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## STABILIZATION OF INTERNATIONAL COMMODITY PRICES

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The stabilization of international commodity prices as a means of combating depressions has attracted the interest of many able economists and has obtained the support of several well-known and highly respected ones. Keynes and the two Grahams are examples. More recently, the stabilization of international prices has been investigated as a means of preventing the spread of deflation from the presumably unstable economy of the United States to the other trading countries. The proposal is of interest to important groups in the United States, particularly agricultural producers, since many important export products of this country would be included in any such program.

This paper is restricted to a discussion of price stability of primary products—foodstuffs, other agricultural products, and minerals. Even within this group there is a considerable diversity of conditions of demand and supply. However, we can say that the typical primary product has an extremely low price elasticity of demand, a low short- and intermediate-run price elasticity of supply, and a low income elasticity of demand. The first characteristic is probably the most nearly universal of the three and obtains for one of two reasons: either because the primary product is a food and is subject to the generally low price elasticity of demand characteristic of foods, or because it is a raw material constituting only a small part of the total input in any final product and, in the short run at least, used in approximately fixed amounts per unit of output.

The low price elasticity of supply is more apparent for agricultural products than for mineral products. Most agricultural products are produced by independent proprietors who face highly inelastic supply functions for factors, while increasingly the production of minerals is undertaken by large firms or combines that can adapt their output to shifts in aggregate demand.

The low income elasticity of demand is a less widespread characteristic—iron ore, for example, has a relatively high income elasticity as do most minerals, rubber, and some textiles. Foodstuffs have low income elasticities. At first glance it might appear that a low in-

come elasticity of demand would be favorable to price stability in that variations in real income would have little influence upon the level of demand for the product. And this would be true if either the price elasticity of supply or that of demand, or both, were relatively high. But if these two elasticities are low, large variations in prices during a business cycle are not precluded.<sup>1</sup>

### *Effect of Price Elasticities on Price Stability*

The low price elasticities of supply and demand are important in contributing to price instability because in this setting speculative activity may increase price instability at certain times, though not universally. This is not meant to constitute a condemnation of speculative activity—it does little good to condemn an activity that cannot be eliminated. Any commodity that has some degree of durability (“relatively low” cost of storage per unit of time) must be held by someone. Decisions must be made concerning the quantity of stocks and their location—it is these decisions that constitute speculative activity.

When price elasticities are low, signals that prices are “too high”

<sup>1</sup> The price behavior of primary products in response to changes in income can be readily indicated. If we assume constant price and income elasticities, with income having no effect on the quantity supplied, we have:

$$(1) \quad q = p - \alpha Y^\beta$$

$$(2) \quad q = p^\gamma$$

Equation 1 is the demand function. If we wish to determine the effect of changes in income on changes in price, we have  $p^\gamma = p - \alpha Y^\beta$  or  $p\gamma + \alpha = Y^\beta$  or  $p = Y^\beta / (\gamma + \alpha)$ . The elasticity of price with respect to income is  $\beta / (\gamma + \alpha)$ . Thus if the price and income elasticities are .1, the elasticity of price with respect to income is .5. If the elasticity of supply ( $\gamma$ ) were zero in the short run, the elasticity of price with respect to income would be unity, i.e. the decline in price would be the same as the decline in income. If all three elasticities are unity, it is apparent that the elasticity of price with respect to income is .5. The influence of high elasticities of supply is immediately apparent. Assume income and price elasticities of demand equal to unity, but a price elasticity of supply equal to 5 (which is probably an underestimate for such industries as automobiles and steel for downward price adjustments); the elasticity of price with respect to income would be only  $\frac{1}{6}$ .

While a large price elasticity of supply will give considerable stability to price, it does not necessarily stabilize gross income unless the income elasticity of demand is very low (appreciably less than unity). The following cases may be used for illustrative purposes, assuming a decline in income of 40 per cent: (1) Gross income would fall by 22 per cent if price and income elasticities of demand were .1 and the supply elasticity were .1; if the supply elasticity were 5.0, the decline in gross income would be 4.7 per cent. (2) If the price and income elasticities of demand were both unity, gross income would fall by 40 per cent for any value of the elasticity of supply.

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or "too low" are very slow in making their appearance. If certain expectations about prices during a specified period (say, the year following the coffee harvest) have resulted in current prices that will restrict consumption during the period and create larger stocks at the end of the year than firms would be willing to hold at current prices, then an attempt will be made to reduce inventory holdings and prices may fall below the level prevailing at the beginning of the period.<sup>2</sup> The low price elasticity makes this type of price behavior possible since it may take several months for the small reduction in consumption to reveal itself in terms of increased inventories, especially since the data on inventories are always subject to error. If the price elasticity of demand were relatively high (say 1.0 or more), it would soon become apparent that consumption was occurring at too low a rate and price adjustments could occur rather promptly.

