be repaid in two equal installments in the fourth and fifth calendar years after the original borrowing.

The alternative schemes considered below have been arrived at by altering various features of the OAS scheme, notably the formula used to determine the practical norm. The schemes in question have been tested with respect to the export movements, over the period 1951-61 inclusive, of the 48 primary exporting countries examined in Part I. The results of these tests are presented in Table 5 (inserted between pp. 132 and 133) and analyzed in subsequent tables.

⁷ Organization of American States, *Final Report of the Group of Experts on the Stabilization of Export Receipts*, Doc. 59 (English, mimeographed), Rev. 5, April 18, 1962, and *Proposed Articles of Agreement of the International Fund for Stabilization of Export Receipts*, Doc. 64 (English, mimeographed), Rev. 4, April 3, 1962.

Since the selection of variants of the OAS scheme has depended in part on the way in which initially chosen alternatives performed under the tests that have been applied, and in part on the logic of the tests themselves, it is convenient to discuss these tests before describing the variants.

DESCRIPTION OF TESTS AND MEASUREMENTS

The principal test that is applied to the OAS scheme and its variants is designed to measure the extent to which the transactions under such a scheme, had it been in operation during the period 1951-61, would have improved the time pattern of foreign exchange receipts in the sense described below. We define as "foreign exchange availabilities" (or simply as "availabilities") the actual value of exports *plus* any borrowings permitted, *less* any repayments required, under the scheme. The test is a measure of the extent to which the availabilities under a particular scheme approximate a desired or preferred level, called the "target level" (to be defined presently), compared with the degree to which availabilities in the absence of any compensation scheme—i.e., actual exports—approximate this target level. The test statistic used is the ratio of the standard percentage deviation of availabilities from the target level for all years and countries to the standard percentage deviation of actual exports from the same target. This statistic, which we call the "target deviation ratio," will have the value of unity, if exports and availabilities are identical, so that there are neither compensatory borrowings nor repayments. A target deviation ratio close to zero would indicate that the deviations of the availabilities from the target are very small when compared with those of actual exports from the target; a value in excess of unity would indicate that the availabilities lie, on the whole, further away from the target than do the actual exports. As far as this test is concerned, therefore, the success of a compensation scheme is measured by the smallness of its target deviation ratio.

In specifying a target level of availabilities for any year and country, we take as the starting point the ideal norm described in Part I, i.e., the five-year moving average centered on the year in question. As has been argued there, a centered five-year moving average provides as fair a version as can be found of what most people would regard as the medium-term trend of exports, and effects a reasonable smoothing out of short-term fluctuations. The inclusion in the average of exports of years following, as well as of those preceding, the year in question is the only way to ensure the equality of surpluses and deficits with respect to the norm that is necessary if compensatory receipts based

on deficits are to be balanced by compensatory repayments based on surpluses. The inclusion of five rather than any other number of years in the average thus centered appears to bring about an approximate balance of deficits and surpluses within the sort of period—three to five years—that might be considered appropriate for a compensatory lending scheme.

For the purpose of compensatory financing⁸ the ideal norm requires, however, further adjustment before it can be regarded as an acceptable target at which to aim. Variations in exports inevitably carry with them certain variations in the need, and effective demand, for imports. For this reason, the degree of compensation of export deviations from the ideal norm should be only partial. Most developing countries will be able neither to avoid a decline of imports when exports fall, nor to prevent a rise in imports when export earnings increase. Their additional foreign exchange requirements will thus be smaller than the shortfall in exports below the ideal norm, and their ability to repay borrowed reserves will be less than the excess of their export receipts above the ideal norm. The target level of export availabilities chosen in this study is a figure that lies between the actual exports and the ideal norm in such a way as to diverge from actual exports by two thirds, and from the ideal norm by one third, of the difference between actual exports and the norm. In other words, the target reflects the view that ideally two thirds of the deviations of actual exports from the ideal export norm should be compensated. A fuller discussion of the considerations underlying the degree of compensation arrived at is given in the Appendix to Part II.

Target deviation ratios based on a target compensation of two thirds are shown in column 8 of Table 5. Deviation ratios with respect to a target level of export availabilities that coincides with the ideal norm or five-year moving average are given in column 9; these ratios, based on a target compensation of 100 per cent, are shown merely for purposes of comparison with column 8.⁹

The degree of approximation of actual to target export availabilities does not by itself supply a fully satisfactory criterion of the excellence of a compensation scheme. As has been pointed out in Part I, movements in all the norms that can in practice be calculated for the purpose of defining compensable export deviations, based as they necessarily are on formulae relating to past and present years' exports only,

⁸ In other applications, e.g., with respect to buffer stock policy, or income stabilization through fiscal means, either no adjustment to the ideal norm or a different adjustment might be required.

⁹ Since the value of the target, or of the ideal norm, cannot be calculated for the last two years in the data series, the deviation ratios shown in columns 8 and 9 of Table 5 apply only to the nine-year period 1951–59.

tend to lag behind the movements in the ideal norm. For this reason, movements in actual availabilities under the various schemes also tend to lag behind movements in target availabilities. Changes in the schemes whereby availabilities are made to conform more closely to the movements over time of target availabilities will beyond a certain point involve some diminution in the smoothness of the actual availabilities. A certain degree of smoothing out of availabilities, however, is part of what is sought in a compensation scheme. Therefore, in column 11 of Table 5 a measure of the "smoothness" of availabilities, relative to the need for foreign exchange for import and other foreign payments, has been supplied to provide an auxiliary, though subordinate, criterion of excellence to that provided by the target deviation ratio. This "smoothness ratio," as the measure in question might be called, consists in the standard percentage deviation of actual availabilities from a centered five-year moving average of availabilities (corrected for the deviation of the target availabilities from the ideal norm), divided by the standard percentage deviation of exports from the ideal norm (similarly corrected).¹⁰

In addition to these measures, data showing the total for all borrowing countries of the maximum indebtedness outstanding at the end of any year from 1951 to 1961, as estimated under the various plans, are given in column 12 of Table 5. Since the maxima in 1953 or 1954 reflect the rather abnormal conditions prevailing in the early years of the period—when exports were falling after the post-Korean boom—and since by these dates the repayment features of some of the schemes had not yet had time to exercise their effect on total indebtedness, data are also given (column 14) for the amount of total indebtedness outstanding at the end of 1958, a year when indebtedness under most schemes was at its second highest level, and under some, at its highest level.

¹⁰ The formula for the smoothness ratio is as follows:

$$\sqrt{\frac{\sum_{r=1}^s \left(\frac{a_r - m_r}{n_r} \right)^2}{\sum_{r=1}^s \left(\frac{x_r - m_r}{n_r} \right)^2}}$$

where a represents the deviation of availabilities from the centered five-year moving average of availabilities, x the deviation of exports from the centered five-year moving average of exports, m the deviation of target availabilities (based on a target compensation of two thirds) from the ideal export norm, n the ideal export norm, r the country-year in question, and s the number of countries times the number of years included in the calculation. Since a cannot be calculated for 1951 or 1952, the smoothness ratios shown in column 11 of Table 5 apply only to the seven years 1953–59.

NATURE OF THE SCHEMES EXAMINED

All the schemes examined are based on the OAS scheme for an International Fund for Stabilization of Export Receipts, in the sense that each one shares all features of the OAS scheme other than those explicitly mentioned in Table 5; with respect to the latter it may or may not differ from that of the OAS.

Three features of the OAS scheme have been subjected to variation: (a) the weights assigned to the current and previous years in determining the current year's practical norm, (b) the proportion which each country's maximum permitted cumulative indebtedness under the scheme bears to the amount of its average exports over the three preceding years (the "debt limit"), and (c) the provisions governing the repayment of indebtedness under the scheme.

In regard to (a), the practical export norm for any year, calculated in the OAS scheme as the arithmetic mean of actual exports in the three preceding years, has been varied by eliminating the weight in the third preceding year, and at the same time assigning to the current year weights amounting, in different variants, to 33⅓ per cent, 45 per cent, 50 per cent, 55 per cent, 60 per cent, 65 per cent, 70 per cent, and 75 per cent, respectively. In all schemes, the first and second preceding year are given equal or approximately equal weights, in such a fashion that the weights sum to 100 per cent. A slightly closer approximation to target availabilities might have been obtained had the weights been allowed to sum to 101 per cent so as to allow for the general upward trend in export receipts over the period in question. It was found, however, that this improvement in fit was obtained at the cost of a disproportionately large increase in the maximum outstanding indebtedness resulting from the increased entitlement to borrow combined with the diminished obligation to repay, and it was decided to discard schemes involving weights exceeding 100 per cent.

In general, it has been assumed that, subject to the limits imposed, borrowings and repayments other than repayments on deferred credits are equal to two thirds of any shortfalls or excesses of actual exports, compared with the practical export norm. In other words, the compensation ratio applicable to deviations from the practical norm has been kept at two thirds as in the original OAS scheme. As long as the compensation ratio applies equally to surpluses and deficits,¹¹ there is no point in varying it experimentally, since the effects of a change in the compensation ratio are exactly the same as those of a change in the weight assigned to the current year, compared with other years,

¹¹ In certain schemes, while the borrowing ratio has been kept at two thirds, the repayment ratio has been assumed to be 100 per cent.

in the determination of the export norm. Thus it makes no difference to either borrowings or repayments whether the weights assigned to the present year's and two preceding years' exports in the formula determining the practical export norm are 0, 40 per cent, and 60 per cent with a compensation ratio of 40 per cent, or whether the weights are 50 per cent, 20 per cent, and 30 per cent with a compensation ratio of 80 per cent, or whether the weights are 60 per cent, 16 per cent, and 24 per cent with a compensation ratio of 100 per cent.¹² The higher the compensation ratio, the higher must be the weight assigned to the current year in the determination of the practical norm, if the same results are to be obtained.

In some ways it might be more elegant to assume a compensation ratio of 100 per cent in all schemes and to adjust the weight in the current year accordingly, or to assume a zero weight on the current year's exports in all schemes and to adjust the compensation ratio accordingly. However, to assume a two thirds compensation ratio has the advantage not only of facilitating comparison with the OAS scheme, which has such a ratio, but also of corresponding to the target degree of compensation of two thirds (with respect to deviations from the ideal norm) that is implicit in the definition of the target level of availabilities. Roughly speaking, we may say that the partial compensation with respect to export deviations from the practical norm provided in the compensation ratio reflects the partial compensation with respect to deviations from the ideal norm aimed at in the target availabilities, while the weight assigned to the current year in the practical norm affects the extent to which the latter approximates the ideal norm.

In regard to (b), the limit of the cumulative indebtedness beyond which a country is not permitted to contract new indebtedness under the OAS scheme is 20 per cent of average exports over the preceding three years. One set of alternative schemes has also been examined under which the limit is one third of such average exports, and another in which there is no limit.

In regard to (c), six alternative repayment systems (RS) have been considered:

(1) RS 1 is based on an interpretation of the *Proposed Articles of*

¹² More generally, it makes no difference to either borrowings or repayments whether there are weights on the present year and the two preceding years of a , b , and c , respectively, with a compensation ratio of unity (i.e., 100 per cent), or weights of $\left[1 - \frac{1}{r}(1 - a)\right]$, $\frac{b}{r}$, and $\frac{c}{r}$, respectively, with a compensation ratio of r , or, again, weights of zero, $\frac{b}{1 - a}$, and $\frac{c}{1 - a}$, respectively, with a compensation ratio of $(1 - a)$.

Agreement of the International Fund for Stabilization of Export Receipts.¹³ All borrowings are assumed to take place (in the form of interim credits) in the calendar year for which the borrowing entitlements accrue. Automatic repayments on stabilization credits (i.e., repayments the amount of which is dependent on export excesses) are likewise assumed to take place—or are treated as if they took place—in the calendar year for which the repayment obligation accrues, the earliest stabilization credits being repaid first. Such part of any stabilization credit as remains unpaid in the first and second calendar year following the year in which the borrowing took place is assumed to be converted into a deferred credit in the course of the third calendar year, and in that year no repayment, automatic or otherwise, takes place with respect to those credits, though if there have been later stabilization credits any automatic repayment obligations will be applied to them. Deferred credits are repaid in two equal installments occurring in the fourth and fifth calendar years after the original borrowing.

Literal interpretation of the *Proposed Articles of Agreement* (Article V, Sections 2 to 5) results in the peculiar feature that under these provisions no repayment of any kind, other than a voluntary repayment, would in practice be made in the third calendar year following the year in which a debt was contracted. RS 2, which has been designed so as to eliminate this peculiarity, is thought to correspond to what the authors of the OAS scheme intended to achieve. Therefore, in Table 5 and subsequent tables, RS 1 has not been fully worked out, though two schemes of the RS 1 type are given in Table 5.

(2) RS 2 is the same as RS 1, except that stabilization credits are not converted into deferred credits until the end of the third calendar year following the year in which, and with respect to which, the borrowing took place. Automatic repayment obligations are applied to the repayment of outstanding credits in the third, as well as in the first and second, calendar year following the year of borrowing, and only what remains unpaid at the end of the third calendar year is repaid in installments in the fourth and fifth years. Total repayment in any year then equals the total amount of any five-year-old (deferred) credits outstanding plus half the amount of any four-year-old (deferred) credits outstanding plus *either* the maximum automatic repayment obligation (two thirds of the export excess) *or* the total amount of stabilization credits outstanding, whichever is the less.

(3) RS 3 is the same as RS 2, except that automatic repayment obligations are applied, in the first instance, to the repayment of any four-year-old (deferred) credits before being applied to the repayment

¹³ See footnote 7.

of any subsequent (stabilization) credits.¹⁴ Compulsory repayments are made on any five-year-old (deferred) credits and also any four-year-old (deferred) credits to the extent that less than one half of the latter has been repaid out of automatic repayments. Total repayments in any year will equal total outstanding five-year-old deferred credits, plus an amount that equals the maximum automatic repayment obligation, save that it may not fall short of half the amount of four-year-old deferred credits outstanding nor exceed the total amount of credit outstanding of a maturity of four years or less.

(4) RS 4 is the same as RS 2, except that stabilization credits are not converted into deferred credits until the end of the fourth calendar year following the year of borrowing, and that the amounts so converted are repaid in two equal installments in the fifth and sixth years. The amount repaid in any year will then be all of any six-year-old credits, half of any five-year-old credits, and an amount equal to *either* the maximum automatic repayment obligation *or* the total stabilization credits outstanding (four years old or less), whichever is the less.

(5) RS 5 is an entirely automatic system of repayment without any deferment of credits or compulsory repayment of such credits. But while borrowing entitlements amount to only two thirds of any export shortfalls, repayment obligations amount to 100 per cent of any export excesses. Repayments are applied to outstanding credits in the order in which they were contracted.

(6) RS 6 is the same as RS 5, except that repayment obligations amount to only two thirds of any export excesses.

EVALUATION OF SCHEMES

The results presented in Table 5 and subsequent tables relate to the performance of the various schemes considered, for all countries taken together, that is to say, in the average country. This synoptic view enables us to reach broad conclusions regarding the effects of varying certain features of the compensatory arrangements, though a close appraisal of the schemes would call for an examination of the results country by country. The following appear to be the main conclusions drawn from the tables:

(1) The extent to which any of the schemes bring export availabilities closer to the target is limited. This would be true even if the target had aimed at a 100 per cent compensation, rather than a two-thirds compensation, of deviations from the ideal norm; the deviation ratios with respect to the two targets are indeed rather similar in order of magnitude. Some of the variants examined have deviation ratios in

¹⁴ This system was suggested to the authors by Miss Gertrud Lovasy.

excess of unity, showing that availabilities under these schemes deviate from the target more than do actual exports, i.e., more than availabilities in the absence of any scheme whatsoever. The deviation ratio of the OAS scheme as drafted (scheme 1)¹⁵ is as high as 0.92, and the lowest deviation ratio for any scheme is no lower than 0.77. This implies that only 23 per cent of the deviations of actual exports from target availabilities would be cut out by the scheme in question (scheme 132). These figures, however, may give too negative an impression. It should be borne in mind that none of the schemes purports to do anything to improve export availabilities during years when there are neither automatic borrowing entitlements nor repayment obligations—e.g., in years of generally rising exports prior to any shortfalls. Roughly 40 per cent of all country-years fall in this category. A deviation ratio corrected for this factor can be roughly estimated by taking one and two thirds of the deviation ratio as given in Table 5 and subtracting the figure 0.67. The corrected deviation ratio for the OAS scheme would then amount to 0.86, and that for the scheme with the lowest ratio would be 0.62, implying that, in those years for which the schemes affect the level of availabilities at all, some 38 per cent of deviations from target are eliminated. Furthermore, it may be considered that the extent to which a compensation scheme relieves the hardships caused by export fluctuations is understated by the percentage reduction of export deviations, since the detrimental influence of export deviations varies more than in proportion to their size.

(2) All the schemes examined enhance the smoothness of export availabilities. This follows from the fact that all the smoothness ratios are below unity. These ratios vary from almost 0.87 in the OAS scheme as drafted (scheme 1) to 0.66 (scheme 129). In the latter case, deviations in availabilities from their own moving average are reduced by one third for all country-years, i.e., by more than one half for those country-years for which the schemes affect the level of availabilities at all.

(3) The schemes examined vary considerably with respect to the maximum total indebtedness involved, from \$2,770 million for scheme 129 to \$590 million for scheme 92. A similar range between the different schemes is found with respect to the 1958 peak of indebtedness. There is no clear inverse correlation, as one might at first sight expect, between the expensiveness of a scheme and the extent to which it achieves a close approximation to target. On the contrary, by and

¹⁵ The OAS scheme as drafted (scheme 1) and the reinterpreted OAS scheme (scheme 3), which permits automatic repayments in the third year (see p. 131 above), differ only slightly. The deviation ratio of the latter scheme is also 0.92.

large, the more expensive schemes are further from target than the less expensive. It will be possible to get a closer insight into this relationship after the effects of varying specific features of the schemes have been examined. As has already been observed, the maximum level of indebtedness in most schemes occurs in 1953 or 1954, because of the heavy borrowing in 1952 and 1953. In these schemes, there is a secondary peak in 1958; in some, however, the 1958 peak is the absolute maximum.

(4) Perhaps the most striking of the conclusions that emerge from a perusal of Table 5 is the extent to which the inclusion of a weight on the current year in the formula determining the practical export norm, and the raising of that weight, not only reduce the volume of outstanding indebtedness occasioned by the scheme, but also, up to a point, improve the fit of actual to target availabilities. It is noteworthy that these effects appear whatever the degree of limitation on each country's cumulative indebtedness and whatever the repayment system adopted, though, as can be seen from Tables 6 and 7, they are more pronounced where the limits on indebtedness are wide than where they are narrow. There is, of course, some weight on the current year's

TABLE 6. DECLINE IN DEVIATION RATIO (FOR $\frac{2}{3}$ COMPENSATION TARGET)
AS WEIGHT ON CURRENT YEAR'S EXPORTS RISES FROM ZERO TO
75 PER CENT AND FROM ZERO TO OPTIMAL WEIGHT

Repayment System	20 Per Cent Limit			$\frac{1}{3}$ Limit			No Limit		
	Zero to 75 per cent	Zero to optimal weight	Optimal weight	Zero to 75 per cent	Zero to optimal weight	Optimal weight	Zero to 75 per cent	Zero to optimal weight	Optimal weight
RS 2	.045	.051	(70%)	.129	.132	(70%)	.340	.372	(60%)
RS 3	.051	.056	(70%)	.128	.129	(70%)	.300	.336	(55%)
RS 4	.049	.056	(70%)	.129	.133	(70%)	.297	.339	(55%)
RS 5	.055	.063	(70%)	.116	.121	(70%)	.325	.365	(60%)
RS 6	.039	.048	(60% 70%)	.085	.091	(60% and 70%)	.258	.315	(50%)

TABLE 7. DECLINE IN MAXIMUM TOTAL INDEBTEDNESS AND IN TOTAL
INDEBTEDNESS AT 1958 PEAK AS WEIGHT ON CURRENT YEAR'S
EXPORTS RISES FROM ZERO TO 75 PER CENT

(In millions of U.S. dollars)

Repayment System	20 Per Cent Limit		$\frac{1}{3}$ Limit		No Limit	
	Maximum	1958 peak	Maximum	1958 peak	Maximum	1958 peak
RS 2	750	850	1,250	1,020	2,040	1,330
RS 3	750	890	1,250	1,080	2,040	1,420
RS 4	790	850	1,250	1,140	2,050	1,720
RS 5	890	890	1,250	1,270	2,030	1,780
RS 6	930	930	1,450	1,450	2,040	2,040

exports that permits the closest approximation of actual to target availabilities. (If the weight on the current year were to rise to 100 per cent there would, in effect, be no compensation at all and the deviation ratio would rise to unity.) The weight can be determined only by trial and error; it depends to some extent on the other features of the scheme. It appears to be higher for schemes with low debt limits and compulsory repayments of deferred credits than for schemes without such limits and such repayments. Naturally, too, it is higher, the nearer target availabilities are to actual exports—e.g., higher for our target that seeks to compensate for two thirds of export deviations from the ideal norm than it would be for a target incorporating the aim of 100 per cent compensation. In almost all the schemes, however, the weight on the current year's exports that gives the closest approximation of actual to target availabilities is to be found within the 50–75 per cent range. When it is borne in mind that, after the practical norm has been determined, only two thirds of any deviations are subject to compensation, it will be clear that, in the schemes which best approximate to target availabilities, actual availabilities will fluctuate to a very considerable extent with exports. In such schemes the peak of total indebtedness is generally less than \$1,200 million.

The reason why "optimal" weights on current exports are so large is, in part (as was shown in Part I), that, in any formula for determining a practical norm on the basis only of past and current data, considerable weight has to be given to the current year's exports if that norm is to approximate as closely as possible a moving average centered on the current year; and, in part, for schemes that involve debt limits and compulsory repayments, that any addition to the weight on the current year reduces the importance of these restrictive factors and the irregularities in the flow of export availabilities to which they give rise. Thus, for example, a high weight on the current year, by reducing the amount of compensation paid during a year of shortfall, may reduce the compulsory repayments that will be necessary four or five years later, which may also be years of shortfall, or may make it possible to compensate later severe shortfalls that would otherwise have had to remain uncompensated owing to the operation of the limit. Broadly speaking, a 50 per cent weight on the current year is necessary to make the practical norm a good predictor of the ideal norm; higher weights are rendered desirable only by the need to mitigate the consequences of the limit and of compulsory repayments.

The circumstance that the deviation ratio is more sensitive to changes in the weight assigned to the current year when debt limits are low than when they are high or nonexistent is associated with the fact, discussed below, that such limits tend to improve the fit when the

weight on the current year is low and to worsen it when that weight is high.

(5) The effect of the weighting system on smoothness of availabilities is different from its effect on the closeness of availabilities to target. Broadly speaking, among schemes that are without limits on indebtedness or compulsory repayments the smoothness of availabilities will be the higher, the greater the number of years' exports entering into the formula for the practical norm and the more equal the weights assigned to those years.¹⁶ Among schemes that involve both limits and compulsory repayments, however, those resulting in the smoothest trend of availabilities have fairly high weights (one third or one half) on the current year—though not so high as the weights of the schemes that show the best fit of availabilities with respect to target. The effect, therefore, of introducing smoothness as an auxiliary criterion of the relative excellence of schemes will be to reduce slightly—but only slightly—the optimal weight attached to the exports of the current year in the determination of the practical norm, compared with what it would have been on the criterion of closeness to target alone.

(6) Repayment systems have been arranged in Table 5 in order of diminishing reliance on compulsory repayments and increasing reliance on automatic repayments. Broadly speaking, it can be said that the greater the reliance on automatic and the less on compulsory repayments, the more closely will actual availabilities approximate to target availabilities (and the greater will be the smoothness of the availabilities), but the larger also will be the maximum levels of aggregate indebtedness and hence the amount of resources required by the scheme.¹⁷ The data shown in column 8 of Table 5, on the one hand, and in column 12, on the other, understate the influence that variations in the automaticity of the repayment system are likely to exercise in the longer run on the deviation ratio and on the maximum aggregate indebtedness, respectively. The influence on the deviation ratio is understated because, for the first four years of the nine-year period under examination, no compulsory payments on deferred credits could occur under any of the repayment systems and therefore no difference could

¹⁶ It is not clear why the smoothness of availabilities under scheme 129 is greater than under scheme 130. One would have expected approximate equality in the smoothness ratios in the two schemes. The difference may be in part explained by the fact that the computation of the practical norm for scheme 129 involves export data for 1948 but not those for 1961, while the practical norm for scheme 130 involves export data for 1961 but not those for 1948.

¹⁷ From column 12 of Table 1, RS 5 appears to involve lower aggregate indebtedness than RS 4. This, however, is because of the atypical character of maxima occurring in 1953 and 1954, which took place too early in the period to be affected by compulsory repayments under any scheme. In 1958, the year of the secondary maximum under both schemes, RS 5 involves higher aggregate indebtedness than does RS 4.

appear in the availabilities arising under the different repayment systems with the exception of RS 5 (where automatic repayments amount to 100 per cent of export excesses, compared with two thirds in other systems). For this reason, column 10 has been added to the table showing the average deviation ratios under the various schemes for the years 1955-59 only, though the shortness of the period makes for some irregularity in the results. The influence of repayment systems on the maximum amount of outstanding indebtedness has likewise been understated because for many of the schemes the maximum indebtedness occurs in the year 1954, at a time when—except for RS 5—the influence of the differences between the repayment systems had not yet come into play. A sounder idea of the importance of this influence can be obtained by noting the difference that a change in the repayment system makes, not on the highest aggregate level of indebtedness but on the level of indebtedness in 1958, which for some schemes is the absolute peak and for others a secondary peak.

