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G. EDWARD SCHUH\*

*The International Capital Market as a Source of Instability  
in International Commodity Markets*

Agricultural economics has grown up with a strong sectoral perspective, rooted in strong training in microeconomics. The theory of the firm has been our primary analytical tool. The theory of markets has not taken us much beyond partial equilibrium analyses of agricultural markets. For the most part we have had little training in macroeconomics, and even less in the economics of general equilibrium. This perspective is less and less relevant to the kind of world we now live in. Changes in the international economy and in how individual countries relate to it make it less and less relevant to think of agriculture as a sector of the economy. It is also less and less relevant to think about agriculture in the context of a closed economy. Instead it has to be thought of as part of a well-integrated, open, international economy.

Changes that have occurred in the international economy these last 20 years have completely altered the economics of agriculture. The failure to recognise these changes has led to mistake after mistake in economic policy, and to lack of success in making projections and planning the economic outlook. An important part of this was caused by failing to appreciate the significance of the international capital market and what it means for international commodity markets. My paper is devoted to an explanation of how the international capital market has created instability in international commodity markets, and is divided into three parts. In the first part I will review the changes in the international economy referred to above. In the second part I will discuss some significant developments in international commodity markets that are a consequence of the changed configuration of international economy. In the third part I will review some of the policy implications of the new situation, and end with some final comments.

CHANGES IN THE INTERNATIONAL ECONOMY

These last 20 years have witnessed a number of dramatic changes in the international economy. These developments have changed both the

\*The views expressed herein are the author's alone and in no way should be construed as official views of the World Bank.

economics of agriculture and the context in which agricultural policy has to be conceived and understood.

One important change in the international economy has been the dramatic increase in dependence on trade world-wide. This is a process that has been almost continuous throughout the post Second World War period. But it accelerated significantly in the 1970s. Those familiar with agriculture thought this increased dependence was limited to that sector. But in point of fact, it was a general phenomenon. To illustrate the pace and extent of change, the dependence of the US economy on international trade doubled from 1970 to 1979. Moreover, if we extend the period back to 1965, the dependence of the US economy on international trade actually tripled in less than 14 years.

To understand fully the significance of this increased dependence on trade, one has to think of it in terms of its obverse – the increased *openness* of individual economies to the forces of the international economy. From this perspective one appreciates that a more open economy is increasingly beyond the reach of domestic economic policies. That is one of the reasons why today there is around the world so much frustration with economic policy and policy-making. The US experience is again an important example. When the full accounting is made for the 1983 commodity programmes, it will be found that total programme costs were between \$30 and \$35 billion. And this was for a sector of the economy that generated a net farm income of only \$18–19 billion! It obviously was not the case that the government was not doing anything. But despite that considerable expenditure of money, farmers were still doing very poorly by the end of the year. Forces from the international economy were literally swamping the effects of domestic policy.

A second major change in the international economy has been the emergence of a well-integrated international capital market. This change may be even more dramatic than the increased growth in trade. Recall that at the end of the Second World War there was no such thing as an international capital market. There were some transfers of capital among countries, but they were largely on a government-to-government basis and we called it 'foreign aid'. In the 1960s, however, we began to hear of something called a Euro-dollar market as European banks learned that they could relend their dollar deposits and make a profit. This market rapidly broadened into a Eurocurrency market as it grew like the proverbial Topsy. Then we entered the 1970s and experienced the petroleum crisis, which generated all those petro-dollars. National governments and international agencies then enjoined the commercial banks to recycle the petrodollars so as to avoid a collapse of the international system. This they did with alacrity, of course, and the result is today's international debt problem.

There is a general failure to appreciate either the size or the significance of the international capital market. In terms of size, the total amount of credit outstanding in the Eurocurrency market alone at the beginning of the 1980s was about \$1.7 trillion. This was approximately

commensurate with the total amount of international trade. But even that understates the full significance of the international capital market. Recent data indicate that in 1984 total international trade flows were of the order of \$2 trillion. Total flows in international financial markets in that year, however, were of the order of \$40 trillion! Clearly, the financial plans are dominating the foreign exchange markets, not international trade.

The third change in the international economy was the shift, in 1973, from the Bretton Woods fixed exchange rate system to a system of flexible or floating exchange rates. This new system might better be described as a system of bloc-floating exchange rates since many countries tie their currency to the value of one of the major currencies such as the US dollar, the British pound sterling or the French franc. Although fixed in this narrow sense, the values of these currencies vary implicitly as the values of the currencies to which they are tied in foreign exchange markets. The shift to a system of flexible exchange rates takes on its significance from the simultaneous emergence of the international capital market and was the issue I examined at a previous meeting of this Association in Banff, Canada (Schuh 1981). The point is that with a system of flexible exchange rates and a well integrated international capital market, the effects of monetary policy are transmitted in large part through the trade sectors of the economy, which may include agriculture. Hence, in many countries agriculture has now become the sector that has to bear the burden of adjustments to changes in monetary and fiscal policy.

