

Commonwealth Economic Papers: No.8

The Common Fund

Papers prepared for
Commonwealth Technical Group

**Volume 1: Papers
prepared by Consultants**

September 1977



Commonwealth Secretariat

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Commonwealth Secretariat
Marlborough House, London SW1

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PREFACE

The Common Fund has been on the international agenda for some considerable time. Its role, scope and functions, indeed the need for it, have been analysed and discussed in a wide range of official and private fora. The Commonwealth Experts' Group, in their final Report "Towards a New International Economic Order" devoted a considerable amount of attention to the establishment of the Fund. They expressed their view that "the Common Fund is the integrating mechanism of the (Integrated) Programme and is its most important element; we saw its establishment as essential if an integrated programme for commodities is to make a major impact" (para 3.8).

Many Governments and individuals attach considerable importance to the establishment of an effective Common Fund in any programme designed to install a new order for international commodity trade. But over and above its intrinsic importance in the field of commodity trade, it is clear that the establishment of the Fund has assumed special importance to developing countries as an important test of the willingness of the international community to introduce structural change in existing international arrangements for trade and finance with a view to providing greater support for the development efforts of developing countries.

Commonwealth Heads of Government devoted a considerable amount of attention to the subject when they met in London in June 1977 and agreed to work towards the early establishment of the Fund. "To this end they asked the Secretary-General to establish a small technical working group drawn from Commonwealth countries to examine the issues which need to be addressed in further work in UNCTAD and their report should inform Commonwealth leaders on the range of objectives and purposes for which the Common Fund might be used, its methods of operation and the measures to be adopted to help developing countries which are net importers of the commodities concerned, with a view to facilitating greater progress at the UNCTAD Conference in November." (Paragraph 41, Commonwealth Heads of Government Final Communique, London 1977).

The Report of the Technical Group has been forwarded to Governments for their consideration.

In preparing for the work of the Group, the Economic Affairs Division of the Secretariat prepared a number of papers analysing specific aspects of the Common Fund and summarising the principal issues on which international decisions were required. In addition, the Division commissioned papers from specialists in the field to assist in further elaboration of some of the subjects under examination. Some of these papers may be of value to Governments and individuals, not only in their examination of the Report of the Technical Group, but also on the general question of the negotiations on the Common Fund.

The present volume contains the papers prepared by consultants. A subsequent volume will present some of the analyses prepared by the Division.

In this volume, papers by three consultants are included - the first by the Commodities Research Unit, the second by Dr G K Sarkar of the University of Sussex and the third by Professor T Josling of the University of Reading. In their paper, the Commodities Research Unit discuss a number of the issues which will have to be taken into account in determining the financial organization, operation and management of the Common Fund. Dr Sarkar deals with some of the wider macro-economic aspects of the Common Fund, setting the scope, functions and contributions of the entity in the wider perspective of international economic management. Professor Tim Josling looks at the lessons and implications for developing countries of the commodity stabilization policies in the selected developed countries, paying attention to the scope, rationale and objectives of price support systems.

These papers are being published to inform the ongoing negotiations on the Common Fund. The views expressed are those of the authors and do not necessarily reflect the views of the Secretariat.

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**A Common Fund - Financial Organisation, Operations
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INTRODUCTION

The Commonwealth Secretariat on 1st July, 1977, commissioned Commodities Research Unit, of London and New York, to prepare the following study on "A Common Fund - Financial Organisation, Operations and Management".

The terms of reference emphasise that the study should concentrate on the financial and technical aspects.

It is not part of our brief to evaluate in a wider sense the merits of the many proposals for a Common Fund which have and are being considered, nor to speculate on which if any may be adopted. We do however summarise the proposals and their more general implications in Appendix 2.

In concentrating on the financial and technical implications we do so particularly in respect of the first three of the Common Fund proposals listed below.