As can be seen from Tables 8 and 9, the influence of the degree of

TABLE 8. EFFECT ON DEVIATION RATIOS OF CHANGES IN REPAYMENT SYSTEM WITH A TWO-THIRDS COMPENSATION TARGET, 1955-59

Weight on Current Year's Exports (1)	Country Debt Limit (2)	RS 2 (3)	RS 3 (4)	RS 4 (5)	RS 5 (6)	RS 6 (7)	Col. 3- Col. 5 (8)	Col. 5- Col. 7 (9)
0	20%	.961	.978	.956	.950	.903	.005	.053
0	$\frac{1}{3}$	1.113	1.109	1.087	1.041	.951	.026	.136
0	None	1.347	1.253	1.216	1.270	1.086	.131	.130
$\frac{1}{3}$	20%	.887	.892	.884	.851	.825	.003	.059
$\frac{1}{3}$	$\frac{1}{3}$	.987	.974	.925	.905	.823	.062	.102
$\frac{1}{3}$	None	.965	.923	.881	.881	.765	.084	.116
45%	20%	.883	.881	.869	.826	.811	.014	.058
45%	$\frac{1}{3}$	.898	.896	.865	.825	.785	.033	.080
45%	None	.895	.867	.824	.812	.732	.071	.092
50%	20%	.884	.880	.859	.822	.806	.025	.053
50%	$\frac{1}{3}$	.874	.872	.841	.803	.769	.033	.072
50%	None	.875	.853	.810	.793	.729	.065	.081
55%	20%	.890	.886	.856	.827	.806	.034	.050
55%	$\frac{1}{3}$	.846	.845	.823	.787	.760	.023	.063
55%	None	.860	.843	.802	.782	.732	.058	.070
60%	20%	.890	.890	.855	.828	.806	.035	.049
60%	$\frac{1}{3}$	.839	.840	.806	.774	.752	.033	.054
60%	None	.852	.840	.801	.778	.741	.051	.060
65%	20%	.869	.872	.847	.817	.807	.022	.040
65%	$\frac{1}{3}$	.840	.842	.805	.775	.758	.035	.047
65%	None	.849	.841	.806	.783	.757	.043	.049
70%	20%	.863	.866	.844	.813	.810	.019	.034
70%	$\frac{1}{3}$	.849	.850	.817	.791	.779	.032	.038
70%	None	.853	.849	.817	.794	.778	.036	.039
75%	20%	.860	.863	.843	.817	.816	.017	.027
75%	$\frac{1}{3}$	.864	.862	.835	.814	.805	.029	.030
75%	None	.864	.862	.835	.814	.805	.029	.030

automatism of the repayment system both on the fit of actual to target availabilities and on the level of aggregate indebtedness will be the greater, the wider are the debt limits, and—where debt limits are wide or nonexistent—the less is the weight assigned to the current year's

TABLE 9. EFFECT ON TOTAL INDEBTEDNESS IN 1958 OF CHANGES IN REPAYMENT SYSTEM WITH A TWO-THIRDS COMPENSATION TARGET

(In billions of U.S. dollars)

Weight on Current Year's Exports (1)	Country Debt Limit (2)	RS 2 (3)	RS 3 (4)	RS 4 (5)	RS 5 (6)	RS 6 (7)	Col. 3- Col. 5 (8)	Col. 5- Col. 7 (9)
0	20%	1.29	1.34	1.40	1.48	1.65	-.11	-.25
0	$\frac{1}{3}$	1.46	1.53	1.69	1.87	2.18	-.23	-.49
0	None	1.77	1.87	2.27	2.38	2.77	-.50	-.50
$\frac{1}{3}$	20%	1.03	1.07	1.21	1.26	1.54	-.18	-.33
$\frac{1}{3}$	$\frac{1}{3}$	1.11	1.15	1.39	1.48	1.82	-.28	-.43
$\frac{1}{3}$	None	1.17	1.22	1.49	1.60	1.95	-.32	-.46
45%	20%	.87	.90	1.04	1.10	1.37	-.17	-.33
45%	$\frac{1}{3}$	.93	.96	1.17	1.25	1.53	-.24	-.36
45%	None	.97	1.00	1.23	1.32	1.60	-.26	-.37
50%	20%	.80	.84	.98	1.03	1.28	-.18	-.30
50%	$\frac{1}{3}$	.86	.90	1.09	1.16	1.41	-.23	-.32
50%	None	.88	.91	1.12	1.20	1.46	-.24	-.34
55%	20%	.73	.76	.91	.96	1.19	-.18	-.28
55%	$\frac{1}{3}$	.79	.82	.99	1.05	1.28	-.20	-.29
55%	None	.79	.82	1.00	1.08	1.31	-.21	-.31
60%	20%	.66	.69	.83	.89	1.09	-.17	-.26
60%	$\frac{1}{3}$	.70	.73	.89	.95	1.15	-.19	-.26
60%	None	.70	.73	.89	.96	1.17	-.19	-.28
65%	20%	.58	.60	.73	.78	.96	-.15	-.23
65%	$\frac{1}{3}$	.61	.64	.78	.84	1.02	-.17	-.24
65%	None	.61	.64	.78	.84	1.02	-.17	-.24
70%	20%	.52	.54	.65	.70	.85	-.13	-.20
70%	$\frac{1}{3}$	.53	.55	.67	.72	.88	-.14	-.21
70%	None	.53	.55	.67	.72	.88	-.14	-.21
75%	20%	.44	.45	.55	.59	.72	-.11	-.17
75%	$\frac{1}{3}$	.44	.45	.55	.60	.73	-.11	-.18
75%	None	.44	.45	.55	.60	.73	-.11	-.18

exports in the determination of the export norm.¹⁸ Both wide limits and low weights on the current year tend to increase the amounts borrowed and the amounts due for repayment, and thus give the repayment mechanism greater scope for exercising its influence on aggregate indebtedness. Inasmuch as automatism tends to improve the fit of availabilities, it is natural that whatever gives automatism a greater quantitative effect on repayments will also enhance its beneficial effect on the fit.

¹⁸ Where debt limits are narrow, the influence exercised by the weighting of the present year on the effectiveness of automaticity is not uniform.

(7) The widening, or removal, of the limits on the indebtedness of individual countries always has the effect of increasing the aggregate amount of indebtedness contracted at peak years (Table 11). This effect is much more important when the weight assigned to the current year's exports in the definition of the practical norm is low than when it is high, since a high weight on the current year itself tends to keep the indebtedness of individual countries from attaining the limits. The effect of widening the limits is also more important when repayment is on a more automatic than when it is on a less automatic basis.

The effect of varying the limits on the fit of actual to target availabilities cannot be expressed so simply (Table 10). When the weight assigned to the current year's exports in the determination of the practical norm is high (45 per cent or more), a widening of the limits tends to improve the fit. When no weight at all is assigned to the current year's exports, a widening of the limits markedly worsens the fit, to the point at which availabilities diverge more from the target than do unadjusted exports. Where a weight of one third is assigned to the current year's exports, the influence of the limits is doubtful. A complete removal of all limits produces a better fit than either a 20 per cent or a 33 per cent limit, but an expansion of the limit from 20 per cent to one third will be clearly beneficial only where the repayment system is entirely automatic. The conclusion is that when current year's exports receive a low weight the norm is so distorted that it is better, as well as cheaper, to have a limit on each country's indebtedness.

This conclusion is slightly modified when account is taken of the effect on smoothness of availabilities. Expansion of the debt limit fairly generally tends to increase smoothness; but even here, for schemes on which the current year's exports receive a zero weight in the definition of the practical norm, a widening of the limit from 20 per cent to one third tends to reduce, rather than to increase, smoothness.

(8) It would seem to be of interest to extract from the set of 137 schemes a short list of schemes which give the "best" results (in a sense to be defined) for a given "cost" or, to put the same thing in another way, have the lowest cost for a given degree of "excellence."

In this paper we have used two criteria of excellence—a measure of closeness of fit to target availabilities (the deviation ratio) and a measure of smoothness of availabilities (the smoothness ratio). We have also two measures of cost, the maximum indebtedness outstanding at any time from 1951 to 1961, and the indebtedness outstanding at the end of 1958. For the purpose of compiling the short list of schemes, a composite criterion of excellence has been calculated in

TABLE 10. EFFECT ON DEVIATION RATIOS OF CHANGES IN DEBT LIMITS
WITH TWO-THIRDS COMPENSATION TARGET

		Weight on Current Year's Exports	Country Debt Limit	RS 2	RS 3	RS 4	RS 5	RS 6
1		0	20%	.921	.928	.919	.917	.899
2		0	1 $\frac{1}{3}$	.980	.978	.969	.950	.914
3		0	None	1.191	1.150	1.137	1.159	1.087
4	(1 less 2)			-.059	-.050	-.050	-.033	.015
5	(2 less 3)			-.211	-.172	-.168	-.209	-.173
6		1 $\frac{1}{3}$	20%	.905	.907	.904	.900	.883
7		1 $\frac{1}{3}$	1 $\frac{1}{3}$	.926	.921	.901	.902	.864
8		1 $\frac{1}{3}$	None	.891	.874	.858	.866	.815
9	(6 less 7)			-.021	-.014	.003	-.002	.019
10	(7 less 8)			.035	.047	.043	.036	.049
11		45%	20%	.891	.890	.886	.876	.865
12		45%	1 $\frac{1}{3}$	.881	.880	.869	.860	.840
13		45%	None	.840	.829	.813	.814	.779
14	(11 less 12)			.010	.010	.017	.016	.025
15	(12 less 13)			.041	.051	.056	.046	.061
16		50%	20%	.885	.884	.876	.868	.857
17		50%	1 $\frac{1}{3}$	.869	.869	.857	.848	.831
18		50%	None	.827	.819	.802	.801	.772
19	(16 less 17)			.016	.015	.019	.020	.026
20	(17 less 18)			.042	.050	.055	.047	.059
21		55%	20%	.884	.882	.871	.865	.854
22		55%	1 $\frac{1}{3}$	.857	.857	.849	.840	.826
23		55%	None	.820	.814	.798	.795	.773
24	(21 less 22)			.027	.025	.022	.025	.028
25	(22 less 23)			.037	.043	.051	.045	.053
26		60%	20%	.881	.881	.868	.862	.851
27		60%	1 $\frac{1}{3}$	.853	.854	.842	.834	.823
28		60%	None	.819	.814	.799	.794	.777
29	(26 less 27)			.028	.027	.026	.028	.028
30	(27 less 28)			.034	.040	.043	.040	.046
31		65%	20%	.873	.874	.865	.857	.851
32		65%	1 $\frac{1}{3}$	.856	.857	.844	.836	.827
33		65%	None	.824	.821	.808	.802	.790
34	(31 less 32)			.017	.017	.021	.021	.024
35	(32 less 33)			.032	.036	.036	.034	.037
36		70%	20%	.870	.872	.863	.854	.851
37		70%	1 $\frac{1}{3}$	.848	.849	.836	.829	.823
38		70%	None	.833	.832	.820	.813	.805
39	(36 less 37)			.022	.023	.027	.025	.028
40	(37 less 38)			.015	.017	.016	.016	.018
41		75%	20%	.876	.877	.870	.862	.860
42		75%	1 $\frac{1}{3}$	.851	.850	.840	.834	.829
43		75%	None	.851	.850	.840	.834	.829
44	(41 less 42)			.025	.027	.030	.028	.031
45	(42 less 43)			.000	.000	.000	.000	.000

TABLE 11. EFFECT ON MAXIMUM INDEBTEDNESS OF CHANGES IN DEBT LIMITS
WITH TWO-THIRDS COMPENSATION TARGET*(In billions of U.S. dollars)*

		Weight on Current Year's Exports	Country Debt Limit	RS 2 and RS 3	RS 4	RS 5	RS 6
1		0	20%	1.36	1.40	1.48	1.65
2		0	$\frac{1}{3}$	1.90	1.90	1.87	2.18
3		0	None	2.69	2.70	2.65	2.77
4	(2 less 1)			.54	.50	.39	.53
5	(3 less 2)			.79	.80	.78	.59
6		$\frac{1}{3}$	20%	1.29	1.29	1.26	1.54
7		$\frac{1}{3}$	$\frac{1}{3}$	1.53	1.53	1.49	1.82
8		$\frac{1}{3}$	None	1.73	1.73	1.67	1.95
9	(7 less 6)			.24	.24	.23	.28
10	(8 less 7)			.20	.20	.18	.13
11		45%	20%	1.15	1.15	1.11	1.37
12		45%	$\frac{1}{3}$	1.30	1.30	1.26	1.53
13		45%	None	1.43	1.43	1.37	1.60
14	(12 less 11)			.15	.15	.15	.16
15	(13 less 12)			.13	.13	.11	.07
16		50%	20%	1.08	1.08	1.04	1.28
17		50%	$\frac{1}{3}$	1.22	1.22	1.17	1.41
18		50%	None	1.30	1.30	1.25	1.46
19	(17 less 16)			.14	.14	.13	.13
20	(18 less 17)			.08	.08	.08	.05
21		55%	20%	1.00	1.00	.97	1.19
22		55%	$\frac{1}{3}$	1.10	1.10	1.06	1.28
23		55%	None	1.17	1.17	1.12	1.31
24	(22 less 21)			.10	.10	.09	.09
25	(23 less 22)			.07	.07	.06	.03
26		60%	20%	.92	.92	.89	1.09
27		60%	$\frac{1}{3}$	.98	.98	.95	1.15
28		60%	None	1.04	1.04	1.00	1.17
29	(27 less 26)			.06	.06	.06	.06
30	(28 less 27)			.06	.06	.05	.02
31		65%	20%	.82	.82	.79	.96
32		65%	$\frac{1}{3}$	.86	.86	.84	1.02
33		65%	None	.91	.91	.87	1.02
34	(32 less 31)			.04	.04	.05	.06
35	(33 less 32)			.05	.05	.03	.00
36		70%	20%	.73	.73	.70	.85
37		70%	$\frac{1}{3}$	.75	.75	.72	.88
38		70%	None	.78	.78	.75	.88
39	(37 less 36)			.02	.02	.02	.03
40	(38 less 37)			.03	.03	.03	.00
41		75%	20%	.61	.61	.59	.72
42		75%	$\frac{1}{3}$	.65	.65	.62	.73
43		75%	None	.65	.65	.62	.73
44	(42 less 41)			.04	.04	.03	.01
45	(43 less 42)			.00	.00	.00	.00

which the deviation ratio is given twice the weight of the smoothness ratio, and a composite measure of cost in which maximum indebtedness and end-1958 indebtedness are given equal weights. Table 12

TABLE 12. SELECTED SCHEMES SHOWING THE "BEST" RESULTS FOR A GIVEN "COST" OR THE SMALLEST "COST" FOR A GIVEN RESULT

Scheme Number	Deviation Ratio	Smoothness Ratio	Maximum Indebtedness (million U.S. dollars)	1958 Indebtedness (million U.S. dollars)	Repayment System	Limit	Weight on Current Year's Exports
Part A							
132	.772	.706	1,460	1,460	RS 6	None	50
133	.773	.723	1,310	1,310	RS 6	None	55
134	.777	.741	1,170	1,170	RS 6	None	60
106	.795	.726	1,120	1,080	RS 5	None	55
107	.794	.739	1,000	960	RS 5	None	60
80	.799	.756	1,040	890	RS 4	None	60
108	.802	.759	870	840	RS 5	None	65
81	.808	.778	910	780	RS 4	None	65
109	.813	.781	750	720	RS 5	None	70
82	.820	.800	780	670	RS 4	None	70
100	.834	.811	620	600	RS 5	1/2	70
28	.833	.805	780	530	RS 2	None	70
101	.834	.811	620	600	RS 5	1/2	75
110	.834	.811	620	600	RS 5	None	75
74	.836	.828	650	550	RS 4	1/2	75
20	.851	.833	650	440	RS 2	1/2	75
11	.876	.859	610	440	RS 2	20%	75
Part B							
96	.848	.775	1,170	1,160	RS 5	1/2	50
69	.857	.787	1,220	1,090	RS 4	1/2	50
87	.868	.791	1,040	1,030	RS 5	20%	50
60	.876	.794	1,080	980	RS 4	20%	50
33	.884	.802	1,080	840	RS 3	20%	50
6	.885	.799	1,080	800	RS 2	20%	50
Part C							
3 (OAS Scheme reinterpreted)	.921	.830	1,360	1,290	RS 2	20%	0

lists, in increasing order of the deviation ratio, 17 schemes selected in such a fashion that all schemes other than those included in Part A are, by these composite criteria, *both* "inferior" to *and* "more expensive" than at least one of the schemes included in the list.

All the schemes listed in Part A show a closer approximation to the target, and all except the last two show greater smoothness (in relation to need), than scheme 3, the OAS scheme reinterpreted so as to permit automatic repayments in the third year.¹⁹ Only the "best" scheme (132) costs more than scheme 3. All the listed schemes attach a high—usually a very high—weight to the current year's exports in defining the practical export norm, and those which show a relatively close fit of availabilities to target, as well as great smoothness, have

¹⁹ See page 131 above.

wide or no debt limits. Those showing the best fit have neither debt limits nor compulsory repayments of deferred credits.

If schemes without debt limits and with repayment system 6 were excluded from consideration, the top ten schemes and the twelfth scheme would disappear from the list, and there would be no additions. Scheme 100 is the best of all the schemes with debt limits and with repayment systems other than repayment system 6.

If, in addition to schemes without debt limits and schemes with repayment system 6, all schemes with weights on the current year's exports exceeding 50 per cent were excluded from consideration, we would have a completely different short list of schemes, as shown in Part B of Table 12. All the schemes appearing in Part B give the highest "permissible" weight, viz., 50 per cent, to the current year's exports; and they are all closer to target, smoother (in relation to need), and cheaper than scheme 3, the reinterpreted OAS proposal, shown in Part C of Table 12.

APPENDIX TO PART II

The objective of a compensatory financing scheme is to supply participating countries with additional foreign exchange resources at times of falling export receipts in order to make it unnecessary for them to restrict imports and foreign exchange payments for other purposes to the level of current foreign exchange earnings. This, however, does not mean that the compensation should equal the full amount of the reduction in export receipts, since imports of goods and services will themselves tend to decline as a result of the fall in exports. Similarly, under the scheme countries should not be required to repay past credits to the full extent of a rise in exports, since part of the additional foreign exchange earnings will be absorbed by the expansion of imports which is induced by the increase in exports.

In this Appendix, we shall assess the extent to which foreign exchange payments would tend to fluctuate with fluctuations in exports as a result of the normal economic relationships in underdeveloped countries and, consequently, the extent to which these countries would be able to absorb available resources for compensatory financing of export fluctuations when exports decline, and to repay loans contracted for this purpose when exports recover, without drastic changes in their economic and financial organization.

Table 13 brings together ratios for 29 countries²⁰ from which an estimate is made of the ratio of the change in foreign exchange expenditure (M' , the prime being used to indicate a concept wider than imports alone) to the change in exports (X), which is considered to be the autonomous variable. With the help of these figures, a judgment is made about the time pattern of foreign exchange expenditure induced by export fluctuations.

²⁰ It was not possible to obtain the required data for all 48 primary producing countries treated in this paper.

TABLE 13. EFFECT OF A CHANGE IN EXPORTS ON FOREIGN EXCHANGE EXPENDITURES, AND UNDERLYING RATIOS¹(Average 1958-60)²

Country	Ratio of				Computation of Effect of Change in Exports on Foreign Exchange Expenditures $\Delta M'/\Delta X$	
	Imports to income	General taxes to income	Export taxes to exports	Investment income paid abroad to exports	$s=0$	$s=.05$
	m (1)	t_y (2)	t_x (3)	x_p (4)	(5)	(6)
Argentina	.14	.08	0	.03	.67	.55
Brazil	.11	.19	.01	.02	.39	.33
Burma	.23	.16	.02	.02	.58	.52
Ceylon	.35	.14	.19	.02	.59	.54
Chile	.13	.17	0	.09	.49	.43
Colombia	.16	.10	0	.07	.65	.55
Costa Rica	.30	.13	.03	.03	.68	.61
Ecuador	.13	.12	.04	.07	.55	.47
El Salvador	.25	.11	.10	.02	.63	.56
Ghana	.26	.06	.25	.07	.63	.56
Greece	.24	.16	0	.02	.62	.55
Guatemala	.22	.13	.10	.06	.57	.51
Haiti	.14	.08	.12	.02	.57	.46
Honduras	.20	.10	.03	.01	.64	.55
India	.07	.10	.03	.07	.42	.34
Indonesia	.11	.06	.01	.04	.63	.49
Iran	.15	.08	.38	.34	.51	.48
Iraq	.41	.12	.27	.41	.66	.63
Jordan	.46	.08	.32	.04	.58	.53
Malaya	.42	.13	.09	.11	.73	.68
Mexico	.13	.07	.11	.02	.57	.46
Pakistan	.09	.11	0	.04	.49	.40
Peru	.26	.14	.05	.01	.61	.54
Philippines	.12	.08	.10	.07	.57	.47
Sudan	.19	.08	.10	.04	.63	.54
Thailand	.22	.09	.05	.03	.68	.59
Turkey	.09	.12	0	.04	.47	.39
United Arab Republic	.17	.14	.03	.01	.53	.45
Venezuela	.23	.08	.42	.17	.46	.42
Average	.21	.11	.10	.07	.58	.50

Frequency Distribution of Ratios

Col. 5		Col. 6	
Under .50	6	Under .45	6
.50-.65	18	.45-.60	20
Over .65	5	Over .60	3

¹ Columns 1 and 2: Imports are merchandise imports. Income is national income or, in some cases, gross national product; the computation in column 5, however, is independent of the concept of income used. General taxes are government tax revenue less export taxes and oil royalties paid to the government.

Column 3: Taxes are those levied on exports and oil royalties paid to the government. Exports are merchandise exports.

Column 4: Investment income paid abroad is direct investment income remitted. For some countries, the figures include unspecified amounts of reinvested earnings. For Ecuador, Haiti, Indonesia, and Turkey, it has been assumed that one half of investment income is actually paid abroad. For the Philippines and Venezuela, reinvested profits of U.S. firms have been deducted from direct investment income debits in the balance of payments of these countries. For some other countries, it has been assumed that total investment income debits constitute remitted profits.

Columns 5 and 6: In the computation of column 5, the propensity not to spend, (s) is assumed to be zero; in column 6, it is assumed to be .05. The formula used in the computation is

$$\frac{\Delta M'}{\Delta X} = \frac{m(1 - x_p - t_x)}{m + t_y + s} + x_p$$

Data for national income are from United Nations, *Statistical Yearbook, 1961*, and *Monthly Bulletin of Statistics*, and also Fund staff estimates.

Imports and exports are from International Monetary Fund, *International Financial Statistics*.

Export taxes, general taxes, and oil royalties are from United Nations, *Statistical Yearbook, 1961*, and country publications.

Investment income paid abroad is from International Monetary Fund, *Balance of Payments Yearbook*.

² Or nearest years available.

Exports affect exchange expenditure in the first place through the remission abroad of profits of the export industry, particularly when that industry is conducted by foreign companies. For foreign oil companies, a related item is royalties paid abroad. The ratio (x_p) of investment income paid abroad to exports is shown in column 4. This ratio runs as high as 0.40 for some oil producing countries and is 0.07 on the average for the 29 countries.²¹ A second deduction from export income is made by government taxation levied directly on exports. The ratio (t_e) of these taxes to exports is indicated in column 3. The tax figures have been derived from the detailed information about government receipts provided in the *Statistical Yearbook* of the United Nations. The ratio is quite large for oil producing countries and also for a number of others, in particular, some of the underdeveloped countries of the Commonwealth. On the average this ratio is 0.10. The remainder of the gross value of exports represents private domestic income from exports, and this is spent and respent, except insofar as it "leaks out" by way of taxation, imports, or private saving.

An estimate of the ratio (t_p) of taxes (other than taxes on exports) to income is shown in column 2. For the 29 countries, the average is 0.11. In further use of this ratio, it is assumed that all nonexport taxes fluctuate proportionately to income, which is probably an overestimation of their degree of flexibility. The ratio of imports to income (m) is shown in column 1. The figure used here is the average propensity to import, limited to goods. Allowance has not been made for imports of services or for any difference between the marginal and the average propensity to import. The former adjustment would certainly, and the latter probably, raise the ratios computed in columns 5 and 6. On the average for all countries listed, the import/income ratio is 0.21. No data are available on the response of private saving and private investment to changes in income. The calculation in column 5 has been made on the assumption that the private marginal propensity to spend ($1 - s$) in the countries concerned equals unity. An alternative calculation in column 6 is based on the assumption that the private marginal propensity to spend equals 0.95, a figure which would almost certainly be a low estimate for most underdeveloped countries.²²

As far as the government is concerned, however, the assumption has been made that its marginal propensity to spend in the short run equals zero, i.e., that declines in tax receipts lead to equal government deficits and increases in tax receipts to equal surpluses. It may be assumed that governments would like to operate at least to this extent in a compensatory manner, although in fact they may in many cases not have been financially able to follow such a policy. This assumption²³ does not, however, represent the maximum degree of stabilization that the government could practice. The government might raise government expenditure (or lower its rate of taxation) when exports and incomes decline, and it might contract expenditure (or raise tax rates) when exports and incomes rise. Few underdeveloped countries, however, have at their disposal the institutional arrangements that would permit them to do this except where they run commodity schemes of their export products in such a manner as to achieve these additional compensatory effects. Indeed, many developed countries have found it difficult in practice to follow a policy of this nature.