This brings us to the final change in the international economy I want to consider – the emergence of a significant amount of international monetary instability in the period since 1968. The reasons for this increased monetary instability are not fully understood. But it is a fact of life, as any plotting of interest rates and/or monetary aggregates will show. And it has emerged at the very time that, because of the other three changes, agriculture as a sector has become more vulnerable to monetary instability.

Before turning to a discussion of some of the developments of the 1970s and 1980s, I would like briefly to discuss one final point that is implicit in the above changes but that is an issue at a somewhat different level. This is the rather obvious, but little recognised point, that most countries now face a dual constraint in their relations with the international economy: a trade constraint and a capital market constraint. These dual constraints open new opportunities to individual countries, but they also impose new constraints on policy. Consider the net-debtor countries in today's world. To service and repay their debt they need to run a trade surplus. But if they are to run a trade surplus and repay their debt, the creditor countries have to run a trade deficit, and this may impose large shocks to their economies. Moreover, to run a trade deficit, those same countries – such as the United States – have to be net importers of capital.

The key issue – and it is very pertinent to the theme of my paper – is the issue of burden-sharing and symmetry in international adjustment (see Schuh, 1985). It is very popular in today's world to lecture the developing countries to get their prices right. And given the size of the policy distortions in many of these countries, it is little wonder this has risen to the top of the policy agenda of international agencies. But less seldom is it recognized that 'getting the prices right' in many of these countries means that they will almost inevitably increase their exports, and that symmetry in burden-sharing means that the industrialised countries will need to be more receptive to the exports of those countries. So far the US economy has played a major role in absorbing these increased exports. But suppose the US dollar falls and/or the US economy enters an economic slump. Then who will absorb these exports? Europe? Japan? And what if they don't?

#### DEVELOPMENTS IN COMMODITY MARKETS THAT ARE A REFLECTION OF CHANGES IN THE INTERNATIONAL ECONOMY

The changes outlined above have already brought rather significant developments in and shocks to international commodity markets. In this section I want to review just a few of them, preparatory to a discussion of some of the policy implications.

One of the very significant developments is the emerging link between monetary and fiscal policy and international commodity markets. As I noted in my paper at Banff, referred to above, changes in monetary policies are now reflected in changes in the trade sector of national economies. As a country tries to tighten its monetary policy, the upward pressure it puts on interest rates induces an inflow of capital and this causes the value of the nation's currency to rise. This rise will choke off exports by making the country less competitive in foreign markets. It will also cause imports to rise, creating difficulties for import-competing sectors. The monetary authorities accomplish what they want to achieve, but it is the trade sectors that have born the burden of adjustment. In many cases this will be agriculture. The significance of this is that prior to these changes in the international economy, agriculture was largely immune to changes in monetary and fiscal policy. When monetary authorities want to go the other way, they do just the opposite. Lower interest rates lead to a capital outflow, and this to a decline in the value of the nation's currency; this in turn brings a stimulus to export sectors and sectors that compete with imports.

This sensitivity of world agriculture and international commodity markets to monetary policy and monetary conditions is a new phenomenon, at least in terms of the post-Second World War period. It comes at the very time that monetary instability has increased very significantly and an important corollary is the much strengthened linkage between financial markets and commodity markets. The vehicle for this linkage is

the foreign exchange markets and the change in value of national currencies as financial resources shift around the world's economy at the beck of phone calls, telexes and cables.

In this kind of a world, of course, national or domestic commodity programmes that attempt to fix prices at rigid levels become a serious problem. The US experience again illustrates this point very well. Starting in October 1979, the US shifted from the very easy and unstable monetary policies that had characterised the late 1970s (large negative real rates of interest) to the persistent pursuit of a tight or restrictive monetary policy. The main element of this policy was the refusal to monetise the large deficit in the Federal budget. The main consequences of the shift in policy was a dramatic rise in US interest rates, and with it a dramatic rise in the value of the US dollar. As the value of the dollar rose, US exports became less and less competitive, with the result that commodity prices declined. A continuation of this trend would eventually have brought about an adjustment in US agriculture. However, at some point US prices settled on the loan level. As the value of the dollar rose beyond that point, US loan prices as denominated in the currencies of other countries continued to rise. This stimulated production of those commodities in other countries. Hence, US commodity programmes not only stimulated excess production at home, they also stimulated excess production abroad. Moreover, the US finds itself in the anomalous position of having bailed the EC out of its costly commodity programmes by causing the dollar price of traded commodities to rise.