It should be noted that price stability for internationally traded products will not entirely insulate the level of income and employment in other countries from the effect of recession or depression in one country. As the examples in footnote 1 indicate, a decline in

<sup>2</sup> Let me illustrate by a hypothetical example: Assume a constant price elasticity of demand of .2 for a product at the final demand level for final use (thus excluding the demand for inventories). Total supply is 1.2 billion units for the time period. Normal working stocks (the amount held when there is no expectation of a price change during the period) are 200 million units. Something occurs that indicates demand will increase and decisions are made to increase stocks to 300 million units, thus cutting consumption by 10 per cent and increasing the price by 50 per cent. If the price rises by 50 per cent, it is not unreasonable that inventory holders will revise their expectations and attempt to increase inventories to 400 million units, thus resulting in a price approximately double the price at the beginning of the period. Assume that demand at the final consumer level has, in fact, not increased. Because of the relatively small effect on the rate of consumption, it may take one-half the time period before inventory holders realize that demand has not increased. Thus with no price change total stocks (assuming equal consumption per unit of time) would have been 700 million units at the end of one-half of the time period. With the price having doubled, stocks will be 800 million, or even less if the price rise occurred fairly evenly during the first half. If this is taken as a signal by inventory holders that final demand has not increased and an attempt is made to reduce inventories to the normal level of 200 million units, consumption will have to increase by at least 10 per cent over the rate that would have prevailed during the second half had prices remained stable during the entire period. Thus price movements during the period may be from 100 to 200 and then down to 50 by the end of the period. It is possible that as the price falls below 100, inventory holders will be willing to hold more than 200 million units as working stocks since it may be assumed that the price will return to 100 in the next period, but there is no certainty that such decisions will be made before the price falls to 50. During such a decline in price, some inventory holders will be forced to liquidate holdings because of capital impairments; others who gained liquid assets during the price rise may not purchase for inventories until they believe the price decline has been halted.

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demand can have as much effect on the gross income from a product whose price is stabilized by an elastic supply function as on that from a product with highly inelastic supply and demand functions and a low income elasticity. If the income elasticity of demand is fairly high and the decline in real income large, gross income from the commodity with a stable price (highly elastic supply function) will fall sharply. Farmers' expenditures for farm machinery between 1929 and 1932 are an example of this latter type of shift. The output of farm products was unchanged, prices declined by 56 per cent, and cash receipts declined by 58 per cent. Farm machinery prices declined by 9 per cent; farmers' expenditures for farm machinery by 80 per cent. The effect of the 1937-1938 depression on the value of imports is another example. The unit value of jute imports declined by 1 per cent, the quantity of imports by 62 per cent, and the total value of imports by 63 per cent. On the other hand, the unit value of coconut oil decreased by 47 per cent, the value of imports decreased by 43 per cent, and the quantity of imports increased by 8 per cent.

While agreement on specific methods may be difficult, it is not impossible to stabilize the prices of a number of internationally traded products. In fact, if a commodity has a low income elasticity, low price elasticities of supply and demand, and relatively low costs of storage, such stabilization may not be difficult. Several examples may be given. Since 1948 the United States has gone a considerable distance in stabilizing the prices of cotton and tobacco, and the United States and Canada together have effectively stabilized wheat prices. Through various forms of internal controls and long-term contracts with the United Kingdom, New Zealand and Denmark have stabilized for the past six years the price of butter moving in international trade.

But in stabilizing prices within a fairly narrow range, the United States and Canada have not been able to stabilize export earnings. Between 1952 and 1953 the value of cotton exports declined by almost two-fifths though unit export value declined only a sixth, while United States wheat export revenues also declined by two-fifths and unit export value decreased about 7 per cent. But it should be noted that in the United States, and to a considerable degree in Canada, the gross returns received by producers were not affected to any significant extent by the decline in export returns. As a result, the purchasing power—or level of expenditures of farmers—was maintained despite the drop in export earnings.

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### *Price Stabilization Measures*

The methods that might be used to stabilize the prices of primary products that move in international trade may be classified into three general categories: <sup>3</sup>

1. Control of the amount moving in international trade by the use of import and export quotas, buttressed when necessary by output restrictions in the major producing countries
2. The establishment of sufficient stocks of each individual commodity to permit moderating price changes of each product
3. The establishment of a joint buffer stock operation for many commodities with the objective of stabilizing the average prices of a number of commodities, but not the price of any individual commodity

The second and third methods are related in that both rely upon variations in stocks rather than upon direct control of the amounts traded or produced. But they differ in terms of objectives and probably in terms of the appropriate institutional arrangements.