²¹ The figures used for remitted profits represent total direct investment income remitted abroad and may, for a few countries, include payments of profits of non-export industries; for some countries, reinvested earnings may also be included.

²² For some evidence on this, see J. J. Polak, *An International Economic System* (Chicago, 1953), especially pp. 163-64.

²³ A second assumption about government policy is implicit in the computation shown in Table 13. It is assumed that the monetary authorities keep the quantity of money in circulation constant by offsetting the effect of fluctuations in foreign exchange receipts ("availabilities") on the money supply through variations in central bank credit.

Applying the assumptions made above, we come as follows to the computed effect shown in column 6: The initial impact on private domestic income of a change in exports will be equal to the amount of the export change multiplied by the coefficient $(1 - x_p - t_x)$. With allowance made for the leak through imports and "income" taxes, this sum will give rise, according to standard multiplier theory, to a total effect on imports equal to $\frac{m}{m + t_y + s}$ times the original impact.

When the direct impact on foreign exchange expenditures of profits remitted abroad is added, the total effect of a change in exports on foreign expenditure is as follows:

$$\frac{\Delta M'}{\Delta X} = \frac{m(1 - x_p - t_x)}{m + t_y + s} + x_p.$$

It will be seen from column 5 that the ratios are narrowly concentrated, with almost two thirds falling in the range of 0.50 to 0.65. Perhaps most surprising is the fact that the oil countries do not fall far outside this range. This is attributable not only to the fact that the oil countries remit large profits abroad, but also to the fact that the ratio of export taxes to exports is higher for these countries than it is for other countries; the effects of these two unusually high ratios approximately cancel out in the result. The alternative computation in column 6 assumes a marginal propensity to spend of 0.95 rather than of unity. Recomputation of the figures in column 5 with this allowance yields corrected ratios which are, on the average, lower by 0.08.

The ratios in columns 5 and 6 show the changes in imports between an initial equilibrium situation and the final equilibrium which is re-established eventually after a change in exports. During the year in which the change in exports occurs, the induced change in imports would be much smaller. Moreover, since imports adjust with a lag to an equilibrium level which itself fluctuates with exports, the adjustment will always remain incomplete. Using the average ratios of imports to income, of export taxes to exports, etc., given in Table 13, and assuming that imports and income tax collections lag three months behind the receipt of income, one can determine the time pattern of imports produced by a regular cyclical movement of exports. Export cycles with a duration of three to four years result in import fluctuations whose amplitude is approximately one third of the amplitude of the underlying export fluctuations.

It is obviously impracticable to tailor the provisions of an international compensatory scheme to the precise time pattern with which each country's imports react to changes in its exports. The data given in this Appendix and the argument in the preceding paragraph nevertheless, suggest that for many primary producing countries foreign exchange expenditures fluctuate on the average by as much as one third of the fluctuations of exports, even in the absence of variations in exchange control measures. This conclusion, it must be remembered, is based on the assumption that government expenditures and the money supply remain roughly constant in the face of export fluctuations. If government expenditures were to vary with the changes in tax collections that are induced by variations in exports, or if a similar influence of exports on domestic economic activity were allowed to occur through induced changes in the money supply, the effect of export changes on imports would be more pronounced and the scope for compensatory export financing would be correspondingly reduced. On the other hand, if domestic financial policies were to offset part of the impact of export changes on economic activity and thus on imports, international compensatory action could be more extensive. For reasons given earlier it would seem, however, that countries would not be able to use safely a compensatory scheme that finances more than two thirds of the short-term fluctuations in their exports, unless they were in a position to reform their internal financial system in the direction of offsetting much more fully the domestic effects of fluctuations in exports.

Les normes d'exportations et leur rôle dans le financement compensatoire

Résumé

Pour de nombreuses raisons qui relèvent à la fois de la politique économique nationale et internationale, il peut être souhaitable d'isoler les fluctuations à court terme dans une variable économique en établissant une norme à moyen terme, ou une valeur représentative de tendance, à partir de laquelle des écarts positifs et négatifs pourraient être mesurés. Le besoin d'un tel instrument a été ressenti au cours des dernières années, notamment en raison des fluctuations dont les prix ou recettes d'exportations des pays exportateurs de matières premières ont été l'objet. La première partie de cette étude examine quelles devraient être les caractéristiques d'une norme à moyen terme et quelles seraient, en pratique, les meilleures méthodes d'estimation à employer pour obtenir celle-ci, compte tenu du nombre limité d'indications utilisables avec certitude au moment où l'on doit établir cette estimation. A titre d'exemple, on a limité le domaine des recherches aux recettes d'exportations. Toutefois, la détermination de normes appropriées pour les prix d'exportations poserait les mêmes problèmes et appellerait les mêmes solutions. On a vérifié plusieurs formules, dont certaines sont le résultat d'une analyse de régression, en raison de leur utilité pour le calcul de la moyenne mobile des exportations sur une période de cinq ans, calcul effectué à partir des seules données relatives aux exportations de l'année en cours et des années précédentes. Ces vérifications sont fondées sur les exportations de 48 pays producteurs de matières premières au cours de l'après-guerre.

La deuxième partie de l'étude s'attache à l'examen de plans internationaux de caractère plus ou moins "automatique" visant à compenser les fluctuations à court terme des exportations, en particulier à la suite d'une proposition récemment formulée par l'Organisation des Etats Américains. Elle met surtout l'accent sur la manière dont la norme peut, en pratique, être déterminée. On essaye de dégager des critères permettant d'évaluer l'efficacité des divers plans de compensation considérés. Pour vérifier un grand nombre de variantes de la proposition de l'Organisation des Etats Américains on applique ces critères aux chiffres des exportations des 48 pays producteurs de matières premières. Il en ressort que ces variantes du plan qui, dans la formule de calcul de la norme d'exportation, attachent peu d'importance, voire aucune, aux exportations de l'année en cours, sont dans l'ensemble moins propres à assurer une meilleure distribution chronologique des recettes de devises et plus coûteuses en terme de dette non réglée, que les plans

qui dans la formule accordent davantage d'importance aux recettes d'exportations pour l'année en cours.

Las normas de exportación y el papel que desempeñan en el financiamiento compensatorio

Resumen

Muchos son los fines, tanto de política nacional como internacional, por los que puede ser conveniente aislar las fluctuaciones de una variable económica estableciendo una norma a mediano término o valor de tendencia, para poder medir las desviaciones positivas y negativas. En los últimos años la necesidad de hacerlo se ha presentado particularmente en lo que respecta a las fluctuaciones de los precios o ingresos de exportación de los países exportadores de materias primas. En la Parte I de este artículo se trata de cuáles son las características que debería tener la norma a mediano término y como podría ésta estimarse mejor en la práctica dada la escasa información pertinente de que se dispone al tiempo en que hay que efectuar la estimación. Para fines de ilustración, el estudio se circunscribe a los ingresos de exportación. Sin embargo, problemas semejantes surgirían, y el procedimiento que cabría emplear sería parecido, si se tratara de obtener normas apropiadas de los precios de exportación. Se examina una serie de fórmulas, algunas de las cuales han sido derivadas por medio del análisis de regresión, para averiguar su utilidad para la estimación de la media móvil quinquenal de las exportaciones, usando solamente los datos de las exportaciones del año en curso y de los años precedentes. Las pruebas se basan en las exportaciones realizadas durante la posguerra por 48 países productores de materias primas.

La Parte II del artículo se ocupa de los esquemas internacionales de un carácter más o menos "automático" para compensar las fluctuaciones a corto plazo de las exportaciones, particularmente en lo que respecta a la propuesta presentada por la Organización de los Estados Americanos (OEA). Se ha puesto especial énfasis en la forma en que puede determinarse la norma en la práctica, y se han desarrollado criterios que permiten evaluar la eficacia de diversos esquemas de compensación. Se analiza un gran número de variantes de la propuesta de la OEA mediante la aplicación de dichos criterios a los datos de exportación de 48 países productores de materias primas. Se comprueba que las variantes del esquema en que se da poca o ninguna

ponderación a las exportaciones del año en curso en la fórmula para el cálculo de la norma de exportación, resultan en general menos eficaces para la mejor distribución cronológica de los ingresos de divisas extranjeras y más costosas en términos de la deuda pendiente, que en los esquemas en que se da una mayor ponderación al producto de las exportaciones del año en curso.

Appraisal of Japan's Plan to Double Income

M. Fujioka*

AN ECONOMIC PLAN to double the national income in ten years was adopted by the Japanese Government in December 1960.¹ The purpose of the plan is to maintain the high rate of economic growth realized in the past decade, in order to raise further the living standards of the people and to attain full employment. In the first year of the plan (the fiscal year beginning April 1, 1961), the growth in gross national product (GNP) is estimated to have reached 10 per cent,² compared with the average annual rate of 7.2 per cent envisaged for the plan period. The investment-induced boom resulted in a marked deterioration in the balance of payments; also, the vigorous economic activity entailed various frictions and problems, some of which were only vaguely anticipated in the plan, if not neglected.

The plan is briefly outlined in Section I below, and some background on its drafting is given. The basic factors of Japan's economic growth in the past and the prospects for the future are discussed in Section II. Active private investment in such industries as iron and steel, non-ferrous metals, machines, chemicals, and coal and petroleum products has played an important role in the rapid economic expansion of recent years. It has increased the output capacity of the nation and raised the productivity of industry. However, the rapid economic expansion has given rise to various problems, of which the most conspicuous are the change in the price and cost structure and the balance of payments, the former conditioning and the latter limiting economic growth in future.

The change in the price and cost structure, which has been characterized by a downward trend of wholesale prices and an upward trend of consumer prices, is discussed in Section III. The downward trend of wholesale prices reflects rising output capacity and productivity, which is deflationary through its effect on demand, and the upward

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¹ Japanese Government, Economic Planning Agency, *New Long-Range Economic Plan of Japan (1961-1970): Doubling National Income Plan* (published in English by the Japan Times, Ltd., Tokyo, 1961).

² Official estimate made in January 1962. However, a preliminary estimate made by the Economic Planning Agency in August 1962 shows a 13 per cent growth in GNP in real terms.

trend of consumer prices reflects rising wages, which may produce a cost inflation. A faster rise in wages than in prices is important to achieve a doubling of income in real terms at home, but a slower rise in wages than in productivity is necessary to maintain external competitiveness.

The prospects for exports and imports are discussed in Section IV. As GNP grows, imports are expected to increase more than proportionately; therefore, an expansion of exports is of vital importance to the plan. The improvement in Japan's payments position heretofore owes much to the strengthening of the export industries, in spite of discrimination against Japanese goods by a number of other industrial countries. In view of the growing world market, elimination of discrimination against Japan by these countries will, together with assistance to less developed countries, become more important and will raise the limit imposed by the balance of payments on Japan's economic growth.

There is little doubt about the potentiality of the Japanese economy to achieve the target of the income-doubling plan, provided that world trade grows sufficiently, say at an annual rate of 4-5 per cent; but the over-all success of the plan depends, to a large extent, on the domestic policies adopted to implement it. Since the plan is fundamentally of the nature of a guide for the national economy, based on the principles of free enterprise and free markets, much is left to the initiative and ingenuity of private enterprise. However, a market economy has inherent difficulties, particularly in Japan where competition is excessive and the operation of the market mechanism is too often accompanied by a great social sacrifice. How to harmonize the basic principle of a free economy with the modern concept of social welfare remains an important problem. This problem is discussed in Section V.

I. Background and Outline of Plan

BACKGROUND OF PLAN

This plan is not the first one in Japan to set out a comprehensive long-range economic program. Two major plans comparable to the present one are the Five-Year Plan for Self-Support Economy, adopted in 1955, and the New Long-Range Economic Plan (five years), adopted at the end of 1957. The first plan, following the pattern set out by Dr. Gerhard Colm,³ assumed a full employment economy; the

³ Gerhard Colm, *The American Economy in 1960* (National Planning Association, Washington, 1952).

second plan was drawn up on the assumption of a certain warranted rate of growth. The first plan obviously erred in applying a full employment model to the Japanese economy, which is characterized by unemployment and underemployment. The annual growth rate of 5 per cent envisaged in the plan soon proved to be a gross underestimate of the growth potential of the postwar Japanese economy; the major targets were reached or surpassed in the first few years. The second plan, which assumed that a growth rate of 6.5 per cent a year was the maximum warranted for equilibrium in the balance of payments, for a balance of saving and investment, and for stability of prices, proved overcautious; a higher rate of growth was easily achieved, and again the major targets were realized in the first few years. The rate of growth achieved during this period was unprecedented, not only in Japan but also throughout the world (excluding the communist bloc countries); GNP for the fiscal year 1960/61 (April 1960/March 1961) was estimated at ¥ 13,000 billion (at fiscal 1958/59 prices), which was 2.4 times that recorded ten years earlier and 1.5 times that recorded five years earlier.

Before drafting the present plan, the Economic Planning Agency (EPA) prepared a perspective of the Japanese economy in the coming twenty years, in which the merits and demerits of the past two plans were reviewed, factors for future economic expansion were analyzed, a common framework for analyzing and setting targets for various sectors was selected, and a suitable macro-model for the Japanese economy was gradually completed. The present plan, which replaces the five-year plan of 1957, was, therefore, drawn up in recognition of the historical fact that the rapid expansion of the economy in recent years could be ascribed not merely to the process of rehabilitating a war-devastated economy but also to basic factors inherent in the economy. The plan also considers the changing economic circumstances that Japan will face in the years ahead. First, the advance of technological innovation and modernization, which so far has been limited to certain industries and enterprises, will spread to a broader segment of the economy, including small enterprises, and at the same time will affect the consumption pattern of the people. Second, the rate of population growth will slacken, and the annual new labor force, after increasing in the first few years of the plan because of the post-war "baby boom," will decline rapidly thereafter. Third, it is expected that the annual rate of expansion in world trade, which was 6.2 per cent in the last decade (1950-59), will slacken to about 4.5 per cent in the coming ten years, but that trade between advanced countries will grow faster than the average.

The target of the plan is to attain in fiscal 1970/71 a GNP of

¥ 26,000 billion (at fiscal 1958/59 prices), which is twice the estimated GNP in fiscal 1960/61. The increase in GNP at compound rate that is expected is 7.2 per cent during the ten years and 7.8 per cent starting from the base period (average of 1956/57–1958/59, selected for statistical convenience). In conformity with this growth rate, various equations and parameters were selected for aggregate demand and supply, and employment. In the target year, national income (as distinct from GNP) will be ¥ 21,300 billion (\$59.2 billion), and per capita income will be ¥ 208,000, the equivalent of \$579. In 1960, per capita income in Japan was only \$335, whereas it was \$1,085 in the United Kingdom, \$957 in the Federal Republic of Germany, \$954 in France, and \$505 in Italy.⁴

The fundamental idea of any economic plan in Japan since World War II has been that it should be based on the principles of free enterprise and free markets. The present plan has followed this idea further than the previous ones in that it gives priority to some important problems only, instead of emphasizing details for every field. From this viewpoint, the national economy is divided into two parts, the public sector and the private sector. Only for the former are some concrete and practical programs set out; for the latter, the plan gives only a forecast and minimum guidance, leaving everything else to the initiative and resourcefulness of private individuals and enterprises.

OUTLINE OF PLAN

The ultimate objectives of the plan are to improve the standard of living and to make a marked advance toward the attainment of full employment. In order to achieve these goals, the plan calls for balanced growth of the economy, with monetary stability as the necessary condition. Table 1 summarizes the main proposals in the plan.

The five elements in the plan are (1) expanding social overhead capital, such as roads, harbors, factory sites, and water facilities, which tend to lag behind direct productive capital, (2) strengthening the industrial structure by increasing the relative importance of the sectors where labor is more productive, such as the heavy and chemical industries, as well as by raising the productivity of individual enterprises, (3) promoting foreign trade and international economic co-operation, (4) improving the quality of labor and promoting science and technology, and (5) improving the living standards of the low-income group and increasing over-all social welfare.

The plan emphasizes improvement of the economic structure. In

⁴ Based on data in International Monetary Fund, *International Financial Statistics*.

particular, it stresses the expansion of secondary industry (mining, manufacturing, and construction, and especially the heavy and chemical industries), with a fast rise in its relative contribution to national income as well as to total employment. It also aims at a substantial expansion of tertiary industry (including transportation, communications, and public utilities). On the other hand, for primary industry (agriculture, forestry, and fisheries) it estimates only a small increase in output and a substantial decrease in the number employed. The change in the economic structure is to be accompanied by a corresponding change in the pattern of exports.

TABLE 1. JAPAN: PLANNED ANNUAL AVERAGE INCREASE IN PRODUCTIVITY, EMPLOYMENT, AND GROSS NATIONAL PRODUCT, 1961-70

(In per cent)

	Productivity Per Unit of Labor	Employment	Gross National Product
Primary industry	5.6	-2.8	2.8
Secondary industry	5.5	3.5	9.0
Tertiary industry	5.5	2.7	8.2
Transportation, communication, and public utilities	5.6	3.2	8.8
Entire economy	6.6	1.2	7.8

Source: Japanese Government, Economic Planning Agency, *New Long-Range Economic Plan of Japan (1961-1970)*, *Doubling National Income Plan* (published in English by the Japan Times, Ltd., Tokyo, 1961).

The annual increase in gross domestic capital formation during the period is assumed to be more than 8 per cent and in the number of employed, more than 1 per cent. Capital formation will make up almost 32 per cent of aggregate demand in the target year, which is higher than the 30 per cent in the base year but lower than the actual results of fiscal 1959/60 (35 per cent) and fiscal 1960/61 (38 per cent). Savings will exceed gross domestic capital formation by a small margin in the target year. The share of personal savings in total savings is expected to fall slightly from that in the base year, on the assumption of an average ratio of personal savings to disposable income of 15 per cent, which again is much lower than the actual results in 1959/60 and 1960/61.

The over-all balance of payments is expected to yield a surplus of \$200 million in the target year, the trade surplus being \$410 million, the deficit on invisibles \$230 million, and net capital receipts \$20 million. An expansion of exports to \$8,490 million in the target year is essential to cover the necessary imports of \$8,080 million and leave a surplus of \$410 million on trade account; this means an annual increase

of more than 9 per cent for both exports and imports, and also implies that the importance of exports of capital goods will increase in the period.

The various targets in the plan are expressed in real terms, and it is assumed that the general price level will be stable during the ten years, as stability of prices is considered a necessary condition for the smooth fulfillment of the plan. However, it is admitted that prices may fluctuate in the short run, according to the business cycle and depending on the world economic situation; and that prices for individual goods and services may alter, according to changes in the economic structure and in the relative supply of labor and capital.

The central field of the plan is the public sector, where the Government has direct means of control. The responsibility of the Government is to foster positive factors for economic growth and to eliminate negative factors; to maintain price stability, while providing the funds needed for economic growth; and to lessen business fluctuations by proper fiscal and monetary policies. The role of the Government is thus to create favorable conditions for the private sector to assume the initiative in development.

The plan describes, in fair detail, the desired targets and the measures to be pursued by the Government in achieving these objectives. The total amount of government investment considered necessary during the period is specified for each key program, such as road construction, housing, flood control, and educational facilities. However, the actual investment for each program is to be decided on a year-to-year basis when the budget is compiled, the prevailing economic situation being taken into consideration.

The part of the plan devoted to the private sector emphasizes that the plan provides only forecasts of the national economy on which enterprises can base their long-range plans. The role to be played by the Government is limited mainly to creating the fundamental conditions for a market economy where enterprises can assume the initiative. The remaining controls over industry will be removed as soon as possible, and to the extent feasible. Foreign exchange restrictions will be eliminated, and, for a transitional period thereafter, tariff policy will gain in importance. However, the protection to be accorded to industry, by either tariffs or other measures, will be limited to promising infant industries for a minimum period of time. Liberalization of restrictions on trade and payments, and the resulting intensification of international competition, are expected to accentuate competition among enterprises and to promote evolution of the industrial structure. While the Government is to see that fair competition is preserved and monopolization and cartelization avoided, for the bene-

fit of the consumer and the public in general, it is required to promote the international competitiveness of industry and to help to improve the industrial structure.

Finally, the plan illustrates the outlook for the standard of living, enrichment of which is the ultimate objective of the plan. The first improvement in living standards is to be modernization of employment, in the sense that more of the labor force is employed as wage earners rather than as family workers, or as regular workers rather than as temporary workers, and with higher wages and better working conditions, in larger factories. This is considered highly important, in view of the fact that a surplus of labor and underemployment have characterized the Japanese economy up to the present day. As the rapid expansion of secondary industry, particularly the heavy and chemical industries, takes place, a greater share of total employment will be provided by this sector, with higher productivity rewarded by higher wages. Since the increase in GNP is largely accounted for by an increase in productivity rather than by an increase in employment (Table 1), there will be considerable scope for an increase in the wage rate. Earned income will increase 3.3 times while national income increases 2.67 times; simultaneously, the share of earned income in nonprimary industries is expected to rise slightly relative to corporate income. As the wage rate increases, the wage differential between big enterprises and small enterprises, which has been one aspect of the so-called dual structure of the Japanese economy,⁵ will be narrowed. Working conditions will be improved in the meantime, resulting in shorter hours of work.

The second improvement planned in the standard of living is an increase in consumption, as a result of the increase in personal income. By the target year, the per capita income of a wage earner will be 2.4 times that in the base year, and more will be spent for housing and cultural purposes. The Government will undertake to improve environmental facilities, which are beyond the reach of consumers' free choice. Thus, the plan envisions a better life for the people as the national income doubles, although the targets in the plan are admitted to be all too far from the ideal.

⁵ The dual structure of the Japanese economy is usually understood to mean the coexistence of advanced nonprimary industry and backward primary industry, of modernized big enterprises and premodern small enterprises, and of marked differentials in wages and living standards in various sectors of the economy.

II. Basic Factors for Economic Growth⁶

In the last decade, the Japanese economy achieved a high rate of growth. During the period 1951–60, the average annual rate of growth in GNP in real terms was nearly 10 per cent and the pace of expansion did not slacken, except for cyclical fluctuations (Table 2). In the early years of the period, the high rate of growth was attributable both to active private consumption and to investment; in the later years, investment was the main factor. Whereas the average ratio of gross fixed capital formation to GNP was about 18 per cent in 1951–55, it was 28 per cent in 1956–60. The high rate of economic growth since 1952 has been achieved with relative stability of prices and a considerable strengthening of the balance of payments position.

Economic growth in the form of increases in GNP is achieved by the expansion of the output capacity of a nation, coupled with a comparable increase in effective demand. Inflation, in the ordinary sense, will be avoided if the expansion in demand does not exceed that of output capacity. International payments difficulties will be avoided if the expansion in output capacity is accompanied by an increase in productivity, thereby contributing to increases in export competitiveness, and to decreases in the dependence of the national economy on imports (with no account taken, for the moment, of the foreign market situation). Where the expansion in production is carried out mainly by the private sector, the expansion of private investment in equipment plays a pivotal role in economic growth.

PRIVATE INVESTMENT IN EQUIPMENT

The remarkable rise in the ratio of gross fixed capital formation to GNP during the last decade was due mainly to the striking upswing of private investment in equipment that began in 1956. The annual rate of expansion for the five years 1956–60 was 29 per cent in real terms, against 9 per cent during the five years 1951–55. Such investment contributed 36 per cent of the total increase in GNP during 1956–60, against 6 per cent during 1951–55.⁷ Mining and manufacturing production increased 2.3 times in 1956–60; 41 per cent of the increase

⁶ This paper aims at analyzing the salient features of the Japanese economic growth in recent years, insofar as it conditions the future course of the income-doubling plan. It is not intended to explain comprehensively all the basic factors influencing economic growth in Japan.

⁷ Japanese Government, Economic Planning Agency, *Economic Survey of Japan (1960–61)* (published in English by the Japan Times, Ltd., Tokyo, July 1961), p. 22.

TABLE 2. JAPAN: GROWTH, IN REAL TERMS, OF GROSS NATIONAL PRODUCT (GNP) AND COMPONENTS OF GROSS NATIONAL EXPENDITURE, 1947-62

(In per cent)

Fiscal Year Beginning April 1	Growth in GNP (1)	Components of Gross National Expenditure								Net re- ceipts from abroad (9)	Fixed capital formation Cols. 3 + 7 (10)
		Private con- sumption (2)	Private gross capital formation			Government expenditure					
			Fixed in- vestment (3)	Inventories (4)	Total, Cols. 3 + 4 (5)	Con- sumption (6)	Fixed in- vestment (7)	Total, Cols. 6 + 7 (8)			
1947	10.0	61.9	13.2	10.6	23.8	6.9	11.6	18.5	-4.2	24.8	
1948	16.4	60.2	13.4	12.4	25.8	9.8	8.9	18.7	-3.7	22.3	
1949	3.9	64.2	11.1	8.5	19.6	11.2	8.0	19.2	-3.0	19.1	
1950	12.2	62.1	10.9	7.9	18.8	11.3	5.9	17.2	1.9	16.8	
Average	10.6	62.1	12.2	9.9	22.1	9.8	8.6	18.4	-1.8	20.8	
1951	13.5	59.9	10.5	10.9	21.4	11.0	5.4	16.4	2.3	15.9	
1952	10.5	63.4	11.4	6.7	18.1	11.8	6.2	18.0	0.5	17.6	
1953	6.7	63.3	12.2	5.8	18.0	11.2	8.3	19.5	-0.7	20.5	
1954	3.3	63.3	12.1	3.4	15.5	11.3	8.2	19.5	1.7	20.3	
1955	10.3	62.2	11.2	7.0	18.2	10.8	7.1	17.9	1.7	18.3	
Average	8.9	62.4	11.6	6.8	18.3	11.2	7.0	18.2	0.6	18.6	
1956	9.0	60.5	15.8	7.6	23.4	10.3	6.6	16.9	-0.8	22.4	
1957	7.9	59.7	18.1	4.6	22.7	10.1	7.7	17.8	-0.2	25.8	
1958	3.2	61.0	18.7	0.3	19.0	10.4	9.0	19.4	0.6	27.7	
1959	17.9	55.7	20.1	7.2	27.3	9.5	8.8	18.3	-1.3	28.9	
1960	13.2	53.4	24.4	6.3	30.7	9.3	9.4	18.7	-2.8	33.8	
Average	10.2	58.1	19.4	5.2	24.6	9.9	8.3	18.2	-0.9	27.7	
1961 ¹	10.0	52.5	24.9	5.4	30.3	...	...	18.4	-1.2	...
1962 ¹	5.4	53.9	23.6	2.0	25.6	...	...	20.6	-0.2	...