Principal Common Fund Proposals

The following are the principal Common Fund proposals under international discussion, with some drift in favour of the first three:

- 1) A "central source" Common Fund which would be financed by official equity subscriptions and/or market borrowing;
- 2) A "pooling" Common Fund which would be financed from the pooling of funds secured by ICOs (Individual Commodity Organisations) who would in turn secure their funds from official subscriptions and/or subscriptions from producers' and consumers' organisations and/or market borrowing;
- 3) A "pooling plus source" Common Fund combining aspects of (1) and (2) above;
- 4) A "clearing house" Common Fund acting as broker to arrange loan transfers from surplus to deficit ICOs;
- 5) A "guarantor" Common Fund providing guarantees for market borrowing by ICOs.

There are proposals that a Common Fund should contribute not only to stabilisation of international raw materials prices but also to "other purposes" like stabilisation of primary producers' export earnings, the diversification of their economies and improvement of their productivity. Only the first three of the Common Fund varieties listed above would have scope to contribute towards such "other purposes".

Participants in the negotiations

The main purpose of listing the principal participants in the present negotiations is to make clear that differences of interest exist not only between but also within some groups. This needs to be borne in mind in considering the analysis advanced in our report. The main participants are:

Group B - The OECD industrial countries mainly representing consumers but also including countries which are both consumers and important primary producers, like the US, Canada and Australia;

The Group of 77 - Mainly developing primary producers, but also including relatively economically advanced primary producers like Brazil;

Group D - The centrally planned economies, who have interests both as producers and consumers;

Special Category - The people's Republic of China.

The negotiations to date

A brief summary of negotiations to date is:

- | | |
|------------------|--|
| September, 1974, | New York - The 7th Special Session of the UN votes for a New Economic Policy including commodity price stabilisation; |
| May, 1976, | Nairobi - An UNCTAD meeting decides to enter preparatory discussions on possible ICAs (individual commodity agreements) for the stabilisation of 18 commodities and negotiations on a Common Fund; |
| March, 1977, | Geneva - First negotiating conference on a Common Fund; |
| May, 1977 | London - At an economic summit meeting in London the US formally accepts the principle of "a" Common Fund; |
| July, 1977, | Paris - The Conference on International Economic Cooperation (CIEC) agrees in principle on the establishment of "a" Common Fund; |
| November, 1977, | Geneva - Second negotiating conference on a Common Fund due to take place, but without any present deadline for the creation of such a fund; |
| February, 1978, | - Preparatory negotiations due to be completed on an as yet undecided number of ICAs, but with no present deadline on the completion of such agreements. |

SUMMARY OF CONCLUSIONS

Introduction

This study concentrates, as requested, on the financial and technical problems involved in the creation of a Common Fund, although the objectives of a Common Fund and the wider implications are discussed in an Appendix.

Five principal varieties of Common Fund have been considered so far in the UNCTAD negotiations, but official discussion is narrowing on three of these and so does our analysis, partly because these three varieties are those providing scope for "other purposes" such as stabilisation of primary producers' export earnings, diversification of their economies and improvement of their productivity. These three variants are:

- 1) A "central source" Common Fund financed by official subscriptions and/or market borrowing;
- 2) A "pooling" Common Fund financed by member ICOs (individual commodity organisations);
- 3) A "pooling plus source" Fund, being a hybrid of the two listed above.

An important aspect of the present Common Fund negotiations is that differences exist not only between but also within the principal groups taking part in the discussions. For instance, the Group B industrial countries of OECD predominantly represent the interests of consumers, but also include important primary producers like the US, Canada and Australia.

CHAPTER I.

BACKGROUND TO DATE OF COMMON FUND DISCUSSIONS AND THE FINANCING OPTIONS CONSIDERED

The advantage of the "pooling" and "clearing house" variants is their relatively greater autonomy and hence sensitivity to the different conditions within each ICO. This is less so in the case of the two centralised versions of Common Fund, the "central source" and "pooling plus source" variants.

On the other hand, a "pooling" Common Fund does not have a tendency to encourage the creation of new ICOs in the way that a "central source" Fund does. This is one reason why developing countries tend to favour a "central source" Fund. Industrial consumer countries, however, are wary of this aspect of a "central source" Fund since they are anxious that ICOs should come into being only where the circumstances are such as to promise that they will be viable in their own right.