Past experience indicates that the first method has usually failed. The only important exception is the United States tobacco program in which a remarkable degree of price stabilization has been achieved by unilateral limitation of output supplemented by a storage program. With the increasing output of tobacco in other parts of the world, especially in Africa, success may bring its own undoing within the next decade. Multilateral arrangements—commodity agreements—have not had any noticeable degree of success. The 1949 International Wheat Agreement's moderate success was due more to the United States and Canadian storage program than to the Agreement itself. The difficulties of maintaining such agreements are well illustrated by the failure of the United States and the United Kingdom to reach agreement on the appropriate price range at the time of renewal.

It is reasonable, I believe, to argue that no price stabilization scheme can function without provision for the possible accumulation of relatively large stocks, and, perhaps more important, for a control of such stocks strong enough to prevent their untimely liquidation. The experience of the Federal Farm Board was evidence of the importance of stock control, while various interna-

<sup>3</sup> I will not discuss a fourth type of arrangement in which an exporter agrees to a price that is too low—a price at which there is excess demand. I suspect that some of the success of Denmark and New Zealand in stabilizing the price of butter since 1948 has been due to this kind of pricing.

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tional commodity agreements failed largely because they did not provide adequate stock provisions.

It should also be noted that price stabilization achieved by control of the quantities moving in international trade does not achieve stability in the value of trade. Thus even if the first method could be operated successfully in stabilizing prices by controlling the amount traded and the amount produced, its countercyclical features would be relatively unimportant for the products with relatively high income elasticities. However, it must be noted that buffer stock operations increase in difficulty as the income elasticities of demand approach and exceed unity.

### *Commodity Reserves*

Joint buffer stock operations that involve stabilizing the average price of a group of commodities and not the price of any one have impressive support.<sup>4</sup> These proposals usually take one of two forms—the use of the commodity reserves as a monetary base or as a separate operation with no direct link to national currencies.

The use of the commodity reserves as a monetary standard, in the same sense that gold has been used, seems to me to be beset with many and important difficulties with few offsetting advantages. Friedman's conclusion that a commodity reserve currency has most of the disadvantages of a gold standard while lacking its emotional appeal is difficult to refute. Compared with a fiat standard, the commodity reserve is much more expensive and would probably be no less subject to political manipulation.<sup>5</sup> Many requirements must be met before the commodity reserve scheme could operate as a true international standard. For example, there would have to be free trade in the commodities in the unit and the nations would have to accommodate their monetary and fiscal policies to the requirements imposed by stable exchange rates. Thus if a country were losing reserves of the commodity unit, it would have to permit a contraction of its money supply and perhaps follow a deflationary fiscal policy.

But there would be, in my opinion, no need to operate the commodity reserve as a monetary unit. Such a reserve could be operated either by an international agency or by the cooperation of a

<sup>4</sup> For a partial bibliography of such proposals see *Commodity Trade and Economic Development*, United Nations (E/2519), 1953, p. 35, and for a general discussion see *ibid.*, pp. 35–36 and 55–66.

<sup>5</sup> Milton Friedman, "Commodity-Reserve Currency," *Journal of Political Economy*, June 1951, pp. 230–232.

number of individual governments. The value of the unit could be expressed in terms of any one currency or any of a group of currencies freely convertible one to the other. The major political difficulty would be that of getting sufficient financial support to prevent the venture from collapsing at an unpropitious moment. How large the financial resources would have to be would depend upon the number of commodities included in the unit, the nature of their demand and supply functions, and the extent of changes in demand during the course of a business cycle.

But leaving the problem of finance aside, how satisfactorily would such a proposal operate? One of the first requirements for successful operation would be a self-imposed restraining ordinance by all or most members of the trading world to limit or eliminate their own price support operations. It would also be highly desirable if importing countries either allowed free trade in the commodities in the unit or maintained a constant degree of protection during the business cycle. If a country—say, the United States—had sufficiently large stocks of a commodity included in the unit, purchases of that commodity would have little or no effect on its price and if made from United States stocks would have no expansionary effects on demand. Thus price variations that would occur within the unit would be concentrated upon commodities without domestic price support programs.

If a large number of commodities were included in the unit, the degree of price instability for any one commodity would be relatively large. Price variability due to individual demand and output variability would not be eliminated. For example, the recent rise in coffee prices could not have been prevented if the commodity reserve had been in operation—nor could the subsequent fall.

But what of price variability related to the cycle? How would different commodities fare if the only source of variability were cyclical variability in demand? Three examples may help answer these questions.