In the absence of US commodity programmes there would have been a natural international adjustment in response to the rise in the value of the dollar. US production would have declined in response to the decline in dollar prices, and production would have expanded elsewhere in response to a relative rise in the price of these commodities in terms of other currencies. Moreover, very strong competitive pressures would have been kept on the EC's Common Agricultural Policy. US commodity programmes prevented this international adjustment from taking place. Moreover, they have laid the grounds for excess production not only in the US agricultural sector, but also in world agriculture. These extensive effects internationally are a consequence of the importance of the US economy in both international financial markets and in international grain markets. The same general principles apply for smaller individual countries, although there will in general be fewer international ramifications.

The significance of the US economy in the world economy raises a related issue that is also of considerable significance – the issue of third country effects of exchange rate realignments. These arise because the international monetary system is essentially one of bloc-floating. For example, a fall in the value for the US dollar will carry with it the currencies of all other countries that are tied to the dollar. Hence, trade sectors in those countries can receive considerable stimulus although policy-makers have changed nothing. Similarly, when the value of the

dollar rises, it carries with it those currencies that are tied to it. Those countries will find their exports doing very poorly, while at the same time experiencing a flood of imports. It was precisely this phenomenon that created problems for Brazil, Mexico and Argentina, and which explains why the international debt crisis has been concentrated in Latin America (see Schuh, 1984). Most of those countries fix the value of their currency relative to the US dollar. They experienced serious hardship as the value of the dollar rose.

This brings us to the final set of international disturbances to commodity markets through capital markets. This refers to the changes in policy induced by the international debt crisis. Country after country – Brazil, Mexico, Argentina, etc. – have had to alter drastically their ‘domestic’ policies in response to their international debt crisis. This has involved draconian realignments in the value of national currencies, and complementary policies to make them more competitive in international markets. These measures promise to change the pattern of trade flows in international agricultural markets in very significant ways. Although the ultimate impact will be in commodity markets *per se*, the impetus for change came from the international capital markets.

#### SOME POLICY IMPLICATIONS FOR AGRICULTURE OF A WELL-INTEGRATED INTERNATIONAL CAPITAL MARKET

There are at least four important policy implications I would like to discuss. All of these are a consequence of the emergence of a well integrated international capital market and the other changes referred to above.

The first policy implication is that domestic commodity programmes that have strong or rigid price provisions probably make no sense in today’s world, even for small countries. This applies with equal force to importers and exporters and to whether the objective of the programme is to raise and support prices or to lower and limit them. The point is that exchange rate realignments change the prices of traded goods (exports and imports) relative to the price of non-traded goods. These relative prices can change by implicit means even though the explicit prices have not changed. The result can be very large distortions and/or very large disequilibria. With international monetary instability being what it is, the consequence of any attempt to fix domestic prices can be very serious.

The second policy implication is the logical extension of this principle to international commodity agreements. Such agreements are still on the agenda of the UNCTAD. But it is very difficult to know what such agreements mean in today’s kind of world. In fact, it is very difficult to know how any fixed price provision can be designed into an international commodity agreement when realignments in exchange rates can implicitly change relative prices in a national economy with no explicit change in the absolute price of the traded commodity. Because of these changed conditions, pressures for international commodity agreements to break down will be pervasive and irresistible.

The third policy implication has to do with the meaning of comparative advantage in the context of the new international economy we now have. Comparative advantage is a comparative cost doctrine rooted in conditions of relative demand and supply in national economies. But the *competitive* advantages that are reflected to the international economy in today's world may be very different from the underlying comparative advantage. For example, a low national saving rate may keep a nation that otherwise would be competitive from so being (a special form of the Dutch disease). Similarly, the failure to pursue a proper fiscal policy can drastically alter a nation's competitive position. The US Federal deficit is widely recognised as restricting US competitiveness abroad. But what if we were to run a larger budget surplus and use it to retire government debt? Would other countries be willing to accept the strong competitive position that would arise for the US economy? The point is that in today's world, a nation's monetary policy, its fiscal policy and its savings rate are major factors in explaining its international trade performance. Comparative costs are only one of many factors.