Meanwhile, a "central source" or a "pooling plus source" Fund would have greater scope for helping to finance "other purposes" than a pure "pooling" Common Fund, while a "clearing house" or "guarantor" Common Fund would have virtually no scope for contributing to "other purposes".

CHAPTER 2.

THE FINANCIAL STRUCTURE OF A COMMON FUND - THE PROPORTION OF DEBT TO EQUITY AND THE RELATIONSHIP BETWEEN ISSUED AND AUTHORISED CAPITAL

Since industrial countries are likely to have to contribute most of the equity of a Common Fund, they will tend to favour the highest possible debt ratio. The debt ratio of 2:1 which might prove acceptable to Common Fund members should be sustainable only if lenders to a Fund were convinced that additional equity would indeed be callable in practice and not merely in principle.

The device of accepting subscriptions for a part of the issued capital against non-negotiable non-interest-bearing demand obligations may provide an assurance of equity backing acceptable to lenders, although here, too, the lenders would need to be satisfied that such equity really would become available to the Common Fund in currency when needed.

It may prove difficult to devise any form of Common Fund subscription quotas related to the assumed benefits of member countries from stabilisation. It seems more likely that quotas will be related to member countries' economies and international trade as in the case of International Monetary Fund quotas, although it is worth noting that the final determination of IMF quotas is made also on an element of political bargaining between members and that organisation.

CHAPTER 3.

FINANCING THROUGH EQUITY, GUARANTEES, STOCK WARRANTS AND FUTURES CONTRACTS

While the hope is that industrial countries can be relied on to subscribe to Common Fund equity on foreign policy grounds, if no other, problems might arise in other respects. These could be met if developing countries, or some developing countries, were allowed to subscribe in non-convertible currencies, although this might impair the view of the quality of a Fund's equity taken by prospective lenders to a Fund. Another approach might be to try to make ICOs eligible for borrowing from international financial institutions like the IMF and World Bank, but changes in IMF and IBRD rules making this possible cannot be taken for granted.

Meanwhile, it needs to be borne in mind that equity subscriptions by industrial countries to a Common Fund may, in some cases at least, be at the expense of other forms of aid. Likewise equity subscriptions or guarantees provided by developing countries would impair the credit rating of such countries in international capital markets (and the same would be true, to a lesser extent, in the case of several smaller industrial countries who need to borrow heavily in international capital markets for balance of payments financing).

Stock warrants represent well tried and widely acceptable collateral for buffer stock stabilisation but excessive borrowing against such warrants would make buffers vulnerable to bear speculation. Moderation in warrant-backed borrowing and in the ratio of total debt to equity should meet this difficulty. However, an important practical difficulty about the use of warrants needs to be faced. Unless buffer stocks are owned by a Common Fund, banks and other lenders might prove reluctant to lend to a Common Fund against warrants for stock owned by another party, that is, an individual buffer. The other side of this practical problem is that if a way is found by which banks and other lenders are willing to advance funds directly to a Common Fund, mechanisms would need to be designed to give buffer managers rapid and uncomplicated access to their financial entitlements from a Common Fund at times of heavy market intervention. Another question to be faced is that where ICOs draw on a Common Fund against the security of the stock warrants, the Common Fund may not be able to use such warrants as collateral for market borrowing of its own, since such warrants would not be considered as the Common Fund's property to be pledged.

Intervention in futures markets would enable a Common Fund in suitable cases to achieve stabilisation at a lower direct outlay than spot intervention. Yet through the contango at the bottom of the market and backwardation at the top, buffers could retain control over spot prices.

CHAPTER 4.

TERMS AND CONDITIONS FOR LENDING TO ICOs

A Common Fund lending to ICOs would find it difficult to discriminate between ICOs in the terms and conditions of lending for buffer intervention. The burden of concessionary financing would therefore probably have to be shifted onto the financial arrangements made by each ICO for itself, allowing a Common Fund to lend to all ICOs at uniform interest rates and borrowing charges, including the commitment fee customarily charged by lenders to borrowers on stand-by finance.