In the first, it is assumed that there are only two commodities, A and B, and that they have equal importance in the commodity unit. Commodity A has a price elasticity of demand and of supply and an income elasticity equal to .1, while B has elasticities equal to 1.0.<sup>6</sup> Real per capita incomes fall by 30 per cent and it is desired to

<sup>6</sup> The statements concerning price and income elasticities are only approximately accurate. For ease of calculation, linear relationships were used and the elasticities relate to the prices, quantities, and incomes that prevailed prior to the decline in income.

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hold the value of the unit at 100. The prices of both A and B equaled 100 before the drop in real income. Under these assumptions the price of A would rise to 112.5 and that of B would fall to 87.5. Without the commodity reserve, the prices of both commodities would have fallen to 85; thus almost all of the direct gain would have gone to the producers of commodity A.

In the second example, the characteristics of commodity A remain the same, but the supply elasticity for commodity B now is the same as for A (other characteristics as before). In this example, if the value of the unit were maintained at 100 by purchases, the price of A would be 120 and the price of B, 80. Without the program, the price of B would be about 73.

In our third example, all elasticities remain the same as in the second except that the price elasticity of demand for B is now changed to .5. After the decline in demand, the price of A would be about 134 and the price of B about 65 (instead of 50 without the program).

The above examples are not unrealistic, and I believe that groups of commodities can be found that have the characteristics of A (wheat, rye, tobacco) and the characteristics of B (the third variant is more likely than the first two because it is doubtful if any raw materials have a short-run price elasticity as high as unity). Commodities with the characteristics of B (third variant) might include rubber, jute, and perhaps cotton and wool. The first variant of B might include copper and tin, since the price elasticity can be reduced to .5 without having much effect on the results. These presumptions are admittedly made on the basis of inadequate evidence—more especially, inadequate analysis on the available data. But the absolute values of the elasticities are less important than the value of one commodity relative to that of another. If the income elasticities differ from commodity to commodity, their relative prices will be affected by additions to or deletions from the reserve.

Let us extend this exercise, using the third example as a base. Assume that, during recovery from a depression, an inflation occurs in the trading world. For a period of time, commodity units are sold at the same rate per unit of time as they were accumulated. (Real income returns to the pre-depression level, but other costs lag enough so that the average price of the unit can remain at 100 only if sales are made from the reserve.) The price of A would fall to 75, while the price of B would increase to 125. As the inflation is checked and other costs rise to reduce the demand for A and B or as the price of the unit is increased to prevent further sales, the relative prices of A and B would return to unity.

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If these examples are not extreme, it is possible that the operations of the commodity reserve would introduce fairly significant variations in the prices of the commodities included in the unit. More price variability would probably occur without such a program, given a specified decline in real income. However, I can give examples which would contradict this statement.

So far as I know, none of those interested in commodity reserve proposals have discussed the problems that would arise because of differences in income elasticities and, to a lesser degree, in price elasticities of supply and demand. Such differences might present international political problems of a serious character. The major producers of many commodities similar to A are the rich countries of the world—the United States, Canada, and Australia—while some of the commodities falling in the B group come from poor areas.

There is a solution to the difficulties discussed above: each commodity in the unit might be appropriately weighted. The relative weights would have to be based upon the income elasticities of demand, but this requirement does not preclude taking into account the relative importance of the commodities in world trade or in total production. However, we may assume for the moment that all commodities would be given equal quantitative weight in the commodity reserve unit. It would then be necessary to make the weights proportional to the income elasticities of demand. Thus, if the income elasticity of demand for A were 1.0, for B, .5, and for C, .1, the reserve unit would consist of 10 units of A, 5 units of B, and only 1 unit of C. During a deflation the greater purchases of A and B relative to C would act to stabilize the prices of A, B, and C separately as well as in combination (if the supply functions did not contain a random element).

This solution has some major drawbacks: estimates of income elasticities may be unreliable; relative income elasticities may not be stable throughout the cycle; income elasticities prevailing in any one business cycle may be affected by the primary source of the decline or expansion of demand. In any case, it may be argued that, once one has modified the reserve unit in the required direction, there is much to be gained by purchasing commodities as a unit instead of separately.