Finally, there is the obvious need to reform international monetary institutions. The monetary instability in today's international economy has at least three sources. The first is the lack of mandate and the lack of resources of the International Monetary Fund for it to act as a true international monetary authority – despite its name and despite the original intent that it act in such a way. The second is the failure of the countries with major reserve currencies to co-ordinate their monetary policies to as to obtain some semblance of international monetary stability. The third is the failure of the United States to manage its monetary policy in a way consistent with its actual role as central banker for the world. Given that the world is in effect on a dollar standard, the US Federal Reserve is in effect the central bank for the world. Unfortunately, except when there are periodic international crises, the Federal Reserve manages US monetary policy primarily on domestic considerations. The result is to impose large shocks on the US economy as well as on the international economy.

In today's world, agricultural commodity markets will continue to be unstable as long as international monetary conditions remain unstable. This will lead to continued inefficient use of the world's agricultural resources, to continued government intervention – often in inefficient ways – to offset the shocks that come from abroad, and to continued international political conflicts over trade policy and domestic agricultural policies. Reform of our international monetary institutions should be at the very top of the policy agenda of every country.

## CONCLUSION

These last 20 years have been a period in which the economic integration of the international economy has far outpaced its political integration. In fact, we have witnessed a successive breakdown and growing irrelevance



of international institutions at the very time that our respective economies have become increasingly integrated. Domestic economic policies have less and less relevance in today's world and do little more than create suspicion and lack of confidence in national governments since these policies achieve less and less what they say they will.

The LDCs have rightly seen the need for a new international economic order. Unfortunately, their efforts have largely gone for naught, since they have appealed for resource transfers that are not forthcoming, failed to recognise the shortcomings of their own national policies, and appealed for international commodity agreements and commodity policies that are largely not feasible in today's world.

The developed countries, for their part, largely ignore the appeals of the less developed countries and continue to pursue their own self-interest in national policy, oblivious of the fact that national policies make little sense today. At the same time they lecture the LDCs to get their national policies 'right', without seeming to realise that this would result in important burden-sharing implications for the economies of the developed countries.

It is imperative that we get these issues joined and that we design and establish international institutions consistent with the international integration of our respective national economies. Preserving the present Tower of Babel can lead to disaster – as the experience of the 1930s should have taught us. Economists from all countries have a vital interest in seeing to it that we move in the right direction and that we do not slip back into the economic nationalism and beggar-thy-neighbour policies of the past.

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## DISCUSSION OPENING I – A. E. IKPI

The two related and complementary papers by Alain de Janvry and G. Edward Schuh have been well written and beautifully presented. They are relevant and well thought out and I strongly recommend that each conference participant takes time to read these two papers thoroughly. However, the more I read and try to relate them to developing countries of Africa, the more I thought of a fitting anecdote that adequately

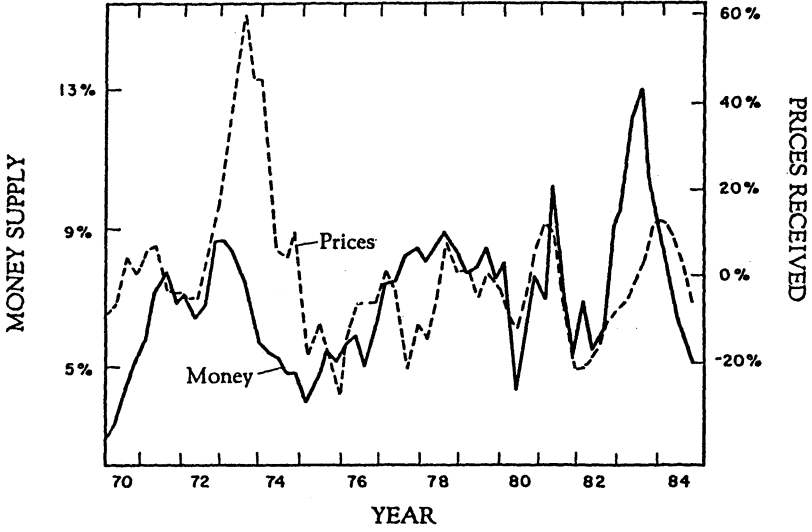


FIGURE 1 Money and Agricultural Prices (Percentage Change)