The extent of ICO access to a Common Fund raises an extremely important point, since any lending above ICO quota limits would raise the issue of conditionality and therefore the question of the extent to which the role of a Common Fund is enlarged beyond that of a bank into one of decision making about appropriate ICA intervention points. At present, the weight of proposals in the international negotiations is that a Common Fund should be confined as far as possible to the role of a financial institution, no matter which variant of Common Fund is ultimately chosen. However, this question can never be skirted entirely since all lenders inevitably impose some conditions on borrowers. The question therefore hinges on the degree of conditionality which may prove inescapable.

Another important point to which it is impossible at this stage to do more than draw attention concerns the actual rates of interest which a Common Fund might need to charge. Any discussion of this needs to start from the premise that while a well-managed buffer can be expected to earn some return, this might not be as high as that from most alternative commercial investment. A concessionary element would therefore have to be injected either into borrowing by a Common Fund or lending by a Common Fund or both, even leaving aside the frankly concessionary terms which would have to be attached to Fund financing of "other purposes" than commodity stabilisation. It is worth pointing out here that the hopeful comparison so often drawn

with the World Bank may not be very useful, given that institution's long and extremely well-managed evolution. In the World Bank's latest financial year, for which data is presently available, namely to June 30th 1976, the World Bank's borrowing costs averaged 8.48 per cent. However, the average cost of all funds to the Bank, including paid-in capital and accumulated earnings, which are cost-free, was only 5.6 per cent. And it was this which enabled the Bank to keep its average lending rate at 7.1 per cent during 1975/76. But a newly established Common Fund could obviously not count on such advantages and even an average lending rate of around 7 per cent might not be feasible for ICOs.

CHAPTER 5.

THE ESTABLISHMENT OF FINANCIALLY VIABLE OPERATIONS

While a degree of financial viability may be attainable in many buffers linked to a Common Fund, it is very questionable whether this can become the main criterion for evaluating the success of a Fund. It will be necessary to take into consideration also the indirect benefits of stabilisation, although these would be diminished to the extent that contributions to a Fund by industrial countries take the form of aid diverted from other purposes.

CHAPTER 6.

NON-BUFFER STOCKING ACTIVITIES

Common Fund financing of "other purposes" than buffer stabilisation would probably need to be at low rates of interest and for long maturities. Moreover, such financing would probably cut across ICO lines in being extended to some members of several ICOs rather than all members of any one ICO or all members of all ICOs. A "second window" would therefore be necessary although it may not need to be as distinct as IDA is from the IBRD. Uniformity of interest rates and other terms would be desirable here, too, although returns would clearly vary as between projects being financed. Concessionary help from outside aid agencies may have to be sought.

1. THE BACKGROUND TO THE COMMON FUND DISCUSSIONS

The UNCTAD discussions on a Common Fund have thrown up five alternative funding structures for serious consideration. In this chapter of the present study, we shall describe the four main financing methods plus one: popular compromise that have been proposed.

Using the terminology of UNCTAD's Group B in their papers on the subject, the four main alternative proposals regarding the mode of operation of a Common Fund are that it should operate as (i) the "principal source of funds"; (ii) the "pool of finance"; (iii) a "clearing house"; or (iv) the "guarantor of loans". The hybrid that has taken the centre of the stage recently is a combination of (i) and (ii), known simply as a "pooling plus source" fund, although there is little agreement about the relative importance to be attached to the two functions.

The principal source of funds structure of a Common Fund envisages that all funding will be arranged by one centralised fund, which will lend funds to the ICOs associated with it. It seems to be universally accepted that this form of Common Fund would lend funds to ICOs for buffer stock activities at a uniform rate of interest, but that the Common Fund would have some discretion over the interest rate that it charged on lending for non-buffer stock activities. Another area of some importance, in which agreement appears to have been reached, is that the allocations of loans for buffer stock financing will, like the World Bank's lending, be completely independent of the amount of finance provided by individual nations.

The pool of finance approach proposes that the individual commodity organisations, bound together by agreements between producers and consumers, will raise their own funds. The liquid element of these will then be pooled in a Common Fund, which will supervise and control subsequent lending to the ICOs linked to the Common Fund. It has been suggested that the amount of lending that the Common Fund makes to the ICOs should be based upon quotas related to the contributions made by each ICO to the Fund, along the lines already practised by the IMF.