Source: Japanese Government, Economic Planning Agency, *White Paper on National Income, Fiscal 1960* (in Japanese).¹ Official estimates at current prices made in January 1962.

was induced by the increase in private investment in equipment.⁸ The rate of increase in GNP was higher than that in other industrial countries, and the rate of increase of fixed capital formation may be said to have been disproportionately higher. In the ten years 1950-59, the rate of growth of GNP in Japan was nearly 30 per cent greater than that in Germany, where the situation after World War II was similar to that in Japan; for fixed capital, Japan's rate of expansion was nearly 60 per cent greater than Germany's (Table 3). The relation

TABLE 3. SELECTED INDUSTRIAL COUNTRIES: AVERAGE ANNUAL RATES OF GROWTH OF REAL GROSS NATIONAL PRODUCT (GNP) AND ITS COMPONENTS, 1950-59

(In per cent)

	GNP	Private Consumption	General Government Consumption	Fixed Capital Formation
Japan				
1950-59 ¹	9.5	8.3	8.2	15.3
1951-60 ¹	9.6	8.3	7.9	18.0
1951-55 ¹	8.9	9.6	8.7	11.2
1956-60 ¹	10.2	6.9	7.1	24.8
Germany, Federal Republic of	7.5	7.3	5.6	9.8
Italy	5.7	4.3	7.0	8.2
France	4.0	4.0	3.6	4.9
United States	3.3	3.2	6.7	2.1
United Kingdom	2.4	2.2	2.0	4.5

Sources: For Japan, Japanese Government, Economic Planning Agency, *White Paper on National Income, Fiscal 1960* (in Japanese); for other countries, United Nations, *Yearbook of National Accounts Statistics, 1960*.

¹ Fiscal years beginning April 1.

seems to have been more marked in recent years. The unusual growth in Japan may be explained by a change in the industrial structure that started in 1956, viz., the process of heavy and chemical industrialization, which requires a proportionately higher rate of investment than other industry. In Germany, this kind of heavy industrialization took place as early as 1930, but the process thereafter was slower than in Japan.⁹

⁸ The remaining 59 per cent comprises 24 per cent derived from increases in household expenditures, 9 per cent from inventory investment, 12 per cent from government expenditures, and 14 per cent from exports and others. *Ibid.*, p. 201.

⁹ The stage of heavy and chemical industrialization here referred to is one where the net value added in the heavy and chemical industries in peacetime exceeds some 50 per cent of that in manufacturing industry as a whole. This ratio exceeded 50 per cent in Japan in 1956 and rose to nearly 60 per cent in 1959 and 63 per cent in 1960. See Japanese Government, Ministry of International Trade and Industry, *White Paper on Foreign Trade, 1961* (in Japanese), pp. 189, 218, and 307.

The rapid expansion in private investment in equipment in heavy and chemical industries in the process of their industrialization is explained first by a higher capital stock per employee in these industries. The increase in investment was slow up to 1955, when the growth of these industries was slow. While total manufacturing production increased by 400 per cent during 1947–55, output of machinery, the most typical heavy industry, and that of textiles, the most typical light industry, also increased by 400 per cent. However, from 1956 onward, the pace of expansion of private investment was accelerated, reflecting the increasing importance of the heavy and chemical industries. While manufacturing production as a whole in 1960 was 2.3 times that in 1956, output of machinery was 4.4 times, and that of textiles 1.6 times, as great. The rapid progress in the structural improvement of Japanese industry in 1956–60 was a consequence of a series of technical innovations that started in 1956, and the investment boom was brought about by keen competition among domestic enterprises attempting to invest in larger and more efficient equipment.

A second explanation is that investment induced investment through the demand for capital goods. Investment induces more investment than does private consumption or government expenditure. Investment for the production of capital goods absorbed 24 per cent of total investment in 1955, but 42 per cent in 1960.

Third, the marginal capital coefficient, expressed as the ratio of private capital investment to the increase in GNP, rose because of the longer gestation period of capital investment for heavy and chemical industries (such as the improvement of port facilities for iron and steel), larger units (for petrochemicals and high-degree synthetic chemicals), more multilateral factory operations, and larger capacity constructed to meet future demand. The coefficient rose from 1.1 for 1951–55 to 1.9 for 1956–60,¹⁰ in spite of the fact that the ratio of plant in operation to total capacity increased during the period.

Thus, the continued expansion of private investment in equipment since 1956 has, in a sense, been self-inducing and self-sustaining. The increasing capacity resulting from the investment was obscured by the immediate demand created by the investment itself. However, investment for the sake of investment cannot last forever, from the very nature of investment. The maintenance of an equivalence between supply and demand becomes of prime importance to balanced economic growth.

¹⁰ Calculated from gross investment in the same year as the increase in GNP, on actual value. *Economic Survey of Japan* (cited in footnote 7), p. 206.

See also Japanese Government, Ministry of International Trade and Industry, *Monthly Statistics* (in Japanese), March 1962, pp. 56–57.

SUPPLY AND DEMAND

Investment is thus a demand factor in the immediate period and a supply factor in the following period. The pivotal role of private investment in equipment in the Japanese economy is explained by the relation between its expansion and the growth of GNP. Although various factors determine the possible growth of GNP in a predominantly private enterprise economy like Japan, the first limit, in a physical sense, is set by the private investment that brings about the increase in the nation's output capacity.¹¹

In the eight fiscal years before the inauguration of the present plan (fiscal 1953/54–1960/61, which cover two business cycles), GNP increased by ¥ 8,547 billion (about 2.4 times). During this period, wholesale prices declined by 6 per cent. The combination of a rapid increase in GNP with a moderate decline in prices was obviously made possible by a corresponding increase in output capacity. This relationship is illustrated by Table 4, in which it is assumed that net new investments in equipment materialize in the following year in an equivalent increase of output capacity for industry as a whole,¹² and that the portion of gross private investment in equipment which does not contribute to the increase in output capacity was 11 per cent for fiscal 1952/53–1955/56, 13 per cent for fiscal 1956/57–1958/59, 14 per cent for fiscal 1959/60–1960/61, and 15–20 per cent thereafter, gradually increasing over the next ten years.¹³ The cumulative increase in out-

¹¹ For a discussion of the dual role of fixed investment in influencing the growth of output and of the usefulness of segregating producers' investments in fixed assets from those investments whose impact upon capacity is more indirect, see United Nations, *World Economic Survey, 1959*, pp. 22–23.

¹² It has been argued by Dr. Shimomura that private investment in equipment in a certain year is roughly equivalent to the increase in output capacity in the following year. His argument has two steps. First, on the basis of the time needed at present for the completion of construction works of various types, and of the present custom that payments are made in installments from the time of starting work to its completion, he assumes that private equipment investment in a given year (which comprises payments for various stages of different construction works) is approximately equal to the total value of equipment completed in the following year. Second, he gives statistical evidence that the total value of newly completed equipment in a certain year is approximately equal to the increase in output capacity in the same year. See O. Shimomura, *For the Realization of Economic Growth* (in Japanese), Tokyo, December 1958, pp. 384–88.

¹³ This portion should be understood as the replacement that is necessary to maintain the existing level of output capacity in a physical sense, which is obviously different from depreciation for accounting purposes. Statistics of replacement so defined are not available. The ratio of depreciation fluctuated widely in the past, but the general trend was rising. It was 7–9 per cent during fiscal 1952/53–1955/56 for all industries (10–12 per cent for manufacturing alone), 8.5–10 per cent (12–13 per cent for manufacturing) during fiscal 1956/57–1958/59, 9–10 per cent (13–14 per cent) during fiscal 1959/60–1960/61, and 11–25 per cent (15–22 per cent) for the first half of fiscal 1961/62. The percentages for replace-

put capacity from 1953/54 to 1960/61 was ¥ 8,685 billion, about the same as the increase in GNP.¹⁴ Table 4 shows that in a short period of one year, when the ratio of increase in GNP to the increase in output capacity was more than 1.5, wholesale prices rose sharply; that they declined markedly when the ratio was far less than 1.0; and were relatively stable when the ratio was between 1.0 and 1.5. Assuming prices are flexible as in the past, it may be concluded that supply and demand can be balanced with a constant price level, if the ratio of increase in GNP to the increase in output capacity is maintained at about 1 in the long run, and presumably between somewhat below 1 and 1.5 in the short run.¹⁵

The future trend of private investment in equipment is difficult to forecast. Investment is already high; the estimated amount in fiscal 1961/62, the first year of the plan, surpassed the target for 1970/71, and the same amount is expected in fiscal 1962/63, in spite of the stringent financial measures taken. For several reasons, this tendency may not continue. Investment directed toward the improvement of the industrial structure may slacken as the level of Japanese industry nears that of more advanced countries, assuming that the present pace of technological progress in the more advanced countries continues unchanged. Investment induced by investment will, by its nature, shrink as capital accumulation reaches a certain level, because investment eventually depends on consumption, which is less explosive than investment. Also, the upward trend of the marginal capital coefficient cannot persist for long, because, in the period following a large investment, additional output may be obtained with a small addition of capital. The modernization and rationalization of industries carried

ment cited in the text take into account the rising trend of depreciation and the increasing weight of manufacturing industry, especially the heavy and chemical industries, in the coming ten years, but the actual magnitude of the percentages does not mean much, because the present purpose is to show the year-to-year change in the marginal relation between supply and demand.

¹⁴ An index of output capacity for manufacturing industry, compiled by the Japanese Ministry of International Trade and Industry, in 1960 was 1.91 times the 1955 index; GNP in 1960 was 1.78 times that in 1955. The parallelism of this increase in output capacity and in GNP may mean that the capital coefficient is much lower than those usually considered, for which the reason appears to be that only net private equipment investment is taken into account in the calculation. This is appropriate because, although public investments, such as roads and housing, are important on both the demand and supply sides, they are not directly productive by themselves, and their relation to output can be flexible. What determines the growth in output capacity directly is private equipment investment, and its magnitude has a direct bearing on the supply and demand situation. Inclusion of public investment will merely raise the capital coefficient, with a wide margin of fluctuation, and obscure the present point of discussion.

¹⁵ In the short run, fluctuations in demand may result in increases and decreases in the rate of operation of plant, rather than in prices.

out to meet the problems created by trade liberalization will be completed sooner or later. Technical innovation may exert a capital-saving effect. However, in spite of all these factors, it is not likely that private investment in equipment will decline substantially in the coming years.

TABLE 4. JAPAN: RELATION BETWEEN CAPACITY AND DEMAND,
FISCAL YEARS 1952/53-1970/71

(In billions of yen)

Fiscal Years Beginning April 1	Private In- vestment in Equipment ¹ (1)	Increase in Output Capacity ² (2)	Gross National Product (GNP) (3)	Increase in GNP (4)	Col. 4 ÷ Col. 2 (5)	Percentage Increase or Decrease (-) in Wholesale Prices ³ (6)
1952	713		6,118			
1953	801	634	7,085	967	1.53	2.3
1954	760	713	7,466	381	0.53	-3.0
1955	777	676	8,236	770	1.15	-0.7
1956	1,373	692	9,293	1,057	1.53	5.3
1953-56		2,715		3,175	1.17	1.04
1957	1,693	1,195	10,150	857	0.70	-3.5
1958	1,650	1,473	10,395	245	0.20	-6.8
1959	2,170	1,436	12,573	2,178	1.54	2.5
1960	3,070	1,866	14,665	2,092	1.12	-1.6
1957-60		5,970		5,312	0.90	-4.24
1953-60		8,865		8,547	0.98	-1.54
1961 (estimate)	3,750	2,640	16,760	2,095	0.79	+0.5
1962 (estimate)	3,690	3,188	17,660	900	0.28	-2.6
1961-70 (estimate)		30,112	27,456	12,791	0.42	

Sources: Based on Japanese Government, Economic Planning Agency, *White Paper on National Income, Fiscal 1960* (in Japanese); and Bank of Japan, *Economic Statistics of Japan, 1961* (in Japanese).

¹ Investment in producers' fixed assets only.

² Calculated by deducting a portion equivalent to replacement from private equipment investment in the preceding year—see text, page 161.

³ Based on Bank of Japan statistics for 1952-55 and Economic Planning Agency statistics for 1956-61. The former are compiled on 1952 weights, and are considered obsolete for more recent years. The latter are compiled on 1955-57 average weights of manufactured products. The new series is linked with the old in 1955.

⁴ Indicates changes in price level between fiscal 1952/53 and the period concerned.

Let us assume most conservatively that private equipment investment in the coming decade will cease to increase secularly from the present level of about ¥ 3,700 billion a year, in contrast to the actual increases of 33 per cent for fiscal 1959/60, 41 per cent for fiscal 1960/61, and 22 per cent for fiscal 1961/62. Then, the aggregate increase in output capacity in the coming decade would amount to ¥ 30,112 billion. Now the plan assumes that in 1970/71 GNP will be ¥ 26,000 billion at fiscal 1958 prices, which is equivalent to ¥ 27,456 billion at 1960 prices, and therefore represents an increase of ¥ 12,791 billion

over the 1960 level. Consequently, the increase in GNP would be only 42 per cent of the increase in capacity. This would undoubtedly mean an economy too deflationary to be endured over a long period of time. On the assumption that private equipment investment is not cut down substantially, the alternative seems to be to expand demand whenever and wherever feasible and desirable, at a slightly faster pace than that envisaged in the plan.

PROSPECTS FOR DEMAND

One of the ultimate objectives of the plan is to enable the people to enjoy a higher standard of consumption, both in quantity and in quality, and also a considerable amount of leisure. Reflecting economic prosperity, real per capita consumption expenditure increased by 25 per cent during 1956-60, and the pace of increase has accelerated since the middle of 1958, when the so-called consumption revolution began. Changes in the pattern of consumption are evidenced in the increased spending on high-quality clothing, processed foods, furniture, and household utensils, and, above all, on consumer durable goods and recreation. In 1960 alone, owners of television sets increased by 3.5 million (27 per cent more than in 1959), of washing machines by 1.5 million (30 per cent), and of electric refrigerators by 0.8 million (67 per cent).¹⁶ In February 1962, 79 per cent of total households in urban areas owned television sets, 58 per cent owned washing machines, and 28 per cent owned electric refrigerators.¹⁷ The active domestic demand for consumer durables was, at the same time, a strong stimulant to the rapid expansion of the machinery industry, which in turn stimulated capital goods production.

Following the increase in purchases of consumer durable goods, the so-called leisure boom set in, as people spent more money for recreation. For instance, in the calendar year 1960, 57 per cent of total households took pleasure tours away from home, averaging 2.8 times a year. In fiscal 1960/61, sales of railway passenger round-trip tickets increased by 41 per cent. Skiing, golf, and boating, once confined to the wealthy, have become sports of the common people. This change has brought prosperity to tertiary industries, but has accentuated the need to expand transportation and other public facilities.

The consumption revolution and leisure boom were strong causes of the expansion of domestic demand, inducing further investments and absorbing the output from the new capacity created. However, peculiar to Japan is the fact that rising consumption expenditures have

¹⁶ EPA survey in August 1961.

¹⁷ EPA survey in February 1962.

not been accompanied by a decline in saving. In fact, the average propensity to save out of disposable income has risen in recent years. It was 14 per cent in fiscal 1955/56 and 19 per cent in fiscal 1960/61, compared with an annual average of 15 per cent estimated for the next ten years in the plan.¹⁸ Many theories have been offered to explain the high rate of saving in Japan, which exceeds that in most other industrial countries, but none of them is fully convincing. Probably, both the social pattern of living and the moral viewpoint exert considerable influence on personal saving habits. If so, it will take some time to lower the present high level of saving. However, the recently begun revolution in the consumption pattern of the people will accelerate, supported by the income-doubling policy and by emulation inspired by the demonstration of consumption possibilities now prevailing in Japan. Since the high saving rate in recent years was made possible by an unusually rapid increase in personal disposable income, which even surpassed the rapid increase in consumption, it is quite likely that, with some slackening in the rate of increase in income and with rapidly rising consumption, the saving rate will turn down in the coming years. A promising subject for personal spending in the immediate future is residential construction, which is relatively backward in Japan. In future, an increase in residential construction may offset some slackening in private investment in equipment.

Government expenditure is another prospective type of demand. As pointed out in the plan, investment in social overhead capital, such as roads, harbors, and land reclamation, has lagged considerably behind private productive capital, and may become a bottleneck in economic growth. Also, more expenditure for social welfare is greatly needed. The plan envisages only a slight increase in government expenditure relative to GNP, and most government expenditure is to be met by taxes and other current revenue, as at present. In view of the fact that the government budget has yielded a surplus¹⁹ every year in the last decade, despite government efforts to reduce taxes in several years, in order to prevent a surplus, there is little doubt that government expenditure can be expanded on a basis of sound finance.

The last, but by no means least important, type of demand is exports. The importance of exports for a policy of long-run growth is not in their creation of effective demand, but in their import purchasing power. It is estimated that the import purchasing power

¹⁸ The plan expresses concern that the rising trend of saving might bring about a shortage in private consumption expenditure and imbalance between demand and supply.

¹⁹ Excess of government revenue (mostly taxes, but including surplus of government enterprises and other income) over government expenditure (purchase of goods and services, transfer payments, subsidies, and net payments abroad).

created by \$100 million (¥ 36 billion) of exports would enable Japan to increase its GNP by ¥ 240 billion (6.6 times its imports), on the assumption that the marginal propensity to import is 15 per cent,²⁰ while the direct effect of exports in creating effective demand is of the order of magnitude of about ¥ 50 billion, depending on the multiplier applied.²¹

The importance of exports as a limiting factor to economic growth is explained by the fact that, if exports increase by ¥ 36 billion, the expansion in demand from other factors as well as exports must be contained within ¥ 240 billion since an increase of GNP by the latter amount induces an increase of ¥ 36 billion in imports. This means, in turn, that domestic investment, both government expenditure and industrial investment, must be kept in a certain proportion to exports.²² Thus, the relation between aggregate supply and demand is important not only for internal balance, but also for external balance.

III. Change in Price and Cost Structure

The rapid economic growth, centering around active private investment in equipment, has introduced various frictions into the economy. Although the plan envisages some distinct changes in the economic structure, the frictions that might arise from these changes are supposed to be avoided. The frictions now apparent are deterioration of the balance of payments, lagging public investment, labor shortages, and rising consumer prices. The present deterioration in the balance of payments can be considered temporary, because the expansion in private investment, being directed to the modernization and rationalization of industry, will strengthen the international competitiveness

²⁰ Average for fiscal 1959/60 and 1960/61.

²¹ The multiplier to be applied here is the reciprocal of the sum of the marginal rate of saving, marginal rate of taxation, and marginal rate of import. The marginal rate of saving and the marginal rate of taxation were 0.28 and 0.25 on the average, respectively, for fiscal 1957/58-1960/61, the most recent business cycle. The marginal rate of import was 0.15 on average for the two recent years when import restrictions were being gradually reduced. When these rates are used, the multiplier is 1.47.

²² The following condition is needed to maintain balance of payments equilibrium: increase in government expenditure (ΔG) + increase in industrial investment (ΔI) =
$$\frac{\text{marginal rate of saving } (\Delta S) + \text{marginal rate of taxation } (\Delta T)}{\text{marginal rate of import } (\Delta M)}$$

× increase in exports (ΔX). Using the figures for Japan we have
$$\frac{\Delta G + \Delta I}{\Delta X} = \frac{\Delta S + \Delta T}{\Delta M} = 3.5$$
, which is the limiting proportion mentioned in the text.

of Japanese industry. The lagging of public investment in infrastructure behind productive investment is the result of the too rapid growth of the latter. The shortage of labor in the past two years, which is most marked in high school graduates, is attributable, to a large extent, to the transitional change in the population structure after World War II, as the postwar "baby boom" will be reflected in an increase in the labor force only in fiscal 1962/63. However, the change in the cost-price structure now taking place because of these frictions is of a more fundamental nature.

LABOR SHORTAGE AND RISING WAGES

As a result of the continuing economic boom, Japan has recently experienced a shortage of labor for the first time in the postwar years. This shortage, which was first felt in big and growing enterprises, became a serious problem when it affected small enterprises, which are heavily dependent on low-wage labor. Wages were raised both in big enterprises and in small enterprises, but with a narrowing of the disparity between them. Also, the employment pattern began to be modernized. A further narrowing of the disparity between wages in big and in small enterprises, and a further modernization of the employment pattern, in order to solve the problem of the dual structure of the Japanese economy, are prime objectives of the plan. These objectives pose, at the same time, a problem of change in the cost-price structure. In manufacturing industry generally, increases in wage costs have been matched by increases in productivity, and prices have remained stable; the increase in productivity has been achieved by an intensification of capital per unit of labor. However, small enterprises with low financial resources, and businesses which furnish personal services, have few means of increasing productivity, and if their wage costs have risen, they have been confronted with the alternatives of either going out of business or increasing the prices of their products. Farmers cultivating small units of land have had the same problem. The rise in consumer prices, which cover a variety of commodities, personal services, and foods, reflects this situation.

It is estimated that the total population of productive age (15 years or over) will increase by 16.8 million in the plan period and will amount to 79 million in the target year, while the number of employed will increase by only 7 million, to 48.7 million. The reduction in the rate of employed to total population of productive age, from 77 per cent to 62 per cent, signifies a great improvement in the employment structure, as a result of rising income per capita. This implies a decrease in the number of underemployed (family workers, underpaid

workers, etc.) and a rise in income per worker that enables him to support his dependents. The number of employed will decrease in primary industry, while it increases in the secondary and tertiary industries. Also, family workers and individual business owners will decrease, while wage earners increase. The improvement means a great step forward in achieving full employment and solution of the dual economy. It is unlikely that a chronic shortage of labor will become a bottleneck in economic growth. However, it is possible that a rapid rise in wage rates may initiate a cost inflation and thereby result in a slowing down in the rate of growth of real income and a weakening of the international competitiveness of industry.

CHANGE IN PRICE STRUCTURE

While wholesale prices have been stable in the past eight years, indicating a balance between supply and demand, consumer prices have risen by 15 per cent. The tendency for consumer prices to rise has been aggravated in recent years by cost increases. During 1956-60, the index of consumer prices rose by 8 per cent, of which service charges accounted for about a third; higher prices for agricultural products (including cattle and fisheries), industrial products, house and land rents, and public utility rates also were of importance.

The rapid rise in house and land rents is understandable in the process of urbanization and industrialization, especially in such a densely populated country as Japan. The rise in public utility rates stemmed from a normalizing of the prices charged for public utilities, which had been held down in the early stages of postwar reconstruction, when other prices advanced. The increase in the rates was necessary, to a large extent, to cover capital costs, but also to meet the increase in wage costs. The rise in prices for agricultural products was due to various causes: a lag in the change of the production pattern to meet changing demands, seasonal and temporary shortages in production in the most recent period, and deficiencies in the marketing system and facilities. It was also due to an increase in labor costs, which was made possible in some instances by protection accorded to domestic agriculture in order to support agricultural income. The rise in the prices of industrial products mainly concerned those manufactured by small enterprises, which cannot easily absorb increased labor costs by raising productivity. The rise in the prices of personal services was almost wholly attributable to the rise in labor costs.

While the plan assumes general price stability, it foresees some rise in consumer prices, to be offset by a decline in wholesale prices. In fact, wholesale prices have been relatively stable in the long run, aside

from cyclical fluctuations. During 1953-60, wholesale prices in Japan declined by 6 per cent, whereas in selected other major industrial countries they rose by considerably more than 6 per cent (Table 5). In the short run, wholesale prices fluctuated more violently in Japan.²³

TABLE 5. SELECTED INDUSTRIAL COUNTRIES: INDICES OF WHOLESALE PRICES, 1953-60

	Japan		Federal Republic of Germany ¹		United Kingdom ²		United States	
	Index (1953=100)	Percent- age change	Index (1953=100)	Percent- age change	Index (1953=100)	Percent- age change	Index (1953=100)	Percent- age change
1954	99	-1	98	-2	100		100	
1955	98	-1	101	+3	103	+3	100	
1956	102	+4	103	+2	107	+4	104	+4
1957	102		105	+2	110	+3	107	+3
1958	93	-9	106	+1	111	+1	108	+1
1959	95	+2	105	-1	112	+1	109	+1
1960	94	-1	107	+2	113	+1	109	-1
Change from 1953 to 1960		-6		+7		+13		+9

Sources: Data for Japan are from the Bank of Japan and the Japanese Government, Economic Planning Agency; for other countries, from International Monetary Fund, *International Financial Statistics*.