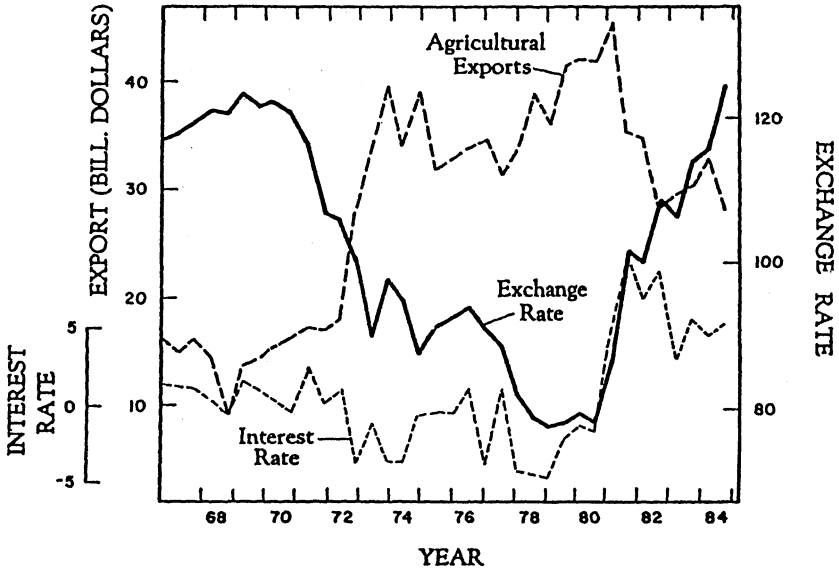


FIGURE 2 Interest Rate; Exchange Rate; Agric. Exports

summarises what is going on between developed countries and developing ones. I shall call it the fable of 'the Giant and the Lilliputian'. It goes like this:

There once lived a giant (G) who because of his height could see much further than his poor and hungry neighbour Lilliputian (L).

One day G decided to show L some wonderful land overflowing with food and other basic necessities of life but with a lot of obstacles that could only be overcome with his (G's) carefully planned assistance.

One easy way G could have done that would have been to carry L on his shoulder. But G does not want to stoop down and give L a helping hand; and L (out of shyness) is reluctant to climb on to G's shoulders. Also, L believes that getting to the place through his own efforts would be more advisable, so that he could always go back there on his own.

So G decides to walk with L to the place. But he (G) is in a hurry and walks too fast for L. Furthermore, each step he (G) takes requires L to take about 20; and so by the time they get halfway to the place, L is fatigued and refuses to continue.

Instead of carrying L the rest of the way, G turns back to L and tells him: 'OK, let us go back. Tomorrow, after you have eaten *in my house*, we shall go there.' The incident is repeated time and again without success!

This is exactly what appears to be going on in the various attempts by developed countries to help their developing counterparts. Developed countries give everybody the impression that they would like to help or are, in fact, helping developing countries when in reality their efforts are aimed at preventing these poor countries from achieving their desired long-term goals. As Dr Schuh has pointed out in his paper, developed countries are not exactly anxious to see developing countries (especially of Africa) implement any 'good plans' that would make them not only self-sufficient but also export-oriented. Such a success would create unexportable agricultural and other surpluses in developed countries. Unfortunately, they appear to ignore Say's simple but true law, namely: supply creates its own demand.

Both papers have given us a most accurate exposition of some of the pertinent problems of food and agriculture in Africa and other developing countries. But in each case I find they come short of giving logically pragmatic and appropriate economic prescriptions that follow naturally and could substantially reduce the diagnosed problems, if not completely remove them.

Since discussion openers in this conference are specifically instructed not to summarise the papers they discuss, I shall devote the few minutes I am given to directing our attention to some relevant areas by way of questions on which I would like participants and authors of the two papers to focus discussion. For example: (i) Now that developed donor-countries realise that *ad hoc*, short-term (or stop gap) measures like massive food aid (mostly with invisible political strings attached) do not and cannot solve Africa's food problems, what should developed

countries do? Is it, in fact, not apparent by now that a better longer-lasting solution to Africa's food problem lies in the effectuation of a deliberate programme in which graduated increases in food (especially cereal) production can be achieved through selecting and using areas of the continent with known comparative advantages of production? Such planned large-scale food production would have to be made to be inversely related to the volume of food aid from developed countries. A genuine and sincere interest on the part of developed countries to assist African countries should be shown through the provision of either interest-free or low-interest loans to support the planned investment in this increased food production programme.

(ii) In view of what Alain de Janvry has pointed out in his paper concerning the price system being necessary but not sufficient for inducing agricultural development, and there existing some technological and structural alternatives that allow for raising agricultural output faster, it is pertinent to stress here that as long as the international capital market continues to exist in its present form and to operate in its existing mode in relation to agriculture in developing countries, price instruments will continue to have depressing effects on the agricultural output of these developing countries. Therefore, is it not advisable and in fact, feasible, for instance, meaningfully to change the present structure and mode of operation of the international capital market? In fact, should the capital market continue to be used as *the* channel for funnelling development funds to developing countries – especially with cut-throat conditionalities that have been known through experience to do nothing but induce and support 'beggar-thy-neighbour' policies? After all, as Dr Schuh pointed out on the second page of his paper under discussion today, the international capital market, as we know it today, did not exist until 1945, after the Second World War.