The clearing house version of a Common Fund, relegates the role of the Fund to that of assisting in bilateral loan negotiations between ICOs. The Common Fund would aim to marry the financial requirements of one ICO to the excess liquidity of another, and would not possess any funds entirely under its own control.

As guarantor of loans a Common Fund would collect together a range of governmental guarantees, including possibly guarantees from inter-governmental organisations such as the IMF. These could be then used as security by ICOs when they raise loans. A possible precedent for this particular structure would be the various export credit guarantee schemes that governments operate, providing security against which exporters can arrange commercial borrowing.

In addition, there is the pooling plus source version. The French approach put forward in the Fourcade Plan, is that a pooling of ICO resources into a Common Fund should take place only after several ICOs have first proved themselves. This has, however, encountered wide objections as being neither politically acceptable to the LDCs nor technically feasible since a relatively wide range of ICOs would need to operate successfully to provide a sufficient offset before a Common Fund could secure sufficient funds from them not to need supplementary financing of its own. Hence the argument for "pooling plus" as against the pure pooling implied in the Fourcade Plan.

The attractions of the various methods of financing the Common Fund can best be understood by comparing their abilities to meet the following objectives :-

- (a) to attract sufficient funds to achieve a price stabilisation target;
- while (b) paying low interest rates on borrowing;
- (c) economising on the use of liquid resources;
- (d) encouraging the establishment of ICOs - the "catalytic effect";
- (e) assisting desirable non-buffer stock activities;
- and (f) taking due account of the special factors that may affect particular commodity buffer stock schemes. (Under this heading, one would include consideration of whether or not an ICA buffer stock deserved an operating subsidy if it could demonstrate that exceptional social benefits would accrue from being granted one).

(a) A Principal Source of Funds

A principal source of funds structure, without any element of independent finance for ICAs, should meet all the objectives (a) to (e), but fails to meet the last objective adequately. In Appendix 2, a variety of reasons are advanced to explain why the producer nations may be expected to favour the principal source of funds structure, while the richer consumer nations tend to favour a pooling approach. Nevertheless, the political pressures that the producers can exert on the consumers are likely to mean that there should be relatively little problem about raising finance for a Common Fund. As regards objectives (b) and (c), the spreading of risks inherent in the centralised approach of the principal source of funds enables the costs of borrowing to be reduced, and it also permits liquid resources to be held at the minimum level possible, since all the benefits attainable on account of offsetting movements in commodity prices should be available to a totally centralised structure. Other advantages of a principal source of finance include the fact that the existence of a large central fund, willing to lend to buffer stocks, should serve as a catalyst for the creation of ICOs. In addition, a centrally controlled source of finance for non-buffer stock activities is easily created alongside a central fund for buffer stock finance, thereby ensuring the achievement of objectives (d) and (e). But, the whole area of activities that require separate finance within each ICA, or which would otherwise call for different conditions of lending by a central fund to different ICAs, covered by objective (f), is an area in which a principal source of funds is likely to be found wanting.

(b) A Guarantor of Loans

Compared with a principal source of funds, the guarantor of loans approach is unambiguously inferior. Provided sufficient guarantees are forthcoming, it should be possible to use a guarantor of funds model to raise the finance needed for a series of price stabilising buffer stocks, and to do so at favourable rates of interest. Furthermore, if guarantors are willing to extend their guarantees to cover as yet non-existent ICOs, this particular structure of agreement should act as a catalyst for the establishment of new ICO buffer stocks. But, the formation of a syndicate of national and international guarantors of Common Fund borrowing does not enable the fund to take advantage of offsetting movements in ICOs' financial

requirements, since it does not provide any mechanism for excess liquidity in one ICO to be transferred to another. Nor will the pure guarantor of funds form of Common Fund be capable of meeting either objective (e) or (f), since it has to rely entirely upon commercial borrowing, made at commercial interest rates, for finance. No funds will be available with the guarantor of funds approach to finance activities which are unable to earn a commercial rate of return.