¹ Industrial wholesale prices.

² Prices of industrial output.

The long-run stability and the short-run instability of wholesale prices in Japan in 1953-60 can be explained by a combination of the following factors. First, although wages rose faster in Japan than in most other industrial countries, labor productivity rose even faster. Second, price competition among enterprises is keener in Japan than in many other countries. Fluctuations in effective demand exert a stronger influence on prices than on output, because of rigid employment relations in Japan. Also, cost reductions easily result in a decline in prices. Third, flexible adjustments of effective demand by way of monetary policy can be regarded as having been a stabilizer of the long-run price level. Fourth, the decline in prices of imported raw materials since 1953 has helped to push down the over-all price level.

The widening gap between consumer prices and wholesale prices is

²³ According to a Bank of Japan survey (*Monthly Economic Review*, July 1961), the average fluctuation of wholesale prices in the period 1953-60, calculated

$$100 \sqrt{\frac{\sum (x - x^1)^2}{12}} \quad \text{where } x \text{ denotes the monthly index and } x^1 \text{ the average index for}$$

the year, was 1.48 for Japan, but was 0.64 for the United Kingdom, 0.51 for Germany, and 0.45 for the United States.

characteristic of the present change in price structure. It is important in two ways for the income-doubling policy. First, it permits a rise in income of people engaged in such fields as personal services, small enterprise, and primary industry, where an increase in productivity is difficult to achieve by means of capital investment. The tendency for prices to become higher for labor-intensive goods and services and lower for capital-intensive goods and services indicates a movement toward the U.S.-European price structure²⁴ and also a step toward the solution of a problem peculiar to Japan, i.e., its dual economy.

Second, if the increase in consumer prices causes a spiral of cost inflation, it will reduce the expected increase in real income and weaken the international competitiveness of Japanese industry. The tendency for consumer prices to rise in a growing economy seems to have been common all over the world since World War II. The problem has been accentuated in Japan by the fact that the economic growth has been too rapid for the economy to adapt itself quickly to the new situation. In order to minimize the adverse effect of rising prices on the family budget, it may be necessary to change the pattern of consumption, which has been excessively dependent on personal services. The adoption of policies to increase the mobility of labor and to improve the commodity marketing system will also be necessary. In any event, the most essential wage policy is that wage increases be kept within the increase in productivity for the economy as a whole.

PRODUCTIVITY AND THE COST STRUCTURE

The present situation in Japan is, in fact, far from a cost inflation, if that means a rise in prices resulting from wage increases in excess of the over-all rise in productivity. Although the increase in consumer prices is due to an increase in wages in low-wage enterprises greater than that in productivity, the average increase in productivity for all industry is still higher than the increase in wages: while the rise in wages in manufacturing industry was 34 per cent during 1955-60, productivity increased by 47 per cent in the same period.²⁵

The plan assumes that an annual rate of growth in GNP of 7.8 per cent will be achieved partly by an increase in employment (1.2 per cent), but mainly by an increase in productivity (6.6 per cent). The increase in productivity is assumed to be about the same for each of the major industrial sectors, and the variations in the size of their

²⁴ According to an EPA survey, the purchasing power parity of the yen for consumer goods and services (mainly labor-intensive goods) is ¥ 204 per US\$1, whereas the official rate of exchange is ¥ 360 per US\$1.

²⁵ *Economic Survey of Japan* (cited in footnote 7), p. 444.

contributions to the growth in GNP are attributable mainly to variations in the changes in employment in each sector (Table 1, p. 154). The growth in GNP is largest in secondary industry, because it has the largest increase in employment, and smallest in primary industry, because it has a decrease in employment. The growth in productivity for the economy as a whole is greater than for any of the sectors, because of the large increase in the proportion of total employed labor that is engaged in nonprimary industries, where productivity is substantially higher. This implies that the increase in GNP is accompanied by an agricultural revolution and an improvement in the industrial structure, centering around the increase in productivity. An increase in productivity is the key factor of the income-doubling plan, because it is necessary to achieve the plan's prime purpose of increasing per capita income. The share of income going to labor could be increased by a faster rise in wages than in the remuneration of other factors of production, but this, if unaccompanied by an increase in productivity, would merely result in a redistribution of income, per capita income remaining unchanged.

Although a rise in labor costs exceeding the increase in productivity in some sectors of the economy has produced rising consumer prices in recent years, it has not resulted in any appreciable cost-push effect on prices of most industrial products. The cost structure of industry underwent a change during 1955-60. While capital (interest plus depreciation), management, and sales costs increased, labor and material costs declined. In view of the fact that the wholesale price index fell slightly and the profit ratio rose during this period, the reduction in production costs is quite noticeable. Labor costs declined in spite of a considerable rise in wage rates; raw material costs also decreased, chiefly because of a reduction of 27 per cent between 1953 and 1960 in the ratio of the value of raw materials consumed to the value of production. The reduction in cost was thus the result of the increase in productivity brought about by vigorous investment in equipment in the age of technical innovation.²⁶

The present change in the cost-price structure, manifested in a rise in wages and consumer prices, does not mean a cost inflation, to say nothing of a demand inflation. However, the successful realization of

²⁶ According to a Bank of Japan survey of 512 major enterprises, the added value of manufacturing industry (O) increased by more than 100 per cent during fiscal 1956/57-1960/61, the number of workers (N) by 26 per cent, and labor productivity (O/N) rose by 64 per cent. Putting $O/N = O/K \times K/N$, where K denotes book value of tangible fixed assets, excluding those not yet productive, it is found that O/K decreased by 2 per cent and K/N increased by 68 per cent. From this it is clear that the rise in labor productivity is principally the result of labor-saving production methods via heavier capital investment per unit of labor.

a policy for growth requires constant watch over the cost-price situation, although the present plan has no elaborate policy in this respect. The internal balance of prices and wages will have to be maintained not only to ensure a doubling of real national income, but also to ensure external balance by preventing the domestic price level at the present exchange rate from rising faster than the international price level.

Japan's exports in 1960 were 3.18 times those in 1953, while world exports were 1.51 times the 1953 figure. The faster expansion in Japan's exports was due, among other things, to a strengthening of the price competitiveness of Japanese industry. A comparison of major economic indicators in 1960 for the six largest exporting countries (1953 = 100) is given in Table 6. The increase in Japan's exports

TABLE 6. MAJOR EXPORTING COUNTRIES: EXPORTS, PRODUCTIVITY, WAGES, AND PRICES IN 1960 AS PERCENTAGES OF 1953

	Japan	Federal Republic of Germany	France	United Kingdom	United States	Canada
Exports	318	237	181	139	130	128
Manufacturing production (A)	280	183	178	129	117	118
Employment in manufacturing (B)	154	137	106	109	96	97
Productivity (A/B)	180	134	168	118	122	122
Wages ¹	129	141	130	114	113	116
Wholesale prices	94	107	130	113	109	104
Export prices	94	101	94	110	108	106

Sources: International Monetary Fund, *International Financial Statistics*; United Nations, *Monthly Bulletin of Statistics*; and Table 5 (p. 169).

¹ In real terms. Prepared by the Bank of Japan, by deflating nominal wages by consumer price indices. See Bank of Japan, *Monthly Statistics of Foreign Economies* (in Japanese), March 1962.

was the greatest, the next largest increases being those of Germany and France. International comparisons of productivity are difficult to make, but a rough indicator is given by the ratio of the index of manufacturing production to the index of employment in manufacturing industry. The rise in manufacturing production per unit of labor was highest in Japan. Although the increase in real wages was high, both domestic wholesale prices and export prices declined in Japan more than in any other country shown. Export prices declined as markedly in France as in Japan, but this was partly due to the devaluation of the French franc.

IV. Prospects for Exports and Imports

Being less well endowed than many other countries with natural resources, Japan is heavily dependent on imports, and exports are the main limiting factor to economic growth. The need to expand exports in order to grow will become even more important during the plan period, since dependence on imports is expected to increase slightly. The expansion of output capacity and the strengthening of productivity provide a great chance to expand exports. However, the expansion will depend not only on export competitiveness but also on foreign market situations; foreign markets are not necessarily favorable to Japanese goods, even if they are competitive in price.

DEPENDENCE ON IMPORTS

Reflecting the change in the Japanese industrial structure and consumption pattern, the commodity composition of imports has changed markedly during the past years. Between 1953 and 1960, the ratio of foods and textile raw materials to total imports declined from 54 per cent to 30 per cent, but the ratio of metal ores and scrap, mineral fuels, machinery, and chemicals increased from 30 per cent to 46 per cent. Other items increased from 16 per cent to 24 per cent. The decline in the ratio of foods was due to increased domestic agricultural production, and the decline in the ratio of textile materials and the rise in the ratio of mineral fuels, metal ores and scrap, and machinery was the result of heavy and chemical industrialization. The increase in the ratio of machinery and other items was also partly attributable to import liberalization. The dependence on imports, expressed as the ratio at current prices of total imports to GNP, remained stable during this period, except for 1957, when the Suez crisis caused speculative imports for inventory investment (Table 7). The stability resulted

TABLE 7. JAPAN: RATIO OF IMPORTS TO GROSS NATIONAL PRODUCT, 1953-60
(In per cent)

	At Current Prices	At 1955 Prices
1953	12.7	11.5
1954	11.7	11.5
1955	10.9	10.9
1956	12.9	12.9
1957	15.3	14.8
1958	10.9	12.1
1959	10.8	13.0
1960	11.5	14.8

Source: Japanese Government, Ministry of International Trade and Industry, *White Paper on Foreign Trade, 1961* (in Japanese), p. 184.

from various downward pressures, which were substantial enough to offset the basic upward pressure. The first of these was a decrease in imports of foods, which declined from 3.3 per cent of GNP in 1953 to 1.4 per cent in 1960. The second was a decline in import prices, which amounted to 18 per cent. Thirdly, technological improvements made it possible to reduce the portion of imported raw materials needed for a unit of manufactured output. Fourthly, the import control system in Japan helped to restrain imports, especially at times of domestic economic boom.

It is quite doubtful that these factors will continue to reduce Japan's dependence on imports in the future. When measured in real terms, to eliminate the effect of the decline in import prices, dependence on imports clearly shows an upward shift since 1956, when the recent investment boom began. The amount of imports induced by a unit of investment is larger than that induced by a unit of consumption.²⁷ Not only did the proportion of private investment in equipment to GNP increase, but the import component of private investment also rose. This latter increase is considered to have been due partly to increased imports of machinery, as restrictions on such imports have been liberalized. As import liberalization progresses, increased imports of finished goods related to both investment and consumption are expected to tend to push up dependence on imports. In fact, the plan envisages that imports as a percentage of GNP will rise from 14 per cent in the base year (at 1958 prices) to nearly 17 per cent in the target year, on the assumption that import liberalization will take place in the earlier years of the plan period. The largest rise is expected to be in finished goods, such as machinery and consumption goods, followed by semifinished goods and mineral fuels. The increase in imports of raw materials as a whole will be smaller, despite a rapid rise in imports of metal ores and scrap; the increase in imports of foods will be least of all.

There is little possibility that a reduction in imports of foods will greatly reduce Japan's dependence on imports in future, in view of the already low level of such imports. Also, a further decline in import prices cannot be counted on, especially in view of the world-wide

²⁷ According to an input-output analysis of the Japanese Ministry of International Trade and Industry (MITI), the average propensity to import in 1960, expressed as a percentage of the value of demand, was 7.6 per cent for household consumption, 4.4 per cent for government consumption, 12.6 per cent for inventory increases, 11.8 per cent for private investment in equipment, 9.9 per cent for government investment, 14.1 per cent for exports, and 9.2 per cent for total demand. The percentages are related conceptually to the sum of GNP and imports at current prices. See MITI, *White Paper on Foreign Trade, 1961* (in Japanese), p. 184.

recognition of the importance of supporting the prices of primary products. On the other hand, keen competition among industrial countries may cause the prices of manufactured goods to decline. It may be safe to assume constant terms of trade for Japan in future, despite the faster decline in import prices than in export prices in the past.²⁸ Consequently, the prospects for dependence on imports may be expected to be the resultant of two counteracting forces: the upward pressure of increasing imports of finished goods as a result of the liberalization, and the downward pressure of decreasing imports of raw materials as a result of technical improvements.

The ratio of the value of raw materials consumed to the value of manufacturing production declined by 27 per cent between 1953 and 1960 (Table 8). Although consumption of imported raw materials in-

TABLE 8. JAPAN: RATIOS OF THE VALUE OF RAW MATERIALS CONSUMED TO THE VALUE OF MANUFACTURING PRODUCTION, 1954-60

(1953=100)

	Ratio of Value of Raw Materials Consumed to Value of Manufac- turing Production (A)	Ratio of Value of Imported Raw Materials Consumed to Total Raw Materials Consumed (B)	Ratio of Value of Imported Raw Materials Consumed to Value of Manufacturing Production ¹ $\frac{A \times B}{100}$
1954	96	99	96
1955	94	93	89
1956	91	100	92
1957	85	105	90
1958	77	102	80
1959	76	106	82
1960	73	108	80

Source: Bank of Japan, *Economic Statistics of Japan, 1961* (in Japanese).

¹ Calculated from unrounded figures.

creased faster than domestic raw materials, because of the limited supply of the latter, the ratio of the value of imported raw materials consumed to that of manufacturing production also declined substantially (by 20 per cent). The increasing importance of heavy and chemical industries in the manufacturing sector will further accelerate this downward trend. It is estimated that the value of imports consumed for the production of \$100 value added is \$25 for the heavy and chemical industries and \$36 for light industry.²⁹ Also, the develop-

²⁸ Between 1953 and 1960 export prices declined by 6 per cent while import prices declined by 18 per cent; thus the terms of trade improved by 14.6 per cent.

²⁹ *White Paper on Foreign Trade, 1961* (cited in footnote 27), p. 187.

ment of heavy and chemical industries will strengthen the competitiveness of Japanese industry and reduce the dependence on imports of the economy as a whole. Thus, the immediate effect of heavy and chemical industrialization, evidenced by the increased imports of machinery, will be considerably offset in the long run by this counteracting tendency. On the whole, the net increase in dependence on imports will not be great and will slacken in future.

CHANGE IN EXPORT PATTERN

It is clear from what has been stated earlier that the price competitiveness of Japanese industry has been considerably improved in recent years, and that this has contributed to the increasing share of Japan's exports in world trade. However, equally important has been the fact that the Japanese industrial structure has been adapted to the changing world trade pattern, both area-wise and in respect of commodity composition and the quality of commodities. The elasticity of Japan's exports in relation to world income is considered to be relatively high. During 1954-60, this elasticity ranged from 2.6 to 3.9 in normal years, i.e., years in which world income was growing at an annual rate of about 5-8 per cent. However, it was irregularly high in 1954, at 21.3, and low in 1958, at 0.4; these were years in which world income grew by less than 2 per cent (Table 9). Although it is

TABLE 9. TRENDS OF WORLD EXPORTS AND OF JAPAN'S EXPORTS, 1954-60

	Percentage Change from Previous Year						1960 Data as Percentage of 1953 Data
	1954 (1)	1955 (2)	1956 (3)	1957 (4)	1958 (5)	1959 (6)	1960 (7)
Income of world excluding Japan (A)	1.3	7.3	8.2	5.4	1.5	5.2	6.7 ¹
Japan's exports (B)	27.7	23.4	24.4	14.3	0.6	20.1	17.3
B/A	21.3	3.2	3.0	2.7	0.4	3.9	2.6
World exports	4	9	11	7	-5	6	12
Exports of manufac- turing countries to each other ²	11	19	16	11	-7	14	20
							212 ³

Sources: International Monetary Fund, *International Financial Statistics and Annual Reports*; and Japanese Government, Ministry of Finance, *Monthly Statistics*, based on United Nations statistics.

¹ Estimate; figure for 1960 excludes several countries for which data are not yet available.

² Countries in the European Economic Community, countries in the European Free Trade Association (except Denmark for 1954-55 and Portugal for 1958-60), United States, Canada, and Japan.

³ Estimate.

difficult to ascertain numerically the portions of the increases in Japan's exports that should be ascribed to income effects or price effects, the persistent change in Japan's export pattern toward com-

modities for which demand is more income elastic, and toward areas where income has been rising faster, has undoubtedly raised the elasticity of Japan's total exports. Table 9 gives the relevant figures. While world exports increased by about 50 per cent between 1953 and 1960, exports of manufacturing countries to each other increased by more than 100 per cent. Exports of manufactured goods by manufacturing countries increased by 50 per cent between 1953 and 1959, but exports of heavy industrial and chemical products increased by 60 per cent, compared with a 30 per cent increase in light industrial goods.³⁰ Japan's exports to North America and Europe as a ratio to total Japanese exports increased from 32 per cent in 1953 to 45 per cent in 1960. Japan's exports of heavy industrial and chemical products increased from 34 per cent of its total exports in 1953 to 41 per cent in 1960; by commodity, the weight has shifted from ships, steel, and transistors, which are rather labor intensive, to machinery, which needs more advanced technology. In addition, Japan has succeeded in selling new products in the world market. Between 1955 and 1960, 35 new products, such as transistor radios, nylon, plastics, and automobiles, made up 22 per cent of the total increase in exports.

A strategic feature of the income-doubling plan is the reorientation of the export pattern, as well as of the domestic output structure, toward heavy and chemical industries. As the ratio of heavy and chemical industries to total manufacturing industry, in terms of value added, rises from 61 per cent in fiscal 1959/60 to 73 per cent in the target year, the ratio of heavy industrial and chemical products to total exports is expected to rise from 38 per cent to 54 per cent. Although the ratio of heavy and chemical industries to total manufacturing industry of Japan reached 70 per cent in 1961—as high as, or higher than, in the United States, the United Kingdom, Germany, or France³¹—the ratio of heavy industry and chemical products to total Japanese exports (41 per cent in 1960) is far lower than the corresponding ratios in those countries.³² The discrepancy between the domestic industrial structure and the export structure indicates the backwardness of Japanese industry, in that a larger part of the heavy and chemical industries has not acquired an advantage in comparative cost when confronted with international competition. The changes in the export

³⁰ Based on United Nations, *Monthly Bulletin of Statistics*.

³¹ For 1959 it is estimated at 57 per cent for the United States, 61 per cent for the United Kingdom, 53 per cent for Germany, and 58 per cent for France, according to a MITI survey. See *White Paper on Foreign Trade, 1961* (cited in footnote 27), p. 218.

³² Estimated at 81 per cent for the United States, 78 per cent for the United Kingdom, 83 per cent for Germany, and 71 per cent for France, according to a MITI survey, *loc cit*.

pattern and the domestic output structure are interdependent. Development of heavy and chemical industries is considered necessary, because of the pattern of world trade, and suitable for the Japanese economy, because these industries require comparatively more advanced science and technology than natural resources. Heavy and chemical industrialization can power economic growth. It is particularly important for the future expansion in Japan's exports, because world demand for such products is more elastic in respect of world income, and rapid expansion in exports can be expected only by specializing in such products.

This concept is obviously different from the theory of comparative cost in a static sense. Although some heavy and chemical industries have not established comparative advantages in Japan and some light industries still maintain comparative advantages, the direction of the export pattern envisaged in the plan may well be justified in a dynamic process of economic growth. This is especially true for Japan, where the traditional advantages of abundance of labor and low wages are disappearing. The reorientation of Japan's export pattern is also promising, as world demand for manufactured products is being diversified and more opportunities are being offered to any manufacturing country to participate in the horizontal division of labor in world production.

PROSPECTS IN WORLD MARKETS

The export pattern being thus improved to meet the world demand, the final problem to be overcome in order to secure the fast expansion of exports lies in the world market situation. In spite of the rapid expansion of exports in the postwar years, Japan's share in world exports in 1960 (3.6 per cent) was still below the prewar peak in 1937 (4 per cent). The plan forecasts that the Japanese share will reach 5.6 per cent in fiscal 1970/71, assuming that world exports expand at an annual rate of 4.5 per cent in the coming decade, against the rate of growth of more than 6 per cent in the past decade. In order to achieve this, Japan's exports will have to increase at an annual rate of 10 per cent, which is considerably lower than in the recent past, when exports increased by about 18 per cent annually. Moreover, the present level of Japanese exports is considered too low compared with the prewar level in Japan and other trading countries. Foreign trade was 13 per cent of GNP in 1960 for both exports and imports, whereas in 1934-36 it was 23 per cent. In 1960, the ratio of exports to GNP was 25 per cent for Germany and 26 per cent for the United Kingdom. Increasing output capacity, increasing productivity, and adaptability

to world demand should enable Japan to increase exports in future. However, world trade is not in practice based wholly on the price mechanism or on a free market system. There are various factors which obstruct Japan's exports, the most serious of which is the discrimination against Japanese goods by European countries.

The plan considers that the future of Japan's exports will increasingly depend on exports of highly processed goods to advanced areas. However, severe discrimination against Japanese goods is exercised by European countries by invoking Article 35 of the General Agreement on Tariffs and Trade (United Kingdom, France, and others), and through discriminatory import restrictions (Italy, France, United Kingdom, and others). In exports to the United States and Canada, Japan is obliged to observe voluntary restraint. Japan's exports have obviously been hampered by these measures. Exports to North American countries (mostly United States and Canada), whose policies toward Japanese goods are most liberal, have expanded greatly. The ratio of Japan's exports to this area to Japan's total exports increased from 23 per cent in 1937 to 33 per cent in 1960. On the other hand, although exports to Europe are rising gradually, their ratio to total exports has not changed noticeably from the prewar ratio, despite the rapid growth in that region. In view of the further integration of the European Economic Community (EEC) and the possible accession of the United Kingdom to the EEC, the importance of Europe's expanding demand will be far greater for Japan in future as a potential export market.

It is encouraging for Japan that the recent negotiations between European countries and Japan have shown signs of improved trade relations. Furthermore, the United States is proposing a freer trade policy. Although international competition is expected to be intensified all over the world, any reduction in the degree of discrimination against Japan will be a favorable factor for Japan's exports.

The plan recognizes that it may not be easy to increase exports to the less developed countries, because of the insufficient purchasing power of these countries and also because of their attempts to be self-sufficient in light industrial goods. However, one of the themes of the plan is to promote Japan's international economic cooperation, particularly with developing countries. The plan estimates Japan's capital investment abroad at \$3,540 million during the ten years—\$630 million in the target year alone. When the amount of credits to be extended to developing countries (\$1,500 million in the target year) is included, the total of funds to be extended in that year to developing countries, \$2,130 million, is more than 20 times that of the base year, and will amount to 2.9 per cent of Japan's GNP.

V. Economic Planning for a Market Economy

The present plan was put into effect from the fiscal year beginning April 1, 1961. The economic developments and fluctuations in the first year of the plan were so remarkable and violent that they were sharply at variance with the trend envisaged in the plan. The increase in GNP achieved, 13 per cent in real terms, was greater than that envisaged in the plan: private investment in equipment exceeded the target for ten years ahead, prices rose by about 4 per cent, and the deficit on current transactions amounted to about \$1,000 million. Moreover, the various frictions and imbalances described earlier became more acute.

Ever since the plan was first studied, it has been criticized for its methodology, political implications, and assumptions regarding the economic structure; the phenomena just mentioned are cited by critics as evidence of the failure of the plan. The plan is admittedly a flexible one and allows for various fluctuations in the course of progress toward the target at the end of ten years. No intermediate or yearly targets are set out in the plan. Nevertheless, it is quite appropriate and important to review the plan at this time, because the free market economy is vulnerable to violent business fluctuations and structural changes, and the success of the plan depends greatly on success in controlling these fluctuations and adjusting the economy to the structural changes.

SIGNIFICANCE OF ECONOMIC PLANNING

The present plan is intrinsically a forecast for a free market economy. It is not like one prepared in centrally planned economies or in developing economies, where the sector of the economy under direct or indirect control of the government is broader than in Japan. Economic planning has been considered desirable in market economies where the government has assumed responsibility for preventing business fluctuations and achieving full employment: objectives that are believed to be attainable by adequate economic policy. Economic planning is becoming more popular today as a means of attaining long-run economic growth rather than of preventing short-run cyclical fluctuations. National or social aspirations for a prosperous economy have motivated this tendency, and the advance in technical knowledge has contributed to it. The present plan of Japan may be said to be typical of this development, in placing emphasis on economic growth.

Although the annual rate of growth of 7.2 per cent forecast for the coming ten years is lower than the 10 per cent achieved in the last decade, it will probably be higher than can be expected for most other

industrial countries. The plan is based on the belief that various factors exist in the Japanese economy to make such a high rate of growth possible, even though postwar reconstruction is no longer a factor, and that at this stage of economic development this potentiality can be better realized by means of a free economic system than by direct governmental controls.

INHERENT DIFFICULTIES IN A MARKET ECONOMY

It is true that economic development in postwar Japan has owed much to the free competitive system, but it is also undeniable that the excessive competition peculiar to Japanese society has, to a large extent, been responsible for the violent business fluctuations and frequent balance of payments deteriorations. In a rapidly growing economy, where each entrepreneur is optimistic about future demand, free competition for a larger share of the market takes the form of seeking to establish larger productive capacity than that of other entrepreneurs. For lack of a single decision-making system, competition in investment in plant and equipment takes place and continues, if unobstructed by some other limiting factor, until enterprises realize too late that their products cannot be sold remuneratively. Past experience has taught Japanese entrepreneurs that the earlier they invest, the greater are their chances to win. The criticism is often made that the optimistic attitude of enterprises has been further stimulated by the income-doubling plan. It is also said that excessive competition among commercial banks, which are the main suppliers of investment funds to big enterprises, has facilitated excessive competition among enterprises. Although a deterioration of the balance of payments, the limiting factor of economic growth, has compelled the authorities on several occasions to adopt stringent financial policies to limit investment, full adjustment through the price mechanism, on which a free economy depends, has required a longer process of trial and error with unavoidable social losses.