### *Buffer Stocks for Individual Commodities*

The establishment of separate buffer stock programs for each commodity (or for a group of commodities with similar income elasticities of demand) would eliminate the problem of the com-

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modity reserve unit discussed above. But, even if several such programs were operated by a single international agency, there would be a problem of choosing the appropriate price range for individual commodity buffer stocks. How rapidly stocks can accumulate if the price is set somewhat too high can be seen from United States experience in butter, cotton, and wheat during 1951-1952 and 1952-1953. It is also evident that seemingly large stocks of an individual commodity can disappear very rapidly. Because the Department of Agriculture expected large stocks of cotton to be in existence by the fall of 1950, steps were taken in late 1949 to impose acreage limitations on cotton. Because of a small United States crop (due mainly to bad weather) combined with the expanded demand after June 1950, United States stocks declined from 6.8 million bales in August 1950 to 2.2 million in August 1951, even though the government imposed restrictive *export* quotas. It may be noted that the world supply of cotton for 1950-1951 was only 3 per cent smaller than for 1949-1950, the price of Brazilian cotton increased by 125 per cent in the nine months following June 1950, and the price of United States cotton (even with the export quota) increased 55 per cent in a year. The reduction in United States stocks was about 14 per cent of an average world crop of cotton, and the actual cotton used increased by 12.5 per cent between 1949-1950 and 1950-1951.

While it is true that individual buffer stock schemes would not tend to increase the prices of commodities with low income elasticities during a period of decline in demand, it is not certain that such schemes could reduce price variability for products with a high income elasticity and low price elasticity of demand. In other words, the size of the stocks that might be accumulated at the end of a deflationary period if prices were effectively stabilized might be beyond the limits of either the storage capacity or the financial resources of any international agency. The rise in the price of natural rubber following March 1950 may illustrate the opposite side of the problem—the size of stocks that would have been required to limit the rise in natural rubber prices during the next year or so. In 1949, natural rubber output was 1,514,000 metric tons; in 1950, output was 1,890,000 tons. In the year June 1949 through May 1950, United States output of synthetic and reclaimed rubber was 516,000 long tons; the next year output was 1,005,000 long tons. Ignoring increases in synthetic and reclaimed output elsewhere in the world, the increase in available supplies of rubber was at least 42 per cent. The price of Malayan rubber was 17.6 cents a pound in March 1949, 70.9 cents in

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March 1951, and an average of 46.4 cents in the third quarter of 1951. Thus there was approximately a threefold increase in price (at one time a fourfold increase) even though output increased nearly 50 per cent in a year. If this had been a product with a very low short-run price elasticity of supply (say, .1 or less), stocks equal to a years' output of natural rubber might well have been required to have stabilized prices. And who, one might ask, would have had the foresight to have stored 1.5 million tons of natural rubber by early 1950? The output of natural rubber had increased fivefold since 1945 and still gave evidence of increasing further, while synthetic rubber output in the United States was 50 per cent below 1945. Few people really believed that the price of natural rubber would ever again go above the United States price for synthetic rubber (about 18 cents in 1949). Consequently, even if there were no problem of storage capacity or financial resources, it is hard to imagine that any buffer stock agency would have been able to prevent the rise in the price of rubber—or of cotton or wool or jute or tin or zinc—that occurred after early or mid-1950.

Buffer stocks could have been used to prevent most of the declines in prices that occurred in 1948 and 1949. But in most cases—an exception was some foodstuffs with very low income elasticities of demand—the stocks accumulated in these two years would have been too small to have much effect upon the level of prices following June 1950. And the post-Korean decline in prices of primary products came before anyone had even hinted that the United States was in a dip, recession, or depression. In fact, the stability of primary product prices since July 1953 has been remarkable. It seems unlikely that any buffer stock agency would have tried to stem the downward movement of primary product prices that started in the second and third quarters of 1951 for several products. Given the high levels of employment and income that existed throughout the world, a decline in the prices of many primary products to pre-Korean levels seemed to many a necessary preface to longer-run equilibrium between supply and demand. And would not the United Kingdom and other Western European countries have strongly resisted stabilizing the prices of foodstuffs and raw materials at levels substantially above those of early 1950?

It should be noted that a part of the stability of primary product prices since July 1953 has been due to stock operations in the United States. These operations have been of great importance in the wheat, tobacco, and cotton markets and probably in some of the metal markets. But the stability of price of at least one product—

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wheat—has been purchased at the expense of postponing a resource adjustment that appears to be inevitable.

Thus I suggest, on the basis of fairly continuous observation of storage programs in the United States and in two or three other countries, that storage programs for individual products could go some distance in providing a marked degree of price stability under certain circumstances. They could (1) reduce intra-year variations when final demand is reasonably stable; (2) prevent, where the income elasticity of demand is relatively small, significant price rises in a strong inflationary movement like that after June 1950; and (3) prevent price declines resulting from declining demand like that of 1948–1949, and probably also like that of 1937–1938, and even of 1929–1933. In a major depression large financial resources would of course be required and provision for additional storage space would be necessary.