Conclusion:

A comparison of the two alternative proposals for a Common Fund relying upon centralised methods of raising finance shows the principal source of finance structure to be superior to a guarantor of funds approach. Neither of them will be very sensitive to the variations in the social returns from buffer stock activities in different commodities, but the principal source of funds framework is alone in being able to take advantage of off-setting movements in ICO buffer stocks, and in being compatible with the establishment of a separate source of finance for non-buffer stock activities.

(c) A Pool of Finance

A pooling form of Common Fund differs from the two financial structures just mentioned, in that it assumes that the individual commodity agreements will have the responsibility for raising most of their own funds. The only centralised finance available to ICAs will come from the surplus funds raised by other ICAs.

Producing countries tend to favour a "central source" Common Fund financed to a greater or lesser extent by market borrowing because of their belief that this would make fewer calls on their limited financial resources. Besides, they believe that the existence of such a Fund would make possible the creation of more ICOs over time. The industrial consuming countries, on the other hand, favour a "pooling" Common Fund financed by ICOs, to the extent that they are in favour of any kind of Common Fund, because they believe this would provide a greater discipline on the creation of viable ICOs only, fearing that a spawning of ICOs through a "central source" Fund might include some that are not viable in themselves. Hence a pooling form of Fund should not be at a disadvantage in relation to a central source Fund in respect of the raising of finance. Where a pooling form of finance scores, and scores strongly, over a principal source of finance is in its ability to respond to the special factors that arise within individual commodity agreements, since the ICOs enjoy considerable financial autonomy.

(d) A Clearing House

The clearing house structure of a Common Fund shares with a pool of finance its sensitivity to the circumstances affecting producers and consumers of particular commodities. But, of the other objectives that are met by a clearing house, there are none that are met better by a clearing house than a pool of finance fund.

While a clearing house and pool of finance ought to be similar in their ability to attract funds, a clearing house can spread risks and will pool liquid resources less efficiently than its rival, since such pooling and risk-spreading that does occur depends upon the Common Fund finding willing lenders and borrowers among ICOs. Similarly a clearing house has no advantages as a catalyst for the establishment of new buffer stock funds, nor as a means of financing non-buffer stock activities.

Conclusion:

The special advantage enjoyed by both the pooling and clearing house financial structures is the greater autonomy and hence sensitivity to the different conditions within each ICO compared with the two more centralised forms of Common Fund, the "central source" and the "pooling plus source" variants. The weakness of the "clearing house" Fund is its limited ability to spread risks and thus secure low interest loans. A feature of the "pooling" Common Fund is that it does not act as a catalyst in encouraging the creation of new ICOs, which is regarded as a weakness by LDCs who desire a Common Fund to encourage the creation of more ICOs, while being regarded as a virtue by many industrial countries who wish ICOs to be brought into being only where they are so organised and managed as to be sound in their own right. Moreover, a "pooling" Common Fund would have less scope for helping to finance "other purposes" than a "central source" or "pooling plus source" Fund, while a "clearing house" Common Fund would have no scope at all for financing "other purposes".

2. THE FINANCIAL STRUCTURE OF A COMMON FUND

In this chapter, we shall first discuss the division of the capital of the Common Fund between equity and loan sources of finance. In the latter part, we study the criteria that have been proposed as bases for equity contributions.

It is now widely accepted that a Common Fund for commodities will have to be more than a fund for financing buffer stocks. An element of aid disbursement related to non-buffer stock activities will be an essential part of Common Fund operations. Therefore, before one can proceed with a discussion of a Common Fund's financial structure, one has to resolve how it will incorporate non-buffer stock finance within its activities.

The two extreme positions that are tenable are, on the one hand, the approach of the World Bank, whose IDA soft loans affiliate has a totally separate financial structure from its parent, with the only direct financial link being the transfer of net income from the IBRD to the IDA. The IBRD has no liability whatever for possible debts of the IDA. At the other extreme are institutions such as the Asian Development Bank and the International Fund for Agricultural Development, a certain proportion of whose funds are available for lending on soft terms. While the World Bank's financial structure is unaffected by the IDA's activities, the ADB's and IFAD's structures will have to take account of their involvement in lending on soft terms.