When the growth of a market economy is to be accompanied by a structural change another problem arises. The price mechanism is less effective in bringing about a required change in the economic structure than in bringing about marginal adjustments, and since the core of the Japanese plan is a structural improvement of the economy, there are many things to be done from time to time by positive policies and measures.

POLICIES FOR THE BALANCED GROWTH OF THE ECONOMY

Planning in a market economy is based primarily on the freedom and initiative of individuals. In the main, it is intended to harmonize

individual economic activities and public welfare through the use of fiscal and monetary measures to affect the operation of the price mechanism. A plan can be a decisive instrument only in fields where the government has direct or indirect means of control. In an economy where the private sector occupies the larger part, a plan can give only an economic background against which individual enterprises can draw up their own plans. However, plans of enterprises are different from the government plan in respect of the attainment of shares of the market. Where private competition is keen, a government plan aimed at economic growth is likely to give too much confidence to enterprises seeking larger shares. To prevent the undesirable effects of excessive competition, either government intervention or business self-adjustment is required. The former is apt to result in the distortion of the price mechanism and the introduction of bureaucracy; the latter tends to result in monopoly and cartelization. A compromise has to be worked out somewhere. It is desirable that an economic plan in such a society should place more emphasis on a description of possible imbalances, both economic and social, which may emerge in the course of rapid economic growth, rather than on a presentation of a bright outlook.

Economic planning for the balanced growth of the economy should be such as to foster the potential energy, and correct the intrinsic deficiencies, of a market economy. Although fiscal and monetary policies are supposed to play the fundamental role, their role is limited chiefly to controlling aggregate demand. In a dynamic process of economic growth, there are problems whose solution requires additional policies: in Japan, for example, modification of competition in investments, rectification of the dual economy, modernization of employment conditions, establishment of a proper wage system, curbing of rising consumer prices, strengthening of export competitiveness, maintenance of fair competition, and prevention of excessive competition. Policies regarding budgeting, taxation, prices, wages, labor, monopoly, and the industrial, as well as the banking, system will be important. This means that some element of control is needed in a market economy when the objective of balanced growth is to be pursued. The plan shows awareness of these problems. What is important is the day-to-day outcome of individuals' efforts and the flexible implementation of policy by the authorities. From this point of view, a shorter-run plan might be drawn up, pointing out imminent problems.

The success of economic development depends on human efforts more than anything else. An economic plan for a market economy is merely a sophisticated guidebook; it proves to be useful if it does not hinder personal initiative, and useless if it is not implemented by flexi-

ble policy. When the great growth potentiality of the Japanese economy is considered, there is little doubt about achievement of the plan. From the present pace of expansion, it appears that the targets may be attained one or two years earlier than expected.

Observations sur le plan du Japon destiné à doubler le revenu national

Résumé

Le Japon a adopté un plan décennal visant à doubler son revenu national à partir de 1961, en vue de maintenir le taux élevé de croissance économique qu'il a réalisé dans la décennie des années 1950. La rapide expansion économique de ces dernières années a été marquée notamment par l'activité de l'investissement privé dans des industries telles que sidérurgiques, mécaniques, industries des métaux non ferreux, des produits chimiques, du charbon et du pétrole. Il en est résulté une augmentation de la capacité de production ainsi que du rendement industriel du Japon. Malgré la perspective d'un changement dans sa direction, la croissance économique risque d'être entravée par divers problèmes que cette rapide expansion récente a soulevés. Les plus frappants sont le changement dans la structure des coûts et des prix et la balance des paiements, le premier déterminant la croissance économique future et la seconde la limitant. Le changement dans la structure des coûts et des prix a été caractérisé par un fléchissement des prix de gros et une hausse des prix à la consommation qui traduisent: d'une part, l'augmentation de la capacité et de la productivité industrielles, augmentation qui a pour effet de réduire la demande effective, et d'autre part, le relèvement des salaires qui peut provoquer une inflation ayant son origine dans la hausse des coûts. La balance des paiements est importante parce que l'augmentation des importations par rapport à celle du produit national brut est censée être plus que proportionnelle, alors que les exportations dépendent non seulement de leur capacité concurrentielle mais également de la situation sur les marchés mondiaux, en l'occurrence, du degré de discrimination dont les marchandises japonaises sont l'objet de la part d'autres pays industriels.

Le plan décennal constitue essentiellement pour l'économie nationale une règle de conduite qui est fondée sur le principe de la libre entreprise et de marchés libres. C'est pourquoi il est prédisposé aux difficultés propres à une économie de marché, ce dont témoignent les ré-

sultats acquis la première année, résultats qui accusent une nette différence par rapport à ceux qui étaient prévus dans le plan. Les objectifs du plan décennal pourraient être atteints un ou deux ans avant la date prévue, mais un certain nombre de problèmes de caractère tant structurel que cyclique, qui toutefois ne sont pas complètement négligés dans le plan, semblent encore devoir être résolus.

Apreciación del plan adoptado por el Japón para doblar su ingreso nacional

Resumen

El Japón adoptó un plan para doblar su ingreso nacional durante el decenio iniciado en 1961 con miras a mantener la alta tasa de desarrollo económico alcanzada durante el decenio anterior. Uno de los factores que han desempeñado un papel importante en la rápida expansión económica lograda en los últimos años ha sido la actividad desplegada por la inversión privada en industrias tales como las del hierro y el acero, metales no ferrosos, maquinaria, productos químicos, carbón y petróleo. Como consecuencia de esto han aumentado la capacidad productiva de la nación y la productividad industrial. Aunque se espera que más adelante ocurrirá un cambio en la estructura del desarrollo económico, la reciente y rápida expansión económica ha dado lugar a varios problemas que pueden llegar a entorpecer ese proceso de desarrollo. Entre éstos se destacan el cambio experimentado en la estructura costos-precios y la balanza de pagos, el primero determinando y la segunda limitando el futuro desarrollo económico. El cambio registrado en la estructura costos-precios se ha caracterizado por la tendencia hacia la baja de los precios al por mayor y la tendencia hacia el alza de los precios al consumidor, que reflejan, por una parte, una capacidad y productividad industriales en aumento, lo que redundo en una disminución de la demanda efectiva, y por otra, el movimiento ascendente de los salarios, que puede provocar una inflación por el alza de los costos. La balanza de pagos constituye un factor importante porque se espera que a medida que aumente el producto nacional bruto el incremento de las importaciones será proporcionalmente mayor, en tanto que las exportaciones no solamente están supeditadas a su capacidad competidora, sino también a las circunstancias que imperan en los mercados mundiales, entre otras el

grado de discriminación que exista en los demás países industriales contra las mercancías de origen japonés.

El plan decenal es fundamentalmente una pauta para la economía nacional, que se basa en el principio de la libertad de empresa y de mercados; de ahí que sea susceptible a las dificultades inherentes a toda economía de mercado, como se desprende de los resultados obtenidos durante el primer año, los cuales difieren con mucho de las líneas trazadas en el plan. Cabe la posibilidad de que la meta fijada para este decenio se logre alcanzar uno o dos años antes de la época prevista, pero parece existir una serie de problemas, tanto estructurales como cíclicos, a los que hay que buscar solución, pese a que tampoco habían pasado completamente inadvertidos en el plan.

Restrictions on the Movement of Funds Within Latin America

Samir Makdisi *

This paper was prepared in response to a request from the Latin American Center for Monetary Studies (CEMLA). It was discussed at CEMLA's Seventh Operational Meeting, held in Mexico City, September 3-4, 1962.

THE MAIN PURPOSE of this paper is to describe major restrictive practices¹ affecting directly or indirectly the movement of funds within Latin America, and to indicate briefly their objectives and their effects on trade and payments. It begins with a summary in Section I. A brief review of major postwar developments in the Latin American restrictive systems is included in Section II. This is followed by the main section—Section III—where five types of restrictive device are discussed in detail: import surcharges, advance deposits, multiple exchange rates, quantitative restrictions, and regulation of capital transfers.²

The movement of funds within Latin America is subject, to a large extent, to the same restrictions that are applied to extra-area trade and payments; preferential treatment, where accorded, is described below in the appropriate context. In what follows, observations regarding the desirability of economic measures for the implementation of free trade area policies in individual countries are based on the situation at about the middle of 1962. Future developments in the various restrictive systems and in economic conditions in the countries concerned will, of course, also be affected by internal and external factors not related to the efforts to integrate trade.

I. Summary

A number of Latin American countries have now achieved relatively free foreign exchange markets; most of the other countries have grad-

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¹ Excluding tariffs, export taxes, and a few other restrictions. Unless otherwise noted, this report reflects the situation in June 1962. Moreover, only a few references are made to Cuba's restrictive system, since information about that country is limited.

² Bilateralism has been virtually eliminated from intra-Latin American trade.

ually eliminated and/or simplified their multiple currency practices and other restrictive devices.³ Cuba is the leading exception; practically all Cuban foreign trade and payments are now subject to restrictions or controls. Recently, a few countries have found it necessary to reintroduce exchange controls. But, generally, the trend toward liberalization has been achieved not at the cost of an increase in indirect controls but rather in conjunction with the implementation of stabilization programs. In those instances where intensification of some trade restrictions has accompanied the elimination of payments restrictions, the ultimate objective has been to maintain protection for domestic industries—a policy which has not negated all, or even most, of the benefits achieved by over-all payments liberalization.

The movement of funds within Latin America is, to a large extent, still subject to the same restrictions that are applied to extra-area trade and payments. However, preferential treatment has resulted from (1) the first round of negotiations of the Latin American Free Trade Association (LAFTA), i.e., exemptions from import surcharges and advance deposits and, in one or two countries, from licensing, have been extended to a relatively small number of intra-LAFTA trade items; (2) the elimination of restrictions by the Central American group of countries on a large number of items originating (but not necessarily traded) within the group; and (3) exemptions from surcharges extended by a few countries, e.g., Argentina and Paraguay, to all or a substantial portion of their imports from neighboring countries, and exemptions from advance deposit requirements extended by Brazil to all imports from LAFTA countries. Recent reforms in some of the exchange control countries, whereby restrictive devices were simplified and the official rates of exchange made more realistic, help in facilitating the implementation of LAFTA.

Quantitative restrictions are, perhaps, the most important restrictive device now applied. The countries which apply these restrictions—Brazil, Chile, Colombia, the Dominican Republic, Mexico, and Venezuela (Table 1)—account for more than half of intra-Latin American trade. In Mexico, import items subject to permits are estimated to cover about one half of the country's imports in terms of value. Originally, licensing was used there mainly to conserve foreign exchange, but later it was increasingly utilized for protective purposes as well. In Venezuela, the role of the official free market was greatly expanded in April 1962, tending to lessen the restrictiveness of the import system. Prohibitions and import licensing, along with tariffs, however, comprise an important protective device. In Brazil, a sub-

³ See F. d'A. Collings, "Recent Progress in Latin America Toward Eliminating Exchange Restrictions," *Staff Papers*, Vol. VIII (1960-61), pp. 274-86.

stantial degree of quantitative restriction applies to imports of manufactured products which are included in the "Special Category." In Colombia, prohibitions and prior licensing for protective and payments purposes have had an important restrictive effect on the country's trade and payments, greater reliance being placed on prohibitions than on licensing. A large number of import items was included in the prohibited list in 1960, while over half of the actual imports were subject to licensing. In Chile, exchange controls were temporarily reintroduced in January 1962 when quantitative restrictions were increased. Prohibitions now play an important protective and restrictive role, although until that date they had been steadily decreasing since 1956, when import licensing was abolished. Ecuador and Nicaragua also apply licensing controls, but the application is liberal and is mainly intended to enforce advance deposit requirements.

TABLE 1. LATIN AMERICAN COUNTRIES (EXCLUDING CUBA):
TYPES OF RESTRICTION MAINTAINED IN JUNE 1962

Import Surcharges	Advance Deposits	Major Multiple Rates	Quantitative Restrictions	Arrangements for Capital Transfers
Argentina	Brazil	Brazil	Brazil	Chile
Brazil	Chile	Chile	Chile	Colombia
Chile	Colombia	Colombia	Colombia	Dominican Republic
Costa Rica	Ecuador	Ecuador	Dominican Republic	Ecuador
Guatemala	Nicaragua	Uruguay	Ecuador	El Salvador
Paraguay	Paraguay	Venezuela	Mexico	Nicaragua
Uruguay	Uruguay		Nicaragua	Venezuela
			Venezuela	

In most Latin American countries, multiple exchange rates are not as important a feature of the restrictive system as they were in earlier years. However, they are still important in Brazil, Chile, Colombia, Uruguay, and Venezuela, and of lesser significance in Bolivia, Costa Rica, Ecuador, Nicaragua, and Paraguay. In Colombia and Venezuela, these practices serve a variety of objectives: securing fiscal revenue, diversifying the composition of exports, subsidizing essential imports, and relieving possible pressure upon the central bank's reserves. Some of these purposes are also served in Chile by multiple rates, in conjunction with other controls. In Brazil and Uruguay, the application of exchange taxes on export proceeds, and in the former country the making of quarterly contracts to sell exchange for specific imports, give rise to several effective rates. In Brazil, multiple rates are used to redistribute revenue within the coffee and cocoa industries and to avoid short-term fluctuations of prices of a few essential imports in the face of possible changes in the exchange rate. In Uruguay, exchange taxes (retentions) serve as an important source of fiscal

revenue. In all the countries that apply multiple rates (with the exception of Chile, which reintroduced them recently), the restrictive system has been greatly simplified in recent years. Various reforms have brought the official rates closer to the prevailing market rate of exchange.

Advance deposits on imports are now required in Brazil, Chile, Colombia, Ecuador, Nicaragua, Paraguay, and Uruguay. Exemptions have been granted by Brazil, Chile, Paraguay, and Uruguay to imports of items appearing in their respective LAFTA concession lists; and Nicaragua has extended exemptions to imports from the Central American group. Generally speaking, deposit requirements have not proved to be a very effective device in restricting imports. They are much more effective when they accompany domestic stabilization measures. Like surcharges, they have proved to be a flexible tool, i.e., administratively they may be easily introduced or eliminated; their impact seems to be largely on extra-area imports. However, a number of countries which introduced them for restrictive purposes have had to retain them to avoid the inflationary impact of their release.

The use of import surcharges has usually been limited to a relatively small number of countries. Along with advance deposits they have often been utilized to ease the process of transition from strict exchange controls to a liberalized exchange system. They are now applied in Argentina, Brazil, Chile, Costa Rica, Guatemala, Paraguay, and Uruguay. The over-all incidence of surcharges is, at present, probably highest in Argentina, where they seem to have hindered the efficient development of certain domestic industries. Except in Guatemala, the incidence of surcharges is relatively high on "nonessentials," and relatively low on other imports. Many essentials are exempt. Argentina and Paraguay also exempt imports from neighboring countries. All the countries mentioned above (except Costa Rica and Guatemala) have, in addition, extended exemptions to imports of items in their respective LAFTA concession lists. The application of these surcharges favors intra-area trade. The current policy of incorporating surcharges into the tariff schedule helps to avoid the adverse effects that could arise from the frequency of changes in the surcharge rates.

In those Latin American countries where regulations on capital transfers are applied (Chile, Colombia, the Dominican Republic, Ecuador, El Salvador, Nicaragua, and Venezuela), foreign investments are usually guaranteed the remittance of profits and principal. In a few countries, transfers of domestically owned capital funds are permitted, but in others they are subject to restrictive licensing or are prohibited. However, where capital remittances through the free

market are permitted, the possibilities of transfer available to residents may in fact be greatly limited if the free and official rates differ significantly. Special privileges have not been extended to Latin American capital. But as part of the implementation of the objectives of LAFTA, intraregional capital transfers should perhaps be encouraged. The maintenance of monetary stability, along with the elimination of restrictions on capital movements, would help the repatriation of Latin American capital, and also would encourage future intraregional capital movements, all of which would contribute toward building a firmer basis for Latin American economic integration.

II. Developments in the Latin American Restrictive Systems

In the last decade or so, there have been four major developments in the Latin American restrictive systems:

(1) An increase in the number of countries which have established free foreign exchange markets. Thus, at the beginning of 1962, 12 countries⁴ had virtually no exchange controls, compared with 8 in 1950.

(2) Gradual elimination and/or simplification of multiple currency practices. At the beginning of 1962, 6 countries⁵ relied to an important extent on multiple rates, compared with 12 in 1950.

(3) Gradual elimination of bilateral payments agreements, particularly among the Latin American countries themselves. In June 1962, the number of intra-Latin American payments agreements had fallen to 2, from 16 in 1955.

(4) Continued limitation of imports through quantitative restrictions or otherwise.

The underlying trend toward freer exchange systems has not been maintained consistently throughout the postwar period. At the beginning of the 1950's, the Latin American exchange systems might have been divided into three groups. The first would have included the

⁴ Inclusive of (1) El Salvador, which on May 1, 1961 introduced temporary controls over capital transactions, while leaving current transactions unrestricted, (2) Uruguay, which applies export retentions giving rise to varying rates for exchange received by exporters and maintains surrender requirements, and (3) Costa Rica, which requires the surrender of export receipts, with the exception of those earned by the foreign-owned banana companies. (These companies, however, sell exchange to cover local requirements, paying a 10 per cent tax.)

⁵ One of these, Chile, reintroduced multiple rates in January 1962 after having maintained a uniform rate of exchange since mid-1959.

Dominican Republic, El Salvador, Guatemala, Haiti, Honduras,⁶ Mexico, and Panama—countries that had already established relatively free foreign exchange markets, i.e., had removed direct exchange controls on both current and capital payments. These countries imposed few quantitative and cost restrictions, such as licenses and surcharges; in one or two, quotas were imposed, while others relied to a small extent on bilateral agreements. The second group would have comprised Peru, Uruguay, and Venezuela, where the main features of the systems were multiple rates, surrender requirements, and import licensing; capital transfers and payments for invisibles were largely unrestricted. Peru, however, did conclude several bilateral agreements. The third group, comprising Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Nicaragua, and Paraguay, maintained comprehensive exchange controls, characterized by multiple rates, surrender requirements, and control of capital transfers, in addition to quotas, licenses, export taxes, and, in some countries, advance deposits.

Early in 1962, Argentina, Bolivia, Costa Rica, Paraguay, Peru, and Uruguay were added to the first group. Furthermore, most of the remaining countries, while retaining multiple rates and/or other exchange and trade restrictions, had nonetheless achieved noticeable progress in simplifying and/or liberalizing their exchange systems. These developments at the national level have been reinforced by multilateral moves to reduce restrictions on intra-Latin American trade. They began with the ratification in December 1960 of the General Treaty on Central American Integration,⁷ and in May 1961 of the Treaty of Montevideo⁸ (which established the Latin American

⁶ Honduras required the surrender of export receipts and maintained a small spread between the official and selling rates. Otherwise, it did not impose any exchange restrictions.

⁷ This Treaty (signed by El Salvador, Guatemala, Honduras, and Nicaragua) requires the immediate removal of all tariffs and other charges on a large portion of commodities originating in the member countries. The remaining commodities (which in fact include many of the items actually traded) will be liberalized within five years. They are included in special lists. Restrictions on the first group of items, i.e., those not included in the special lists, have already been removed. The countries concerned have also agreed to equalize external tariffs, integrate their industrial projects, and establish a central bank for economic integration. All these agreements are being implemented. On August 2, 1961 a Preferential Trade Agreement was signed by Costa Rica, Nicaragua, and Panama, providing for free or preferential treatment of trade among the contracting parties; it also provides for exemption from quantitative restrictions other than those agreed by the parties concerned. All three countries have now ratified this agreement.

⁸ The Treaty of Montevideo requires each contracting party to negotiate annually with the other contracting parties tariff reductions equivalent to at least 8 per cent of the weighted average of the tariff in force for third countries. Tariffs include customs duties and any other surcharges having equivalent effect, whether of a fiscal, monetary, or exchange character. The first annual negotiated

Free Trade Association). In 1959-60 intra-LAFTA trade accounted for roughly 40 per cent of intra-Latin American trade, and trade among the Central American group of countries accounted for about 4 per cent.

The present review excludes Cuba, where the trend of developments in the restrictive system has differed from trends elsewhere in the Latin American region. All Cuban foreign trade is now under direct state management, and all exchange transactions are carried out through the National Bank.⁹ All exchange proceeds must be surrendered to the Bank, whose approval is required for exports and transfers abroad of foreign exchange, checks, securities, or other monetary instruments.

III. Major Restrictive Devices

IMPORT SURCHARGES

Surcharges constitute an important restriction in Argentina, Chile, and Uruguay, and, to a lesser degree, in Brazil, Guatemala, and Paraguay.¹⁰ Except in Guatemala and Paraguay, the bases for determining variations in the rates levied are the degree of essentiality of the import and the competitiveness of the import with domestic production; the less essential and the more competitive the import, the higher the surcharge it bears. Many essentials are exempted. As a source of revenue, surcharge payments are important in Argentina, where in 1958-61 they accounted for roughly 18 per cent of government receipts; they are less important in the other five countries.

In Argentina, surcharges were applied, in conjunction with the 1959 exchange and stabilization program, to ease the process of transition toward a liberal and unified exchange system. Since then, changes have been made in the rates applicable to various import categories, resulting in a net reduction in their over-all incidence.¹¹ Surcharges remain, however, an effective restrictive device, and with respect to

concessions became effective on January 1, 1962 for the seven original members (Argentina, Brazil, Chile, Mexico, Paraguay, Peru, and Uruguay). Colombia's negotiated concessions became effective in April 1962, while Ecuador negotiated with the other members in August 1962.

⁹ Law 930, February 23, 1961.

¹⁰ In connection with the exchange reform of September 3, 1961, Costa Rica imposed a temporary import surcharge of 15 per cent on imports of specified less essential goods, and of 30 per cent on luxury goods, pending the promulgation of a new tariff.

¹¹ Excluding temporary additional surcharges levied during 1962.

certain categories they are still high. They are payable on the c.i.f. value of all imports other than certain essential goods, e.g., the principal metals, rubber, and newsprint.¹² The rates prevailing until December 31, 1961 were as follows: 20 per cent on numerous raw materials, drugs, iron and steel bars, etc.; 40 per cent on semiprocessed articles or raw materials produced domestically; 100 per cent on spare parts, tools, and industrial machinery manufactured domestically but not in sufficient quantities; 150 per cent on processed articles produced domestically, the import of which is not essential, and on industrial machinery manufactured domestically; and 200 per cent on nonessential products and luxuries, e.g., whisky, transistor radios, textiles, and ready-made clothing of cotton and wool.¹³ However, on January 24, 1962 surcharges were increased on various groups of imports, excluding items which appear on the Argentine LAFTA concession list. Imports of specified machinery, which until then were exempt from surcharges, were subjected to a 40 per cent surcharge. Moreover, imports of a large number of goods which are either produced domestically or are considered of a nonessential nature were subjected to an additional temporary 100 per cent surcharge, to be eliminated at the end of 1962. Furthermore, on April 9, 1962 an emergency 20 per cent additional surcharge was imposed on practically all imports; the few exceptions included items on Argentina's LAFTA concession list.

The total effect of the Argentine surcharges has been somewhat reduced, however—at least until the recent temporary changes—as several import items have been exempted from surcharge. For example, certain imports originating in neighboring countries and in Peru, a relatively small number of items appearing on the Argentine LAFTA concession list, and imports of machinery and materials for certain industries, are (or were) exempted from the surcharges. In addition, either surcharges of less than 100 per cent paid on imports of certain raw materials and semifinished items which are subsequently incorporated into exports are repaid after six months or the imported item is granted alternative preferential treatment. The importance of these exemptions is partly indicated by the fact that in 1959–61 roughly two thirds of Argentine imports were exempted from surcharges.¹⁴

In Chile, the authorities have similarly made use of surcharges, to-

¹² Until January 4, 1962 imports of fuels were also exempted. On that date they became subject to a 20 per cent surcharge.

¹³ The 200 per cent surcharge includes a temporary 50 per cent surcharge.

¹⁴ Of course, the more effective the rates, the greater is the reduction in the import of commodities subject to surcharges, so that the proportion of imports exempted is not a completely satisfactory indicator of the importance of the exemptions granted.

gether with advance deposits, since 1959, when the exchange markets were unified and import prohibitions eliminated.¹⁵ There are now 13 different surcharges, ranging from 0.1 per cent to 200 per cent, payable at the time of clearance of the goods through customs. They are applicable on all permitted imports except goods imported by large mining companies, agricultural spare parts, certain capital goods, and imports from LAFTA of some items which appear on the Chilean LAFTA concession list.¹⁶ Needed imports, such as metallic minerals, natural products, antibiotics, pharmaceutical specialties, and industrial oils, are subject to the lower ranges of the surcharges, i.e., 0.1 per cent to 20 per cent; less "essential" or more competitive imports, e.g., skins, wheat flour, some fabrics, varnishes, aluminum sheets, tin and lead scraps, paper, motorboats, and office machinery, are subject to the higher ranges.