But the degree of price stability achieved would be purchased at some cost. The cost of storage is the most direct and obvious, since direct annual storage costs (excluding interest on the value of the product) frequently amount to 8 to 12 per cent of the value of the product. Another cost can be the result of mistaken price expectations on the part of the storage agency, but this cost may be at least partly if not fully offset by the effects of greater price stability upon the allocation of resources. If one can generalize from United States experience, the introduction of greater price stability may lead to more rapid adoption of new methods of production and may induce greater emphasis upon profit maximization and less upon safety considerations in production planning.

### *Buffering Major United States Imports*

It is obvious that the increase in expenditure by governments or an international agency for commodity reserves during a deflation would have a desirable influence upon the general level of incomes in the trading world. There would be a multiplier greater than unity, and the level of imports of areas specializing in and exporting primary products would be higher than if no such program existed.

But it must be noted that the relative importance in world income of the primary products that are relatively cheap to store is not very great, surely less than one-sixth and perhaps not more than one-tenth. The value of such products actually entering into international trade in 1950 outside the Soviet bloc, according to

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an estimate in *Commodity Trade and Economic Development*, was \$18 billion. Thus if a storage agency had added to stocks the equivalent to the total value of world exports of some thirty-six primary products (excluding only lumber, hides, fertilizers, meat, milk, cheese, and certain oil seeds) in 1950, this amount would have been less than 7 per cent of the United States gross national product in that year.

A serious decline in world economic activity would obviously require antirecession measures of a much greater leverage. These would have to be measures carried out primarily by individual governments, operating almost wholly within their own national borders. However, if restrictions on trade were not utilized, the impact of such national measures would be felt by primary producers throughout the world. It is true that the expenditure of a dollar upon primary products for stockpiling would have more effect upon the incomes of jute producers than would the expenditure of a dollar paid out in the United Kingdom as unemployment compensation. But, in any case, the buffer stock program must be considered as only one of a number of measures required to stop a world-wide deflation, or for that matter, a world-wide inflation.

If I were a producer of a primary product, I am not certain that I would choose a countercyclical program that placed a great deal of emphasis upon stockpiling of primary products. If the price of my product is increased by adding to stocks now, the price will be decreased when stocks are reduced later. Under certain plausible circumstances it is possible for such operations to reduce the aggregate income from a product for a business cycle as a whole.

Many persons outside this country fear, not a world-wide depression, but a United States depression serious enough to create foreign exchange problems for many nations and to interrupt the flow of investment in underdeveloped areas. Since such a large share of United States merchandise imports consists of primary products, a buffer stock program operating on a relatively modest scale could insulate other parts of the world fairly effectively from declining United States demands. For example, the United States sugar program stabilizes the dollar earnings of Cuba and the Philippines from sugar exports to us, and the recently announced purchase of certain metals acts to stabilize their prices.

As a means of maintaining the demand for its exports, the United States might well consider a rather systematic buffer stock program for a number of major imports. Such programs should be worked out in cooperation with the most important exporting groups, and,

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in addition, the interests of competing importers should not be ignored. This program should be confined to the objective of counteracting fluctuations in dollar expenditures for primary products resulting from changes in aggregate demand in the United States.

But a proposal for a United States program of buffer stocks for durable imports certainly should be secondary to more general monetary and fiscal measures designed to minimize declines in aggregate demand. In fact, all countercyclical buffer stock schemes can at best be considered as only one element in a much more inclusive program to prevent the occurrence and spread of depressions.

## C O M M E N T

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Stabilization of prices of internationally traded raw materials and agricultural products is not a very potent tool for combating recessions in the United States. This would be true even if we could assume our entire domestic agricultural price support program to be subsumed under some major international scheme. On this assumption the international scheme would have about the same leverage effects upon a downswing as would our present domestic supports. In Karl Fox's model,<sup>1</sup> these supports mean that gross national product falls less than it would without the support program—somewhat under 10 per cent less. This estimate takes full account of the multiplier effects of the expanded agricultural (and related service) incomes. But it is unrealistic to expect that our domestic programs would ever be handled through an international program. A scheme aimed at primary products which we export might more easily be visualized, but its role as an antirecession device would be significantly smaller. Expanded incomes from the tobacco, cotton, rice, wheat, and dried fruit exported would provide only very small stimulating effects for the United States economy. Indeed, it is hard to imagine any plan for international stabilization in these commodities which would add to the effects generated by our domestic agricultural support programs in which our export commodities are of course included.

Perhaps an international program would have more important indirect effects by stimulating exports from the United States. Thus

<sup>1</sup> See "The Contribution of Farm Price Support Programs to General Economic Stability," in this volume.