(iii) If all of us here really want to help developing countries develop so that all countries can live together happily in God-provided plenty, why can't we (as policy-makers and advisors to our various governments) suggest, for instance, that 'counter-trade' be accepted and adopted by trading partners in both developed and developing countries in order to substitute substantially for international loan financing and all its attendant headaches?

In conclusion, I would like to emphasise that African countries and their market economies differ markedly. Lack of accurate understanding of this basic diversity and difference has led to misconceptions arising on what Africa is or is not; what Africa needs or does not need; and what Africa wishes or does not wish. It is in a forum of this sort that meaningful exchanges of ideas on these issues can be used to plant 'seeds of thought'; these can be germinated to fruition in future publications and policy statements that could change things for the better for developing countries. I appeal to all of us to plant such seeds today and throughout this conference.

## DISCUSSION OPENING II – MAURICE SCHIFF

Professor de Janvry's paper is based on the important observation that agriculture has become increasingly integrated in the national and international economy and that these growing interdependencies should be taken into account when analysing agricultural policies in developing countries.

Professor de Janvry uses the results of selected computable general equilibrium (CGE) models to analyse a number of policy options.

I will start with a general comment and then make some more specific ones. In the first part of his paper, the author mentions the contradictory impact of prices on efficiency of resource allocation and on welfare. He suggests that price policy should be supplemented by non-price instruments to compensate for the negative short-term impact of price policy on distribution, nutrition, etc.

Price and non-price instruments are also compared later in terms of their intertemporal allocative efficiency. The author claims that 'there exist technologies and structural alternatives that allow raising agricultural output faster... than price incentives'. He bases his claim on evidence of low aggregate supply elasticity in Africa and India. This claim is widely found in the literature and seems to present price and non-price instruments as alternatives rather than complements.

First, evidence on Africa and India may not be entirely valid for other parts of Asia or for Latin America. Even on India, there is some evidence of more elastic sectoral output. Krishna and Chhibber (May 1983) find that the short-term elasticity of wheat output with respect to agriculture's terms of trade (defined as the price of wheat and of its substitutes relative to a wholesale price index) equals 0.50 and the Nerlovian long-run elasticity equals 1.55.

Second and more important, I believe this claim is based on a rather short-term view of price effects, resulting in a downward bias for the effects of prices on output and an upward bias for the effect of investment expenditures.

Private investment expenditures, which make up the bulk of total investment expenditures in agriculture in LDCs, are carried out by private agents and are therefore expected to respond to incentives. In other words, the impact of prices on output is not limited to movements along a given supply curve, but prices affect the location of the sectoral supply curve through their impact on the intersectoral allocation of labour and capital. In this context, it is interesting to note the contrast between the evidence of the small impact on output of raising agriculture's terms of trade presented here and the evidence of the devastating impact on agriculture of Dutch disease phenomena (e.g. in Nigeria) which lead to a reduction in agriculture's terms of trade through the fall in the relative price of agriculture's tradables and their close non-tradable substitutes. Does that mean that there is a kink in the aggregate supply curve, being elastic downward but inelastic upward?

As the author notes, Dutch disease phenomena result in 'outmigration toward the employment opportunities created by the expanding sectors'. It has been claimed that such outmigration is irreversible. This would result in a kink in the sectoral supply curve. However Dutch disease countries have also tended to use their additional resources on social services for the urban sector. A reduction in the amount of urban services provided and a restoration of agriculture's terms of trade may well lead to a movement back to the rural areas, as some recent evidence on Africa indicates. Furthermore, the productivity of public investment expenditures in agriculture may itself depend on the structure of incentives. There is evidence that farmers may not make full use of irrigation facilities when crop prices are low because it does not pay for them to make the needed private investments (ditches, etc.) at those prices. Public investment facilities thus often operate well below full capacity. Consequently, private investment expenditures, as well as the productivity of public investment expenditures, are not exogenously given but depend on incentives in the agricultural sector.

Nevertheless, a number of these CGE models specify investment as an exogenous variable and therefore do not take into account the interrelationships between prices and investment.