In Uruguay, surcharges were first applied in 1956, when reforms initiated that year provided a free certificate market for imports and exports. They were retained, along with advance deposit requirements, when the exchange and monetary reforms of December 17, 1959 resulted in the elimination of other import restrictions and in the establishment of a freely fluctuating market rate. Essential imports, such as sugar, salt, coffee, timber, iron and steel, industrial raw materials, paper, and imports from LAFTA of certain items that appear in the Uruguayan LAFTA concession list are exempted.¹⁷ Other imports subject to surcharges require registration with the Bank of the Republic, accompanied by an assurance from the bank handling the import financing that the necessary foreign exchange will be available at the time of customs clearance. The surcharges are collected by the Bank and levied as follows: 40 per cent on goods not produced domestically; 75 per cent on competitive imports;¹⁸ and 150 per cent on luxuries.

In Brazil, imports of goods in the "Special Category" classification are made on the basis of licenses issued to holders of "promises of licenses," which are purchased at auctions. The prices paid for these promises represent surcharges on imports. They usually fluctuate freely, but on January 30, 1962 a minimum of Cr\$662.60 per U.S. dollar was fixed.

¹⁵ A dual market, with increased restrictive measures, was reintroduced in January 1962 (see below, p. 201).

¹⁶ In January 1962, the list of prohibited imports was reintroduced and made to include many "nonessentials" and "luxuries" (see below, p. 211).

¹⁷ Other items in the concession list are subject to reduced rates.

¹⁸ Uruguayan industrial output comprises mainly textiles, processed foodstuffs, and construction materials. Major agricultural produce includes wheat, linseed, oats, barley, corn, and rice.

Guatemala maintains a 100 per cent surcharge on imports from specified countries with which it has a trade deficit. The list of these countries is periodically changed. Should a country of the Central American group be included in it, the surcharge will not be applicable to items which do not appear in the special lists.¹⁹ The surcharge is waived if goods are imported on Guatemalan ships.

In Paraguay, surcharges payable on the c.i.f. value and collected by the Central Bank were first used in 1959, on a limited scale. They are now levied on all imports except (1) those originating in Argentina, Bolivia, Brazil, and Uruguay, (2) those items included in the Paraguayan concession list which are specifically exempted from such payments,²⁰ and (3) government imports. With these exceptions, wheat and petroleum imports are subject to a 15 per cent, and other imports to a 24 per cent, surcharge.

The use of surcharges has usually been restricted to a relatively small number of Latin American countries, but in 1959-61 the countries then applying surcharges accounted for roughly 40 per cent of intra-Latin American trade. Surcharges have protected domestic products and have been readily utilized for temporary balance of payments purposes, as evidenced by the experiences of the countries under consideration.²¹ As noted above, they are relatively high when imposed on "nonessential" imports, i.e., goods either produced domestically or considered luxuries by the authorities. They are relatively low on "essential" imports, e.g., needed raw materials, food items, and capital goods not available locally, many of which have, in fact, been exempted. The degree of incidence varies from one country to another, being currently highest in Argentina.

As to the impact of surcharges on the trade and payments of the countries applying them, and consequently on intra-Latin American trade and payments, three brief observations will be made. First, it is probably true that, except in Guatemala, the incidence of surcharges is greater on extra-area than on intra-area trade. The following factors may be mentioned in support of this statement: (1) the majority of the imports exempted from surcharges or attracting low rates originate within Latin America, e.g., food items and raw materials; (2)

¹⁹ These lists include items to be liberalized within five years; see footnote 7.

²⁰ See footnote 17.

²¹ The use of surcharges has been partly motivated by the decreasing effectiveness of customs duties. Two factors are responsible for this decreasing effectiveness: (1) trade agreements that have either bound existing rates or caused them to be reduced; (2) the administrative impracticability of changing tariffs as a short-term regulator. As a result, where duties are specific or where the basis for taxation of imports is in an overvalued official rate of exchange, tariffs have tended to be less effective as the general price level has increased.

imports from neighboring countries are exempted in Paraguay, and a large number of such items are exempted in Argentina; in addition, the countries considered here are LAFTA members whose reciprocal concession lists include the elimination of surcharges on a number of items traded within LAFTA;²² and (3) many items subject to high surcharges are largely imported from outside Latin America, e.g., textiles, alcoholic beverages, and machinery that competes with local production in Argentina; textiles and construction materials in Uruguay; tin bars and ingots, textiles, and wheat flour in Chile. These facts suggest that (with allowance for exemptions granted) the systems of surcharges in the countries which apply them discriminate in favor of intraregional and against extraregional trade.

Second, in Argentina, and to a lesser extent in Uruguay, the high surcharges on imports competing with domestic products seem to have hindered the efficient development of domestic production by shielding inefficient plants. In Argentina, for example, highly protective rates appear to have retarded the mechanization of agriculture and the efficient development of certain industries. In Uruguay, the incidence of surcharges is not so great as in Argentina, but the problem of inefficiency exists, as evidenced by the keen competition from the United States and Europe which local industry is facing in spite of relatively high surcharges. Such competition is beneficial to the extent that it forces local producers to become more efficient. The case for lowering surcharges in Argentina may be strengthened by the implementation of LAFTA: regional integration may assist local industries, by widening the market for their products and allowing them to reap the economies of scale, thereby enabling them to withstand foreign competition with an even lower degree of protection.

Third, it is desirable to differentiate between the balance of payments and trade objectives of trade policy, and to confine the application of surcharges to the latter. The utilization of surcharges for balance of payments purposes, and hence the frequency of changes in their applicable rates because of changes in the payments situation, can have a disrupting influence on the flow of intraregional trade, particularly now that a free trade area is being implemented. For example, additional temporary surcharges, when imposed by the coun-

²² The number of concessions negotiated in 1961 among LAFTA members, however, is smaller than might at first appear. According to one source (*The Review of the River Plate*, CXXXI, April 30, 1962, p. 151), if the Brussels Nomenclature were adopted, the number of items receiving concessions would be reduced from more than 2,500 to roughly 1,400, including a large number of agricultural goods already subject to bilateral agreements. In addition is the fact that a large number of the industrial goods included in the concession lists are not traded at all.

tries under review, do not apply to intra-LAFTA trade, and this may cause a shift from extra-LAFTA to intra-LAFTA sources of supply, when available. But this shift may also be temporary if, when the additional surcharges are eliminated, importers in these countries find it profitable to resort to their original extra-area sources of supply. Producers in the other LAFTA countries, as well as importers in the countries which apply surcharges, are thus faced with an element of uncertainty arising from the application of a frequently changing policy regarding surcharges on extra-area imports. This uncertainty may be reduced when the separate levies on imports are incorporated into the new tariff schedules currently being worked out.²³

ADVANCE DEPOSITS ON IMPORTS

Advance deposits for some or all imports are presently required in Brazil, Chile, Colombia, Ecuador, Nicaragua, Paraguay, and Uruguay. The essential features of this device are common to all seven countries, i.e., importers are required to deposit in local currency a certain proportion of the cost of the import before the item is imported, and this deposit is released sometime later, usually after the import has arrived. From the point of view of the importer, this amounts to a requirement that some part or all of the bill for imports be paid in advance, and thus it clearly has some inhibiting effect upon imports and the consequent flow of import payments. The extent of this restrictive effect differs widely among countries, depending upon the essential features of the requirements in force. Also, other incidental effects of this device have been widely different in Latin America.

Ecuador may be selected as an example of a country employing advance deposits in a relatively uncomplicated form. Private importers are required to deposit in sucres either 25, 50, or 100 per cent (depending upon the item imported) of the c.i.f. value of all imports at the time when the import license is applied for.²⁴ This deposit is held by the Central Bank until the time of customs clearance, when it is released against payment for the goods. This implies that the minimum period during which the deposit is sterilized is equal to the time taken in shipment of the goods, but in practice this period is usually longer. Importers in Ecuador are also required to pay consular

²³ The disadvantages of instability in trade policy are not, of course, confined to the application of surcharges, but relate to other restrictions as well. In the majority of the countries under consideration, however, surcharges are an important tool in their trade policies.

²⁴ This applies to all nongovernment imports except those under the Agricultural Surplus Agreement with the United States, which are exempt from advance deposit requirements. Licenses are usually issued freely.

fees and import taxes when applying for the import license, thus augmenting the amount that must be put down before the import is shipped.

In Colombia, the advance deposit requirements are essentially similar to those in Ecuador. A nominal advance deposit of 1 per cent is required for certain specified imports. Advance deposits on other items range in five categories, from 5 per cent to 100 per cent,²⁵ with a special requirement of 500 per cent for imports of gold and silver coins. The advance deposit must be paid in local currency at the time that the import is registered; as a rule, it is returned 90 days after the merchandise is cleared through customs or, if the import is received in installments, at the time of the last shipment. However, Colombia's exchange system requires that payment for imports be made through the purchase of exchange certificates; when the advance deposit is to be used for this purpose, it may be released 45 days after customs clearance.

Nicaragua requires an advance deposit of 100 per cent of the c.i.f. value of imports on Lists II and III (i.e., all except those in the most essential category), payable at the time of application for the import license and released when payment for the goods is effected. For List III imports (i.e., the least essential category), the import license is not issued until 30 days after the deposit is made. Thus, for List III imports, the deposit usually remains sterilized for the time the goods are in transit plus 30 days, while for List II imports the usual period is equal to the time the goods are in transit. Certain items specified in the Industrial Development Law, government imports, essential imports on List I, and imports from the Central American group which do not appear in the special lists are exempt from the advance deposit requirements.

In Uruguay, an advance deposit of 100 per cent is required for only those goods subject to the highest surcharge (150 per cent). But exemptions from this requirement were granted to items in the Uruguayan LAFTA concession list. The advance deposit must be made with the Bank of the Republic at the time of registration of the import; it is returned 9 or 12 months later, depending upon the item imported.

In Paraguay, an advance deposit of a flat 100 per cent of the f.o.b. value is required for imports of certain specified commodities. As most commodities do not require import licenses, the deposit may be made at any time before the goods arrive in the country. If the de-

²⁵ For the period April 5 to June 30, 1962, these requirements were temporarily raised to range from 20 per cent to 200 per cent.

posit is made after the date of shipment, it is returned after a minimum of 180 days; if before, after a minimum of 120 days. For certain items imported from Spain through the Spanish free zone in Paraguay, the deposit is held only for 90 days. Imports from Argentina, Bolivia, Brazil, and Uruguay, and imports of items included in the Paraguayan LAFTA concession list, are exempt from the advance deposit requirements.

In Chile, advance deposit requirements were formally re-established on June 18, 1962, the rates being 10, 100, 200, and 1,000 per cent of the c.i.f. value of the imports, depending upon their essentiality. Exemptions, however, have been extended to imports from LAFTA countries, imports by the Government and by the large copper, iron, and nitrate organizations, and imports through "free port" zones. The deposits must be made at the time when imports are registered at the Central Bank, and are retained for 90 days.²⁶ This system replaced the one introduced in January 1962 whereby the prepayment of surcharges on all permitted imports had an effect similar to import deposit requirements.²⁷

In Brazil, importers can acquire exchange for the payment of imports only after they close an exchange contract with an authorized bank. Within five days an advance deposit equal to 100 per cent of the exchange contract must be paid to the Bank of Brazil. For 30 per cent of the deposit, importers receive 150-day Bank of Brazil notes bearing 6 per cent interest. Imports originating in countries which are members of LAFTA, as well as a considerable number of specified imports, are exempt from the deposit requirement.

The preceding survey shows that two of the countries under consideration (Brazil and Paraguay) have suspended deposit requirements on a large portion of their Latin American imports. Two others (Chile and Uruguay) have waived this requirement on imports of items that appear on their respective LAFTA concession lists. Furthermore, in all seven countries relatively high advance deposit rates are applied to "nonessential" items and low rates to "essential" items. These considerations suggest, as for surcharges, that the incidence of advance deposit requirements discriminates in favor of intraregional and against extraregional trade. In any event, advance deposits have not proved

²⁶ They must be made in 5 per cent or 7 per cent U.S. dollar bonds issued in accordance with Article 7 of Law No. 14171 or Article 79 of Law No. 13305 (see International Monetary Fund, *International Financial News Survey*, Vol. XIV (1962), p. 252).

²⁷ For a brief period (December 27, 1961 to January 15, 1962), during which all exchange operations were suspended, an advance deposit of 10,000 per cent was required for all imports. This amounted virtually to a prohibition of imports.

to be a very effective restrictive device except where very large deposits have been required. In countries where advance deposits are employed in conjunction with a number of other more direct controls over imports, it is difficult to assess the impact of the deposit requirements. In other countries, the effect of the advance deposit depends on the possibilities open to importers of borrowing the amount to be deposited; on the interest rates charged for such borrowings; and on the period of time during which the deposit remains with the authorities.²⁸ Experience in many Latin American countries has shown that the inhibiting effect upon imports of this device is fairly erratic, and it usually affects the small importers more than the large ones whose credit standing is good.

In several countries, advance deposits were first imposed in an attempt to reduce imports, but have had to be retained because of their monetary effects. When an advance deposit requirement is first imposed, there is usually a withdrawal of liquidity from the economy—provided, of course, that the deposits are sterilized in the central bank.²⁹ Once the system is fully established, however, there will be no net deflationary effect if imports and the deposit requirements remain constant, because the making of new deposits is matched by the release of old ones. Thus, a number of countries which imposed severe advance deposit requirements in connection with the introduction of new stabilization programs hoped to receive an initial deflationary thrust at the time it was most needed, but they later found that the deposit requirements could not be eliminated without reinjecting liquidity into the economy. Several of the countries which presently impose advance deposit requirements would perhaps eliminate them immediately if it were not for this factor. In Ecuador, for example, where the advance deposit requirements are relatively modest, the total amount of advance deposits held by the Central Bank in March 1962 was about S/ 130 million (\$7.2 million at the official rate), or equivalent to 3–4 weeks' total import payments. Release of this amount without compensating measures to absorb the resultant increase in liquidity might seriously affect the monetary situation. In

²⁸ For example, an importer in Ecuador making a 100 per cent advance deposit, which will be returned to him in 3 months, may obtain funds at about 10 per cent per annum. The cost of borrowing the funds therefore adds 2.5 per cent to the final cost of the import, which is far less than the consular fees and import taxes applied to imports in Ecuador. See Eugene A. Birnbaum and Moeen Qureshi, "Advance Deposit Requirements for Imports," *Staff Papers*, Vol. VIII (1960-61), pp. 115-25.

²⁹ If the importer borrows the sum to make the advance deposit from a bank or other lending institution, the impact on the money supply will be still greater if these institutions do not have excess reserves.

Paraguay, at one time, these funds rose to almost one third of the money supply.

It must be recognized that part of the reason for the widespread prevalence of advance deposits in Latin America in the past has been that the device may be introduced quickly through administrative processes, and that its balance of payments and monetary effects are somewhat disguised and are not likely to be a subject of popular opposition. However, the declining use of this device at present seems to indicate that experience with it has brought about a growing realization of the disadvantages outlined above.

MULTIPLE CURRENCY PRACTICES³⁰

Among the Latin American countries, important multiple currency practices are maintained at present by Brazil, Chile, Colombia, Uruguay, and Venezuela, and, to a lesser extent, by Ecuador. In all except Brazil and Uruguay there is a dual market system, including some mixing rates. In Brazil the application of exchange taxes and other practices give rise to several effective rates; and in Uruguay retentions on export proceeds give rise to several effective buying rates.³¹

Where dual markets exist, preferential rates commonly cover essential imports, government transactions, major exports, and registered capital movements, while the free market covers all other transactions. Chile reintroduced a dual exchange system in January 1962; an official rate now applies to imports (on the permitted list), exports, government transactions, and certain invisibles, and a free (brokers') fluctuating rate applies to other transactions.³² The latter rate covers about 20 per cent of all exchange transactions, averaging in the period January–June 1962 roughly 28 per cent below the official rate.

Ecuador has fixed exchange rates applicable to most exports, im-

³⁰ As defined by the International Monetary Fund, "an effective buying or selling rate which, as a result of official action, e.g., the imposition of an exchange tax, differs from parity by more than one per cent, constitutes a multiple currency practice." See International Monetary Fund, *First Annual Report on Exchange Restrictions* (Washington, March 1, 1950), p. 144. Thus, the following countries, where small exchange taxes are imposed or a limited volume of exchange transactions takes place at rates slightly different from the official one, have minor multiple currency practices: Bolivia, Costa Rica, Nicaragua, and Paraguay.

³¹ Brazil maintains a free market rate which has tended to fluctuate with a spread—amounting to about 3 per cent—between the selling and buying prices. Uruguay also has a fluctuating rate, although the central bank intervenes in the exchange market.

³² The official buying and selling rates are E° 1.051 and E° 1.053 per U.S. dollar, respectively, compared with an average free rate in January–June 1962 of E° 1.483 per dollar.

ports and related invisibles, other essential invisibles, official transactions, and registered capital. All other transactions are settled in the free market.³³ The official rates, estimated to cover about 80 per cent of all exchange operations, were depreciated in July 1961 after having been maintained unchanged for several years.³⁴ The free rate has also tended to depreciate, leading to a greater spread between it and the official rates.

Colombia has an "auction" rate applicable to all imports, government payments, students' remittances, and 80 per cent of freight payments, and a fixed "certificate" rate applicable to major exports and to the capital transactions of the petroleum and metal-extracting industries. All other transactions take place at the free market rate. The two official rates, however, have changed in recent years, tending to depreciate, while the free rate has also depreciated, although not consistently. The exchange rate structure is further complicated by the application of a remittance tax, amounting to 10 per cent of the free market rate, on capital registered before June 17, 1957, and by the establishment of minimum surrender prices for coffee and banana exports, all of which give rise to several effective rates.³⁵

Venezuela has a controlled market rate, and official and unofficial free rates. There are, in addition, special rates which apply to petroleum companies.³⁶ The controlled market rate applies mainly to about 20 per cent of imports and to capital and commercial debts already registered with the Central Bank. The official free rate applies to about 80 per cent of import payments, proceeds from minor exports, and a number of invisible and capital transfers. All other transactions are effected through the unofficial free market. The rates applicable to transactions of the petroleum companies are considerably higher than the free rates.

³³ Minimum surrender prices for banana exports, which do not coincide with their f.o.b. export price, give rise to mixing rates. In April 1962 the effective rate for banana exports was S/ 18.47 per U.S. dollar, compared with the fixed buying rate of S/ 17.82 and a free rate of S/ 22.09 per U.S. dollar.

³⁴ The buying and selling rates are S/ 17.82 and S/ 18.18 per U.S. dollar, respectively, compared with the previous official rates of S/ 15.00 and S/ 15.15 per U.S. dollar, respectively.

³⁵ To illustrate: at the end of 1961, the "auction" rate averaged Col\$6.70 and the free rate Col\$8.85 per U.S. dollar, but because of the remittance tax, the effective selling rate for capital registered before June 1957 was Col\$7.58 per U.S. dollar.

³⁶ The scope of the official free market was widened in April 1962. Prior to that date, the controlled rate was applied to the larger portion of transactions, including essential imports, registered capital, exports of iron ore, government receipts, and certain invisibles. The petroleum rate is now Bs 3.09 per U.S. dollar, compared with an official free rate of Bs 4.54 and a freely fluctuating rate of Bs 4.58 in April 1962.

Brazil has a fixed buying rate of Cr\$355, and a fixed selling rate of Cr\$365, per U.S. dollar. The exchange rate structure was practically unified with the elimination in July 1961 of import preferential rates. The rates then prevailing tended to fluctuate until January 1962 when the decision was made to maintain them at Cr\$310 buying, and Cr\$318 selling, per U.S. dollar. These rates, however, proved to be relatively appreciated, creating a shortage of exchange for financial remittances, owing to the very low level of reserves. Subsequently, the rates were depreciated to their present level.³⁷ Important multiple currency rates are created by the taxes levied on the export proceeds of coffee and cocoa. Thus, whereas the fixed buying rate is Cr\$355 per U.S. dollar, the 15 per cent exchange tax on cocoa exports results in an effective buying rate for this commodity of Cr\$301.75 per U.S. dollar. As for the proceeds from coffee exports, their effective rate depends upon the price and quality of coffee exported.³⁸ The Bank of Brazil also makes quarterly contracts to sell exchange for imports of wheat, petroleum, and petroleum derivatives at special rates which, under inflationary conditions and with freely fluctuating market rates, tend to be more appreciated than the market selling rate. In addition, broken cross rates result from transactions in bilateral currencies.

In Uruguay, a free market was established as a result of the 1959 exchange reform. Since October 1960 the rates in this market have remained stable, being maintained by the central bank at about Ur\$11.00 buying, and Ur\$11.03 selling, per U.S. dollar. The Exchange Reform Law of December 17, 1959, however, specifies that proceeds from wool exports must be subject to retentions of between 25 per cent and 50 per cent of their f.o.b. value, while proceeds from other major exports must be subject to retentions of between 5 and 50 per cent.³⁹ These retentions give rise to several effective buying rates. For example, on the basis of a retention on greasy wool of Ur\$30.00 per ten bags (effective since December 9, 1960), the effective rate for this export becomes Ur\$8.44 per U.S. dollar. Minor exports, on the other hand, receive the full market value rate, to encourage them and to help to diversify the composition of exports.

The importance of multiple currency practices has been greatly reduced in Latin America, as is evidenced by the dwindling number of

³⁷ In May 1962 the rates were depreciated to Cr\$350 buying, and Cr\$359 selling, per U.S. dollar, and on July 2, 1962 they were further depreciated to Cr\$355 buying and Cr\$365 selling.

³⁸ Exporters of coffee must surrender to SUMOC (Superintendency of Money and Credit) through the Bank of Brazil foreign exchange equivalent to \$23 per bag of coffee exported.

³⁹ Retentions are portions of exchange proceeds, from the sale of exports, withheld by the Government without compensation.

countries which rely on them to any great extent. One major cause is that the Latin American countries have found that the utilization of multiple rates is, by and large, ineffective, and sometimes undesirable, in attaining the objectives they are supposed to achieve, e.g., balance of payments equilibrium and protection of domestic industries.

The countries other than Brazil and Uruguay which maintain multiple rates do so as part of a more comprehensive exchange control system, and hence the effect that these rates exert is merged in the over-all effect of other controls. The elimination of direct restrictions usually (but not necessarily, as illustrated above) results in the abandonment of multiple currency practices. For example, when Argentina and Paraguay unified their exchange markets,⁴⁰ this was one step in a comprehensive exchange reform and stabilization program aimed, among other things, at eliminating direct controls. Other countries have had similar experiences. Nevertheless, some observations may be made regarding the specific role of present multiple currency practices in the countries under review.

First of all, it is clear that in Ecuador the significance of multiple rates has been reduced as a result of the reforms which simplified the country's exchange system. The free market is still maintained, to facilitate the movement of unregistered capital and thus to relieve the authorities of pressures upon their international reserves resulting from possible capital outflows. Recently the spread between the two rates has averaged about 18 per cent, and to that extent multiple currency practices discriminate against those payments that have to be made in the free market, e.g., certain invisibles and the outflow of unregistered capital.

Chile's reintroduction of multiple rates—as part of its new exchange control system—is an attempt to relieve balance of payments pressures by moving out of the official exchange market the payments for certain imports and invisibles. Preference to specified imports has thereby been granted. The spread between the official and free rates—averaging in January–April 1962 roughly 38 per cent—gives those imports which pass through the official market especially favorable treatment. Thus, the effect of the present Chilean multiple rates is not only to conserve the country's international reserves but also to influence the composition of imports and, as a result, the composition of consumption and investment.

Colombia and Venezuela, on the other hand, have made use of multiple currency practices to achieve a variety of objectives. In Venezuela, for example, fiscal revenue is a major consideration.

⁴⁰ In 1958 and 1957, respectively.

Colombia establishes, for major exports, minimum surrender prices which, if higher than their f.o.b. export price, as has been true of coffee exports in the last few years, result in additional foreign exchange for the authorities, i.e., exporters have to purchase foreign exchange in the free market to cover the difference between the two prices.⁴¹ Furthermore, Colombia has attempted to diversify its exports by applying a relatively depreciated rate to proceeds from bananas and other minor exports. Export proceeds from bananas, for example, are subject to minimum surrender prices lower than their f.o.b. export price, which amounts to a depreciated export rate for them, whereas proceeds from other minor exports are subject to rates approximating the free market rate.⁴² In practice, however, progress in diversifying exports has been slow. The free market has also provided an outlet for speculative capital movements, relieving pressure exerted upon the authorities on account of capital outflow. In Venezuela, the multiple rate system has been used to subsidize "essential" imports, such as consumer goods and raw materials, by applying to them relatively appreciated rates, while the existence of the free market has served as an outlet for nonapproved capital transactions. But the reform of April 1962, whereby the official and unofficial free rates now cover the bulk of outgoing payments, has greatly reduced the importance of these two functions.

In Brazil and Uruguay, export retentions⁴³ serve as a means to redistribute revenue: in the former the receipts are earmarked for local industries (coffee, cocoa), and in the latter receipts feed the Retention Fund (established in 1959). In 1960, for example, export retentions in Uruguay accounted for about 90 per cent of this Fund's resources, which were used by the Government to finance various subsidies: milk and public utilities.⁴⁴ The use of special rates in the two countries is not intended as a restrictive measure. Uruguay has already freed all exchange operations; and, although it maintains surrender requirements, these mainly serve to enforce export retentions. The Brazilian exchange taxes might have been replaced by export taxes but for the country's constitution, which prevents the Federal Government from levying export taxes. The special rates determined quarterly for wheat and petroleum imports, however, serve to stabilize, on a short-

⁴¹ In January 1962, the coffee export rate was Col\$6.345 per U.S. dollar, compared with a fixed certificate rate of Col\$6.56 per U.S. dollar.