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if a price stabilization scheme succeeded in expanding incomes in those countries where exports of primary products loom large in total incomes, purchases from the United States might be expected to increase. And the increase need not be confined only to the imports of countries directly affected by the stabilization program. These countries would also be purchasing more from third countries that might then import more from the United States. Nonetheless, the total of such expanded exports could not provide large stimulants to our economy.

On the whole, therefore, I agree with Johnson that the stabilization of international commodity prices is not an important tool for combating possible United States recessions. But a recession here may have major consequences for other countries. And some of the other devices which might well be used to counter recessions could even aggravate their "exported" effects. A curtailment of our imports can be expected to weigh more heavily upon exporters of manufactured goods, but directly and indirectly this will also affect producers of primary products. An international stabilization scheme might at least mitigate such tendencies to export our depressions.

It cannot be assumed, however, that the maintenance of United States import demand over the cycle is the basic problem with which primary exporting countries are concerned. Thus even the record levels of our national product, and our imports, through 1953 have been accompanied by growing pressures for international commodity price stabilization by important producers of raw materials entering into world trade. Year-to-year fluctuations in primary product prices would, of course, be most significant for those economies in which foreign trade is large relative to the national product and where primary goods form an important component of total international trade. With few exceptions the countries which meet these criteria are the underdeveloped countries—from Mexico, with exports at about 10 per cent of its national product and primary commodities providing about 50 per cent of exports, to Ceylon, where the foreign sector is almost 40 per cent of the national product and three primary goods constitute 90 per cent of exports.

In most underdeveloped areas there is a need for net importation of capital from abroad. In general they are countries where savings ratios simply do not permit enough investment of domestic resources under existing technological conditions to compete with the rates of population growth. Their own resources need to be supplemented from abroad if per capita income is to expand. In these countries, foreign exchange earnings are particularly impor-

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tant to their development programs; they need to purchase foreign products. Favorable shifts in their terms of trade (if not stabilization of export prices as such) can also provide at least a partial alternative to foreign investment, loans, and grants. Thus an interesting calculation recently made by the Department of State<sup>2</sup> suggests that the countries of South and Southeast Asia earned from their exports over \$2 billion (1949-1950 prices) more in the period June 1950 through December 1952 simply because of the changed relationship between import and export prices after 1949-1950. (The increased earnings are \$3.5 billion if account is also taken of the expanded volume of exports.) The commodities most responsible for these earnings were rubber, tin, and rice. There were similar developments for producers in other areas. The expanded incomes of the underdeveloped areas considerably enhanced their resources available for investment. Such improvements can also increase the capacity of these countries to borrow from abroad.

Our interest in some form of international commodity stabilization is thus an essential adjunct of our interest in the development of friendly nations throughout the world. This emphasis also points up the complementarity between stabilization schemes and aid. Economic development may, of course, provide some solution to the problems of instability. A frequent objective of development programs in underdeveloped areas is the diversification of the economy (less emphasis upon primary production at least for the export market and more emphasis on self-sufficiency). The same amount of instability in the prices of internationally traded commodities will have smaller effects (relatively) as this objective is achieved. This is obviously a long path to the solution, but it is probably the basic one.

It is this aspect of international commodity stabilization which makes the subject of particular importance to us, rather than any effects it may have upon cyclical fluctuations in the United States. Of course our policy of development in other lands does have great significance for long-range growth of the United States economy. The economic health of that major sector of the world's people who live in the underdeveloped areas has basic economic implications for our own future growth. One need not stress here the political implications for the United States of development in these areas.

*Stabilization of What?* In a recent excellent study by a United Nations group of experts, *Commodity Trade and Economic De-*

<sup>2</sup> "Foreign Trade Developments in South and Southeast Asia, 1950-52," unclassified *Intelligence Report* No. 6349, August 1953.

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*velopment*, stabilization of prices usually meant the reduction of short-period fluctuations about a trend. The experts were (or tried to be) concerned with fluctuations which play an uncertain, or relatively unimportant, role in efficient resource allocation or income distribution. Such stabilization may be important, and particularly for countries with less well-organized marketing systems. Many of the underdeveloped areas fall into this last category. But, at least in my experience, this type of stabilization is only a partial concern of most of the countries seeking stabilization. With respect to prices of primary products alone, they usually seek a new trend, perhaps one that is fitted to the peaks of past fluctuations. More frequently, the new trend is one which maintains some parallelism with the trend in prices of manufactured products. This last implies some form of the parity concept, and is usually based upon the experience of a past period in which the relationship was not unfavorable to primary producers. Stabilization which results in a shift in the terms of trade will of course mean that importers of raw materials, let us say, will have to pay more for their imports than they would in the absence of a stabilization program.