These CGE models do provide an interesting framework for the analysis of agricultural policy options but I believe they should be expanded to endogenise more fully the impact of price policies on intersectoral resource allocation. One model in that direction is that by Cavallo and Mundlak on Argentina (1983), although it is not designed for detailed analysis of the welfare effects of alternative policies. It should be noted that in some cases it may even be necessary to allow for international movements of labour or capital to obtain a realistic picture of the constraints under which policies are made.

I would now like to make some specific comments:

1 The CGE results showing that reallocation of investment from industry to agriculture leads to an increase in growth rates and to an improved distribution of income are extremely interesting and have profound policy implications. Furthermore, these results imply that the impact on growth of reallocation of investment would be much larger still in the absence of a biased price policy against agriculture.

2 On Dutch disease phenomena, I believe it is important to distinguish between effects of a temporary nature and those that are expected to be more permanent. If the phenomenon is a temporary one (say, the coffee boom for Colombia in the 1970s), then it may be a good idea to help the non-booming tradable sector over the transition period. However, if the phenomenon is expected to be more permanent (say, a technological improvement in a tradable sector or discovery of new resources or worker remittances), such a policy will amount to the protection of a sector which has become less competitive in a more permanent sense and will be inefficient.

Even if one would expect technological improvement to be more permanent than a price increase, it is not always possible to know how permanent or transitory such shocks will be and, as the author suggests, the wisest approach is to pace the inflow of foreign exchange earnings to avoid inflationary pressures. This has been recommended by a number of economists (e.g., Harberger).

Even if such a policy were followed and none of the extra revenues were spent, the effect of the boom in a tradable sector would still lead to the contraction of the non-booming tradable sector, although to a lesser degree, as noted by Professor Max Corden (1984). The reasons are twofold. First, the value of the marginal product of labour rises in the booming sector (because of a rise in price or because of technological change or because new resources are discovered). This induces a movement of labour out of the non-booming tradable sector and out of the non-tradable sector. Second, the fall in non-tradable output resulting from the outflow of labour results in a rise in the relative price of non-tradables and thus in an additional movement of labour out of the non-booming tradable sector. That sector will therefore contract even if none of the extra income of the booming sector is spent. The importance of this effect will depend on the absorption of labour by the booming sector.

3 In his section on strategies for the use of food aid revenues to stimulate agricultural development, one might want to consider the fact that in some countries the value of the food aid subsidy may amount to a large share of total import expenditures (30 per cent in Bangladesh) and therefore may indirectly depress output prices through their Dutch disease effect on the real exchange rate.

I turn now to Dr Schuh's paper which was very interesting and added a new dimension to the relationship between capital and commodity market instability, and identified some policy implications.

This is a very important topic which has not received enough attention in the literature and which should be integrated in the analysis of agricultural price policies. The author is, I believe, correct in stating that partial equilibrium analysis is rapidly becoming less relevant because economies have become more open since the end of the Second World War and relative incentives in agriculture are much more affected by domestic and foreign macroeconomic policies. The real exchange rate is one of the crucial variables determining incentives in the agricultural sector and it is therefore important to understand the factors which determine it.

Several policy implications are drawn. First, it is clear that domestic policies which fix nominal prices may lead to large distortions, due to real exchange rate fluctuations caused by an unstable international monetary situation, and that pressures on international commodity agreements to break down may be irresistible in such an unstable world. Dr Schuh is therefore correct, I believe, in suggesting that better co-ordination of the

monetary policies of the countries with major reserve currencies would help reduce exchange rate variability and would help to solve the problem of commodity market instability.

Second, it is true that the competitive position of a country may depend as much on fiscal and monetary policies as on underlying resource-based comparative advantage. This point is also made by de Janvry. An interesting question in this context is whether this is only a transitory phenomenon or whether it will also hold in the long run. For instance, the US agricultural sector has become less competitive owing to the increase in the value of the dollar; but one might wonder if the US fiscal and monetary policies which have led to the strong dollar can be maintained.

The main point made in this paper may be applicable in more general conditions than those described. Dr Schuh argues that the flexible exchange rate system is a major determinant of the transmission of capital market instability to commodity markets. I believe that capital market instability will also be transmitted to commodity markets in the case of a fixed exchange rate system. Instability in commodity markets is caused by instability in *real* exchange rates and this may occur even under fixed nominal exchange rates because the price of non-tradables will respond to macroeconomic shocks.

For instance, the rise in interest rates in the US would have led to a much larger inflow of capital under fixed exchange rates than that which took place under flexible exchange rates (because under fixed exchange rates capital would have flowed in until interest rates were equalised). This would have led to an increase in the price of non-tradables in the US and thus to a reduction in the *relative* price of tradables (i.e., to a reduction in the real exchange rates), including that of agricultural commodities. Of course, shocks will be transmitted faster under flexible exchange rates than under fixed exchange rates because the prices of assets adjust faster than those of goods.