⁴² In January 1962, for example, the effective export rate for bananas was Col\$8.12, compared with Col\$6.345 per U.S. dollar for coffee exports.

⁴³ See footnote 39.

⁴⁴ The Montevideo transport companies, State Telephone and Electric Power Agency, State Airlines, and State Railways.

run basis, the prices for these commodities in the face of possible fluctuations in the market exchange rate. Normally, if the market rate is rising, these rates tend to be appreciated relatively to that rate, involving a subsidy to wheat and petroleum.

Present multiple currency practices do not discriminate between countries which are, and countries which are not, in Latin America. Furthermore, their discriminatory effect on categories of imports has not only declined but has become a minor consideration. In a number of countries where a free market exists, the basic aim of the authorities is not necessarily to discriminate against those transactions carried out at the free rate, but to relieve the pressure upon the country's international reserves. The decline in the use of exchange controls has deprived multiple currency practices of much of their former significance.

QUANTITATIVE RESTRICTIONS: LICENSING AND PROHIBITIONS

The increase in the number of countries which have established relatively free foreign exchange markets has had, *inter alia*, the effect of decreasing the importance of trade and exchange licensing in restricting intra-Latin American trade. This trend has been further emphasized by steps taken to simplify the restrictive systems in those countries maintaining exchange controls. Nevertheless, quantitative restrictions constitute an important restrictive device in at least some of the countries presently using exchange controls, which together accounted in 1959-60 for over half of the intraregional trade. The coverage and effects of these restrictions vary greatly from one country to another, as indicated below.

The countries which now maintain quantitative restrictions may be divided into three groups: those which do not maintain exchange restrictions but rely on trade licensing (Mexico and a few others);⁴⁵ those which have not yet unified their exchange markets but have in the last few years simplified their restrictive systems (Brazil, Colombia, Ecuador, and Nicaragua); and those which, after having eliminated exchange restrictions and/or unified their exchange markets, have found it necessary to reintroduce direct controls (Chile, the Dominican Republic, and Venezuela).⁴⁶

Among the countries maintaining free foreign exchange markets, Mexico is the only one where, in addition to tariffs, licensing plays a

⁴⁵ Other countries where licensing is applied but where its coverage is limited and its restrictive effect unimportant are Guatemala, Haiti, and Honduras.

⁴⁶ In 1961, El Salvador reintroduced control temporarily over capital transactions.

major role in foreign trade policy. The emphasis on licensing has grown since 1950, and by the late 1950's the number of items subject to permits is estimated to have covered close to one half of Mexican imports (in terms of value). Importers are required to apply to the Ministry of Industry and Trade for prior licenses, the issuance of which is subject to quantitative restrictions. In the first round of LAFTA negotiations, however, exemptions from this requirement were extended to a small number of imports originating within LAFTA. Import controls have also been used to stimulate the export of certain local products: importers of specific products (automobiles, iron and steel pipes, watches, synthetic fibers, etc.) are licensed only if the importer guarantees the export of specified commodities to the same value—a practice that since 1956 has been primarily aimed at fostering cotton exports.

The original purpose of licensing in Mexico was partly the conservation of foreign exchange resources and partly protectionism; but later it was increasingly utilized for the latter purpose. Thus, among the criteria used in licensing have been the availability of domestically produced equivalents and the competitiveness of the proposed imports in the domestic market. This policy of import controls received further emphasis in 1961: a law promulgated on January 2 of that year empowered the Government to take measures affecting the total value of imports and their composition. Moreover, the recent policy of the Ministry of Industry and Trade has been that licenses are granted for imports of certain goods produced, or to be produced, locally only if they are compensated by exports in the same class of commodity; i.e., the licensed importer of a given product is required to export some variant of that import made locally.⁴⁷ Import licensing in Mexico is thus clearly an important tool of protectionism;⁴⁸ on the whole its restrictiveness, while important, varies in accordance with the degree of encouragement given to local industries and with the balance of payments situation of the country. As the implementation of LAFTA proceeds, the effects of liberalization on the Mexican domestic market will become more tangible. However, their initial influence on the country's domestic industries and its payments position is not likely to be very important, partly on account of the small portion of foreign trade which is conducted with LAFTA countries.

In the countries maintaining exchange controls all, or the greater portion of, exchange proceeds are channeled to the Government through

⁴⁷ See *Noticias*, XVII, No. 43 (October 24, 1961), p. 4.

⁴⁸ It is also a flexible tool. Changes in import controls are accomplished by administrative decree, usually without advance notice, and generally become effective upon promulgation.

surrender requirements.⁴⁹ The proceeds are then allocated for import and other payments. A large part of imports is subject to varying degrees of restrictive licensing, and in some cases to outright prohibitions or exchange quotas. Ecuador, Nicaragua, and Venezuela have the least restrictive systems. In Ecuador, prior licensing is required for substantially all imports exceeding a value of US\$100. But licenses are freely issued, provided that import taxes are paid and advance import deposit requirements fulfilled. Payments for most invisibles made at the official rate require an exchange license from the Central Bank. The exchange system in Ecuador has been greatly simplified by reducing the number of multiple rates, liberalizing imports previously prohibited, and gradually eliminating discriminatory features in trade policy and bilateral agreements. The reform, including a devaluation, in August 1961 should make the country better able to achieve balance of payments equilibrium and eventually to unify the existing dual markets without the necessity of resorting to direct controls.

In Nicaragua, registered importers must apply for import licenses from the Central Bank, which usually issues them only after the advance deposit requirements have been fulfilled; payments for invisibles at the official rate are subject to authorization. Imports from other members of the Central American group are now exempt from quantitative and other restrictions unless they are included in the special lists which cover items to be liberalized within five years. As in Ecuador, the reform of the Nicaraguan system, especially that undertaken in 1959, when differential rates for exports and other multiple currency practices were abolished, has reduced the importance of direct controls. In both Ecuador and Nicaragua, surrender requirements mainly serve to channel the flow of exchange to the official market, while licensing is intended to enforce deposit requirements.

⁴⁹ Brazil requires the surrender of all export proceeds either to authorized banks or to the Bank of Brazil. The former are required, in turn, to surrender to the Bank the foreign exchange offered to them for sale. In Chile, large mining companies must pay their income taxes in U.S. dollars; all other export proceeds must be repatriated within 90 days, and, together with certain invisibles, must be sold to authorized banks at the official rate of exchange. Colombia requires the surrender of the proceeds of major exports to the Bank of the Republic at the fixed "certificate" rate; the proceeds from manufactured exports where the import content exceeds 50 per cent of the f.o.b. value have similarly to be surrendered. The Dominican Republic requires the surrender of 90 per cent of the exchange to authorized banks which, in turn, surrender it to the Central Bank. Ecuador and Nicaragua both require the surrender, at the official rate, of all export proceeds, including most invisibles. In Venezuela, the authorities acquire the larger portion of the country's exchange earnings by applying to exchange sold by the petroleum companies an appreciated (controlled) rate; in addition, the proceeds of exports of iron ore and other noncombustible minerals have to be surrendered at the same rate.

In Venezuela, certain imports are prohibited, those financed at the controlled rate (i.e., essentials) require exchange licenses and in some cases import licenses as well, and many of the imports financed through the official free market require an import license. Since April 1962, the list of essential imports eligible for exchange at the controlled rate has been greatly reduced, from approximately 75 per cent of total imports to about 20 per cent, so that the official free market rate now covers the larger portion of outgoing payments. Although the Venezuelan exchange and import systems have not been basically altered by the changes of April 1962,⁵⁰ these changes indicate a move toward a unified market with reduced reliance on quantitative restrictions. Prohibitions and import licensing, however, comprise, with tariffs, an important protective device. Many imports competing with local products, e.g., processed foodstuffs, textiles, and soap, are either prohibited or allowed to enter only if domestic production is considered insufficient.

In Brazil and Colombia, the application of quantitative restrictions has important restrictive effects on trade and payments. In Brazil, imports are divided into two groups: a general category including mainly essential commodities, raw materials, and equipment and a special category including all other imports. Importers of goods included in the special category must obtain a "promise of license" at public auctions held in the stock exchanges of the country, except for items in the Brazilian LAFTA concession list when imported from LAFTA countries. SUMOC (Superintendency of Money and Credit) offers periodically a global value for these imports, and prospective importers bid against each other for the very limited amounts of available "promises of licenses." The holder of a "promise of license" is entitled to import licenses to a value equal to that of the promise. The Bank of Brazil also makes quarterly contracts to sell exchange for imports of wheat, petroleum, and petroleum derivatives, according them special rates. The quantities imported under these arrangements are determined by calculating the difference between estimated domestic demand and estimated domestic production.

Quantitative restrictions in Brazil exert an important influence. Through the special category arrangement outlined above, a substantial degree of restriction applies to imports of manufactured products competing with local production. Protection apart, the purpose of the Brazilian import control is to limit exchange disbursements, in view of the country's low international reserves. In this connection, it should be noted that the Brazilian authorities have

⁵⁰ See footnote 36.

maintained appreciated rates of exchange, fearing that more depreciated rates might lead to adverse repercussions. If the rates were at a more realistic level, and unless extraordinary circumstances arose, the authorities might be able to reduce controls over foreign exchange operations, and the country might be able to achieve external stability without such strict import controls. The adoption of such realistic rates is perhaps the more important in view of Brazil's membership in LAFTA: it would strengthen the competitive position of Brazilian manufactured exports, limit the country's import payments, and thus facilitate the country's liberalization efforts within LAFTA.

In Colombia, some imports are freely imported, some are prohibited, and others require prior licensing. Prohibitions and prior licensing have had an important restrictive role, greater reliance being placed on the former than on the latter. A useful indicator of this restrictiveness is the fact that in 1960 a large proportion of the import items were included in the prohibited list, while over half of the permitted imports were subject to prior licensing.⁵¹ The protective aspect of both measures is evident from the prohibition of a number of imports competing with domestic production, e.g., agricultural products, certain textiles, toys, and some consumer durable goods, and in the licensing of others only to the extent that local production is not considered sufficient or that curbs on domestic monopolistic practices by local producers are desired. Reductions in import payments have also aimed at creating a surplus in the balance of payments, in the face of diminishing export (coffee) earnings, in order to service the country's foreign indebtedness. The law authorizes the Government to discriminate against imports from countries with which Colombia has a payments deficit, but in practice licenses have been issued, by and large, on a nondiscriminatory basis. The concessions granted to LAFTA in the first round of negotiations have been confined to exemptions or reductions in import duties.

Chile and the Dominican Republic reintroduced exchange controls in 1962 and 1961, respectively, and at the same time increased quantitative restrictions. In both countries these measures were motivated by balance of payments considerations, though the main causes behind the deteriorating payments situation were different: budgetary deficits, among other factors, in Chile, and the adverse repercussions of political events, including capital flight, in the Dominican Republic.⁵² In

⁵¹ These restrictions reduced import registrations from a monthly average equivalent to US\$52 million in 1955 to US\$36 million in 1960. In 1958, import registrations were even lower (US\$22 million).

⁵² According to one source, capital flight in 1961 reached an estimated \$70 million (U.S. Department of Commerce, *International Commerce*, July 23, 1962, p. 38).

Chile imports are classified as either prohibited or permitted. Importers of goods in the latter category are not required to obtain a license and are entitled to foreign exchange (at the official rate) which cannot be secured until 90 days after the date of the bill of lading covering the goods. Many other goods, however, considered luxuries or competitive with local production, are now prohibited, unless they are imported through the "free" zones and financed through the brokers' market; exceptionally, automobiles and trucks, if not prohibited, are subject to quotas. The list of prohibited imports was reintroduced in January 1962 and now includes a large proportion of Chilean imports. Reliance on prohibitions had virtually disappeared in 1959, having steadily diminished since 1956, when import licensing was abolished.

The Dominican Republic first introduced licensing in 1960, prior to which there were no controls over trade and payments. In that year, prior licensing was required for all import items whose c.i.f. value exceeded \$1,000, and in January 1961 licensing was extended to cover all imports. The criteria for allocating licenses do not seem to be definite or clear, though protectionist as well as payments considerations are taken into account. Each license application is decided upon individually by the authorities concerned. If approved, foreign exchange is provided by the Central Bank which, in any event, must approve all outward payments. The restrictiveness of the import control system is partly indicated by the drop in Dominican imports, as revealed by official figures, from \$125 million in 1959 to \$90 million in 1960, and \$69 million in 1961.⁵³ But, as in other exchange control countries, the effect of import controls was weakened by contraband trade.

REGULATION OF CAPITAL TRANSACTIONS⁵⁴

The main use of regulations pertaining to capital transfers is in the countries maintaining both official and free exchange rates. In addition, the Dominican Republic and El Salvador reintroduced in 1961 control over capital transactions. In other countries, capital transfers are not regulated. Where regulations are applied, registered (approved) foreign investments are usually accorded favorable treatment: repatriation is allowed freely, and investors are exempted from payment of certain duties and taxes. Further, registered investment

⁵³ In the period February 9–December 31, 1961, 76 per cent of licenses applied for were granted.

⁵⁴ This section covers mainly regulation of capital representing foreign investments.

transactions take place through the official market, in contrast to unregistered investment, which not only has no guarantees but also—in countries where there is a free market—has to be effected through that market. Transfers of domestically owned capital funds are free in a few countries, while in others official authorization is required.

To illustrate: in Chile, which reintroduced capital controls in January 1962, all firms now require permission from the Central Bank to make or receive capital remittances; unlike individuals, they may not deal in the brokers' market without specific approval. Large mining companies may still freely remit interest, dividends, and amortization on invested capital after meeting taxes and local currency requirements. Similarly, foreign investments in approved enterprises can obtain a number of guarantees, as stipulated by Decree Law No. 258 of 1960, such as the right of withdrawal and the nonpayment of certain duties.

Colombia extends transfer guarantees to all capital investments registered before June 17, 1957. Amortization payments and profit remittances in connection with these investments are allowed, but may be made at the depreciated "auction" rate after the payment of a 10 per cent remittance tax in dollars purchased in the free market. Capital entering the country after June 17, 1957 is unregistered and must be transferred at the free market rate. Special arrangements—by law and contract—apply to the capital imports and profit remittances of petroleum companies.

Ecuador allows remittances of registered capital, at the official rate, up to a total of 15 per cent per annum. Unregistered capital is free to enter and leave through the free market in unlimited quantities. Foreign capital, in the form of exchange, sold by foreign companies to cover local requirements, has to be surrendered at the official rate if such capital is registered. All foreign investment, in the form of capital goods intended for the development of national production, may be exempt from taxes and may be freely re-exported.

Nicaragua maintains control over registered foreign capital invested prior to March 11, 1955: remittances at the official rate are subject to individual approval by the Central Bank and may not exceed 10 per cent annually. Foreign investments registered after March 1955 are guaranteed free repatriation and free transfer of earnings at the official rate. Capital transfers by residents through the official market are not permitted.

Early in April 1962, Venezuela increased further the use of the free markets for capital transactions. All capital transactions are now made through the official and unofficial free markets, except foreign capital and debts already registered with the Central Bank; these

continue to be effected at the controlled rate. Foreign capital is no longer being registered, and future investors cannot have access to the controlled market.

In the Dominican Republic, capital inflow is free but capital remittances are subject to the approval of the Central Bank. In El Salvador, the entry of capital in the form of foreign investment requires advance approval of, and registration by, the Ministry of Economy. Foreign investments in the form of loans are registered also by the Exchange Control Department. Registration guarantees annual remittances of net profits up to 10 per cent of the registered capital, and repatriation of the proceeds from the sale of the assets of the enterprise up to the amount of the registered investment. All new exchange receipts arising out of capital transactions must be surrendered, and all capital remittances require exchange licenses, which are not normally granted to residents.

It is readily seen that approved foreign investments are accorded special treatment in the majority of the countries under review. But domestic capital transfers are subject to restrictions, if not to outright prohibitions, in some of the countries (Chile, the Dominican Republic, El Salvador, and Nicaragua), while in others no restrictions are applied provided the transfer is through the free market. (In Colombia, there is also the provision that a 10 per cent remittance tax must be paid.)

The possibilities available to residents of those countries which nominally permit domestic capital transfers need to be examined in the light of existing conditions, since these possibilities may, in fact, be more limited than is suggested by the legal provisions. This applies, for instance, if capital exports take place through a free market and the difference between the official and free rates is significant. In such circumstances, even though the principle of free capital exports remains unimpaired, residents can avail themselves of the privilege only if they are inclined to pay a considerably higher exchange rate.

The inducements extended to foreign capital are in line with similar measures in other parts of the world guaranteeing the repatriation of foreign investments. Capital inflows from outside the region can assist in economic development in Latin America. But encouragement of long-term and short-term intraregional capital movements, which in the past have been of little importance, would be useful. It is of interest that no special privileges are extended to Latin American capital. In fact, the effectiveness of the encouragement extended by certain countries to foreign-owned capital is limited in practice to investors resident in those Latin American countries which have eliminated exchange restrictions, or which apply controls liberally vis-à-vis

their residents. In those countries where exchange controls are strictly applied, it is difficult to transfer domestic capital abroad.

Clearly the movement of capital is very much influenced by a variety of economic and noneconomic factors. Capital outflow, which has been important in Latin America, is occasionally motivated, for example, by noneconomic considerations, by fear of depreciation, and by the anticipation of a move by a government to restrict the freedom of current and capital remittances. As indicated previously, the maintenance of a free market in some countries where official and free markets coexist serves to relieve the pressure upon the reserves of the central banks. The cause of this pressure is sometimes an overvalued rate of exchange or reduced export earnings, but often it is uncontrollable capital flight. In the absence of the last, the two markets could have been easily unified in some countries. It is evident that the mere elimination of restrictions on intraregional and extraregional capital transfers is not necessarily useful. In fact, it may be even detrimental unless it is accompanied, among other factors, by an atmosphere of confidence in the economic policy of the government. Now that LAFTA is being implemented, these considerations assume increased importance: the maintenance of monetary stability, along with the elimination of restrictions on capital movements, would encourage the repatriation of capital and would also encourage future intraregional capital movements, all of which would contribute toward building a firmer basis for Latin American economic integration.

Restrictions aux mouvements de fonds dans les pays d'Amérique latine

Résumé

Ces dernières années, un certain nombre de pays d'Amérique latine ont libéré dans une certaine mesure les opérations sur leurs marchés de change, et la plupart des autres ont progressivement supprimé et/ou simplifié leurs pratiques de monnaies multiples et autres restrictions. (Cuba constitue la principale exception à cet égard.) Dans de nombreux pays, la libération des changes a été réalisée dans le cadre de l'exécution de programmes de stabilisation et sans être nécessairement incompatible avec des mesures appropriées visant à protéger la production intérieure. Les mouvements de fonds dans les pays d'Amérique latine sont, pour une large part, toujours soumis aux

mêmes entraves que le commerce avec les pays extérieurs à cette zone et les paiements qui leur sont effectués. Toutefois, un traitement préférentiel a été introduit à la suite de la première série des négociations de l'Association latino-américaine de libre échange, de l'élimination par le groupe des pays d'Amérique centrale de restrictions sur certains articles en provenance de ce groupe ainsi que de l'exonération de droits additionnels et de dépôts préalables accordée par un petit nombre de pays à des importations déterminées en provenance de certains autres pays d'Amérique latine.

Les restrictions quantitatives imposées pour des raisons de protection et de paiements constituent peut-être le principal moyen restrictif qui est actuellement utilisé. Les échanges des pays où ces restrictions existent (Brésil, Chili, Colombie, Mexique, République Dominicaine et Venezuela) représentent plus de la moitié du commerce qui s'effectue entre les pays d'Amérique latine. Des pratiques de monnaies multiples, qui dans la majeure partie de l'Amérique latine ne sont pas aussi importantes maintenant que les années précédentes, sont actuellement en vigueur au Brésil, au Chili, en Colombie, en Equateur, en Uruguay et au Venezuela. Elles répondent à divers objectifs: assurer la rentrée des recettes fiscales, diversifier la composition des exportations, subventionner les importations essentielles et alléger la pression éventuelle sur les réserves de banque centrale. Le versement d'un dépôt préalable au titre des importations est exigé au Brésil, au Chili, en Colombie, en Equateur, au Nicaragua, au Paraguay et en Uruguay; en général, il n'a pas été très efficace pour restreindre les importations, mais comme les droits additionnels, il s'est révélé un instrument souple. Toutefois, quelques pays qui avaient introduit le versement de ce dépôt préalable en vue de restreindre leurs importations ont dû le conserver pour éviter que sa suppression n'ait une répercussion inflationniste.

Les droits additionnels d'importation ont souvent servi à faciliter la transition entre un système strict de contrôle de change et un système libéré. L'application de ces droits additionnels encourage les échanges dans les limites d'une zone. La politique actuelle qui consiste à les incorporer dans le barème tarifaire contribue à éviter les effets défavorables qui pourraient résulter de changements fréquents dans leurs taux. Les droits additionnels d'importation sont appliqués actuellement en Argentine, au Brésil, au Chili, à Costa Rica, au Guatemala, au Paraguay et en Uruguay.

Les transferts de capitaux continuent d'être réglementés au Chili, en Colombie, en Equateur, dans la République Dominicaine, en Salvador, au Nicaragua et au Venezuela. Les investisseurs étrangers ont généralement la garantie de pouvoir transférer les bénéfices et le

principal. Dans un petit nombre de pays, les transferts de capitaux intérieurs sont autorisés, et dans d'autres, ils doivent faire l'objet d'une licence ou sont interdits. Des privilèges spéciaux n'ont pas été accordés aux capitaux des pays d'Amérique latine. Mais dans le cadre de la réalisation des objectifs de l'Association latino-américaine de libre échange, les transferts entre les pays de cette zone devraient peut-être être encouragés.

Restricciones impuestas a los movimientos de fondos en la América Latina

Resumen

Varios países latinoamericanos han logrado establecer mercados cambiarios relativamente libres durante los últimos años y la mayoría de los países restantes han eliminado o simplificado gradualmente sus prácticas de tipos de cambio múltiples y disposiciones restrictivas de otra índole. (Cuba constituye la principal excepción.) En muchos países la liberalización de los cambios se ha logrado alcanzar en combinación con la ejecución de programas de estabilización, y sin oponerse necesariamente a las medidas oportunas de protección dispensadas a la producción interna. Los movimientos de fondos dentro de la América Latina están aún sujetos en alto grado a los mismos impedimentos que entorpecen su comercio y pagos con los países fuera del área. No obstante, como resultado del primer ciclo de negociaciones que ha llevado a cabo la Asociación Latinoamericana de Libre Comercio (ALALC), de la eliminación de las restricciones que el grupo de países centroamericanos imponía al intercambio de mercancías producidas en estos países, y de las exenciones de recargos y del requisito de depósitos previos que unos pocos países han concedido a ciertas importaciones de algunos países latinoamericanos, se ha originado un tratamiento preferencial.

Las restricciones cuantitativas, impuestas por razones de protección y de pagos, constituyen tal vez el método restrictivo más importante que se emplea actualmente. Los países que aplican dichas restricciones (el Brasil, Chile, Colombia, la República Dominicana, México y Venezuela) efectúan más de la mitad del intercambio que se lleva a cabo entre los países latinoamericanos. Las prácticas de tipos de cambio múltiples, que en la mayoría de los países latinoamericanos han cesado de tener la importancia que se les atribuía en años

anteriores, siguen en vigor en el Brasil, Chile, Colombia, el Ecuador, el Uruguay y Venezuela. Las razones por las cuales se aplican son diversas: obtener rentas fiscales, diversificar las exportaciones, otorgar subsidios a las importaciones esenciales, y aliviar las presiones eventuales sobre las reservas del banco central. El requisito de los depósitos previos se aplica en el Brasil, Chile, Colombia, el Ecuador, Nicaragua, Paraguay y el Uruguay. Por lo general, dichos depósitos previos no han demostrado gran eficacia para restringir las importaciones, pero al igual que los recargos, han resultado ser un instrumento de gran flexibilidad; sin embargo, varios países que los introdujeron con propósitos restrictivos se han visto precisados a mantenerlos con el fin de evitar el impacto inflacionista que su liberación traería consigo.

Los recargos sobre las importaciones se han utilizado frecuentemente para facilitar el movimiento de transición de un sistema estricto de control de cambios a otro de liberalización cambiaria. La aplicación de esos recargos favorece al comercio dentro de determinada zona. La práctica corriente de incorporar los recargos a las tarifas aduaneras, contribuye a evitar los efectos adversos que podrían surgir si se modificaran frecuentemente las tasas de recargos. Los países que en la actualidad imponen recargos sobre las importaciones son Argentina, el Brasil, Chile, Costa Rica, Guatemala, Paraguay y el Uruguay.

Las transferencias de capital están sujetas a reglamentación en Chile, Colombia, el Ecuador, la República Dominicana, El Salvador, Nicaragua y Venezuela. Por lo general, se garantiza a los inversionistas extranjeros la transferencia de utilidades y de capital. En unos pocos países están permitidas las transferencias de fondos de capital de propiedad de residentes, pero en otros, o están sujetas al otorgamiento restrictivo de licencias, o están prohibidas. No se han concedido privilegios especiales al capital procedente de países latinoamericanos, pero tal vez convendría que como parte de la realización de los objetivos de la ALALC se estimularan las transferencias de capital dentro de la región.

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