Most commodity agreements imply such a transfer as of one period, with the expectation that there will be a compensating advantage to the importer at a later time, when prices in the absence of an agreement will be more favorable to the exporter. Such arrangements would seem to balance benefits over time between buyers and sellers, at least if the base period for the parity ratio was not too unrepresentative. My experience with actual commodity agreements is too limited to permit a generalization as to the degree of balancing-out that is in fact achieved. In the case of wheat, however, all transfers have to date been in only one direction. It remains to be seen whether wheat will in fact move under the present Agreement should world prices fall below the lower limit of the stipulated price range.

A stabilization scheme satisfactory to the primary producers will involve, at least initially, some transfer of resources from importing countries. Again there is some parallel with foreign assistance. Since I believe that foreign assistance is necessary in many of these countries, I have little objection to this aspect of a price stabilization program.

Presumably a country is more interested in stability of income or of foreign exchange earnings than in stability of prices. Quite obviously, high prices (however stable) accompanied by low quantities can be less advantageous under certain supply conditions than lower prices and much larger quantities. However logical it

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may be to concentrate upon a measure which reflects both prices and quantities, emphasis continues to remain upon stabilization of prices. This is consistent with the United States experience with parity incomes and parity prices for agricultural products. It can be explained in part by the great difficulties of administering schemes for income stabilization. Usually, however, stabilization of prices turns out to be more favorable to the producer, particularly since "stable" prices have tended to contribute to a general expansion in supply—to larger quantities.

A focus on price stability when the real objective is stability in returns prompts some concern about elasticity relationships. Johnson's discussion of this subject provides one of the most provocative sections of his paper. My disagreements with him stem largely from his use of elasticities, whether of price or income, in the form in which they are generally computed, i.e. on a national or on a total commodity basis. Neither of these is very relevant for problems of earnings from international trade. Here we are usually concerned with only one part of a nation's (or the world's) total supply of a commodity. The important variable is the volume of imports, which for many products is a difference between what is consumed and what is domestically produced (of the same or substitutable commodities). Indeed, the pertinent variable may be the volume of imports from a particular source. These residuals may well vary quite differently from total demand. Thus even though the demand for wheat is inelastic with respect both to prices and to income, and therefore the per capita consumption of wheat in France, say, varies little from year to year, there can obviously be great variations in France's demand for wheat from the United States. For a product which is produced and consumed broadly throughout the world (as is the case for most primary goods), elasticity computations for total supply and for total demand give little guidance to the price-income relationship for the exported component of the supply. This is even truer of course with respect to that component of exports going to, or coming from, a particular country. If an important United States interest in stabilization is to maintain the export earnings (or the dollar earnings) of a particular underdeveloped area, we must be concerned with the problem on an individual country (or group of countries) basis. Stabilization of prices for a commodity, or even of total payments for our imports of the commodity, will not assure this objective, whatever the over-all elasticities.

*Techniques for Stabilization.* On the usual proposals for price

stabilization, I have little to add to the views presented in Johnson's paper. I share his general pessimism about the possibilities of achieving stabilization through export and import quotas and through buffer stock schemes either for individual or for groups of commodities. I would agree that, of all these, the buffer stock procedures for single commodities offer the most hope. Where they have been practiced in some form (and by countries willing to pay the price, like the United States), price maintenance and stability have been achieved. On an international basis there is still room for more study and more attempts toward workable arrangements. However, the nature of the problem, at least for the United States today, suggests that the greatest progress will be achieved with schemes of stabilization which come under the general heading of compensatory mechanisms.

Stabilization measures might well play a larger part in our programs of foreign aid to a particular country. There have been proposals for compensatory payments to meet marked changes in a country's foreign exchange earnings. These have usually involved more or less automatic recourse to the resources of the International Monetary Fund or the World Bank. The response to them has generally been unenthusiastic, and, at least in my opinion, appropriately so. Payments should be extended on a selective basis, and as an integral part of cooperative efforts to accelerate economic growth in particular countries. Their form might well be long-period purchase contracts for raw materials, at prices which would probably be above the market level. While this could be done by groups of purchasing countries acting together, the United States should be prepared to take steps in this direction on its own. This may of course require some form of stock-building programs by the United States, and some new arrangements relating the public program to private production, distribution, and use.

Finally, such treatment of the stabilization problem can provide a means of influencing the usage of foreign exchange earnings in the underdeveloped country. Favorable terms of trade in the past have frequently been followed by lower-priority use of the favorable exchange position in which individual countries have found themselves. Careful planning for the use of these earnings is essential if the stabilization measures are in fact to contribute to economic growth, the main focus of the United States interest in the problem.