Finally, I would like to make some suggestions for future consideration:

- 1 On the dynamics, what is the minimum duration in real exchange rate shocks required to affect output? If unstable monetary and fiscal policies cause the real exchange rate to fluctuate for short periods of time around a trend, then the effect of output may be small (increased uncertainty). Clearly, in the case of the US dollar in the last few years, the policy has lasted long enough to have dramatic effects on the tradable sector.
- 2 If the effects of fluctuations of real exchange rates are negatively correlated with other shocks affecting output, then it is not clear that instability in capital markets will increase instability in commodity markets. *A priori* I do not see why this correlation would be negative but knowledge of that correlation is important in determining the exact contribution of capital market instability to commodity market instability.
- 3 Finally, US policies have led to an increase in interest rates. This should result in lower holdings of stocks and thus in an increase in commodity price variability. In fact, in their 1984 study *International Finance for Food*



*Security, Huddleston, et al.* found a negative correlation between commodity price variability and the ratio of stocks to consumption. However, the opposite will occur in the case of policies which lead to a fall in interest rates.

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## GENERAL DISCUSSION – RAPPORTEUR: A. J. OSKAM

It was questioned whether most governments of LDCs are strong enough to deal with the type of development outlined by Professor de Janvry. A strategy of development requires fine tuning of different types of policy. It is, for example, possible to increase agricultural production, if farmers receive enough incentives. However, what to do if after some period products are stockpiled and there is a strong tendency towards lower prices and agriculture comes into a downward circle? How should such policies be engineered?

Another point concerned the reasoning of Professor de Janvry's paper. At one point one finds statements about the strongly increased prices of grains in Africa, while at another point the very difficult position of the agricultural sector was mentioned because of low priced imports.

In reply, Professor de Janvry stated that he had examined the phenomenon where a strong sector of the economy outperforms other sectors and leads to sectoral unemployment in relation to several African countries. A timely stronger exchange rate can be managed within an economy if one realises this situation and uses specific types of policies for protecting sectors that lag behind.

If the agricultural sector adopts new technology it makes it necessary to lower (real) agricultural prices in such a way that there remain sufficient incentives for continuing technological development, while, at the same time, lower prices increase consumption. However, farmers are very reluctant to give up a favourable position with relatively high prices. More countries, however, face a situation of high imports of grains etc. Here investment in the agricultural sector leads to import substitution.

On the Schuh paper, the point was raised as to whether floating exchange rates and IMF policies are not the main cause behind the relative unstable prices and also low prices for the LDCs. The discussion concentrated on the responsibility for a stable development of trade between LDCs and DCs. If LDCs are asked to maintain a well sustained

internal policy, can the developed countries be asked for stability of their economic development, especially with respect to exchange rates? This would not only require more stability in monetary policy, but also a fiscal policy that is effectively used for the internal development of the rich countries.

It was questioned whether there was not an asymmetrical position for LDCs. In a period of expansion they can find financial support; but in a period of contraction they are forced to increase exports and have no opportunities for new loans.

Another question dealt with situations with (regional) commodity surpluses. Are the problems of, for example, US farmers with their relative unfavourable terms of trade not identical to the situation of farmers in many developing countries?

The possibility of counter trade or barter trade (trade arrangements in fixed quantities) was suggested as an alternative for international trade with its dependency on exchange rates.

In reply, Dr Schuh maintained that some means should be established to provide more stable monetary conditions. One must also think about some simple reforms of the IMF and a reduction in the influence of the US dollar – and implicitly US monetary policy – on international trade and capital markets. Countries should stop operating as if they were a closed economy. The fact is that economic integration has far outranged political integration.

Concerning the position of LDCs and DCs and their respective policies he felt that research on the consequences of the particular policies of developed countries and their effects on LDCs should make things clear; but this type of research was limited. Furthermore, many LDCs that have created a large debt load should export more. That is not a point of asymmetry but a result of earlier decisions.

Dr Schuch considered that although there were some common elements in the position of US farmers and farmers in developing countries, the main difference is the existence of many commodity programmes in the US. More flexibility in these programmes could be discussed.

Regarding the final point he felt that counter or barter trade was not or was only a very limited alternative to normal international trade.

Participants in the discussion included Gaymasan, K. S. Parikh, D. R. Colman, G. H. Peters, J. Berthelot, I. Singh, Evestein and A. B. Lewis.