The present paper will go further into the financing of non-buffer stock activities in chapter 6. In the meantime, we shall act as if the World Bank is the model for the financing of non-commercial lending.

(a) The Debt: Equity Ratio

With that qualification in mind, we can tackle the question of which debt: equity ratio will be the most appropriate for a Common Fund.* Most

* Where the Common Fund relies upon a pool of finance, the debt: equity ratio to which we shall refer is the ratio of the total debt to the total equity of all ICOs linked to the Common Fund.

of the comments that we shall make apply with equal force to a principal source of funds and a pooling version of the Common Fund, but there is good reason for supposing that a Common Fund relying upon the pooling of funds from affiliated ICAs will prove to have a lower debt: equity ratio. A Fund based upon a principal source of funds will have a broader spread of its risks than an individual buffer stock. Hence lenders will be more willing to provide loans for a principal source of funds version of the Common Fund. Since equity holders will always resent contributing more capital than they consider the minimum necessary, and since the equity holders from consumer nations, who are likely to contribute the bulk of the Fund's equity capital, favour the pooling approach, the attraction of a principal source of funds structure to prospective lenders will be translated into a higher debt: equity ratio than will occur with a pooling structure.

Whatever the financial model chosen by the Common Fund there will be a difference of opinion between LDCs and DCs over the desirable debt: equity ratio of the Fund. Assuming although this is by no means yet assured that the eventual financial structure of the Common Fund results in DCs providing the predominant share of the equity capital, and that the equity capital is considered to be available as if there were no opportunity cost (i.e. dividends are not expected to be paid on the equity capital), LDCs would press for a debt: equity ratio below that desired by the DCs. It is true that a lower debt: equity ratio requires a higher equity contribution from LDCs, but this ought to be more than counterbalanced by the lower interest rate on Common Fund lending to ICAs. Another important point needing to be stressed is a difference between LDCs, many of whom would wish called capital to be used towards Fund lending, and DCs whose view is that it should be used only as backing for Fund borrowing.

The DCs will obviously resist these pressures, since they would entail the provision of a substantial subsidy from the DCs to the Common Fund. However, they will be unwilling to see the Common Fund become too highly geared, for fear that it will cause financial guarantees from member governments of the Common Fund to be invoked.

If examples given in UNCTAD documents have any value as indicators of the way in which the consensus is emerging, the DCs appear to be near to achieving their objective of a relatively high debt: equity ratio. A figure of 2:1, with part of the debt obtained at concessional rates of interest, is being widely mentioned, and would be in line with the experience in similar international institutions, such as the IBRD.* It would also be in line with the financing of the International Tin Council buffer stock in 1975, after it had arranged borrowing from the Algemene Bank Nederland and Hambros Bank, on the security of its tin stock warrants.** But it is generally accepted that a ratio of 2:1 is getting near to the upper limit that lenders will tolerate. Indeed, a ratio of 2:1 for buffer stock financing is only likely to be accepted by lenders if they are assured that the Common Fund can call upon additional supplies of equity capital should it become necessary.

* The IBRD's ratio of borrowings to paid-up equity plus reserves is just over 2:1.

** The borrowing terms agreed by the ITC permitted the debt: equity ratio to rise to a maximum of 4:1. However, the maximum level recorded so far has been little more than 1:1, and we understand that neither borrower nor lender would have been happy to see the ratio rise above 2:1.

The device of issuing only a proportion of the authorised equity capital of an international institution is a familiar way of indicating the strength of the backing for equity capital. In the case of the IBRD, only one-tenth of the authorised capital has actually been issued and fully paid. The proportion of authorised capital issued is usually higher for regional development banks, but is rarely above one half.

Unfortunately, the existence of unissued but authorised equity capital is in itself no guarantee that the unissued capital can readily be issued and converted into cash. One way round this dilemma has been devised by the IBRD. The bank's credit rating soared when the US government agreed to make its quota of unissued but authorised capital available for backing loans regardless of the actions of other capital subscribers.

If governments are unwilling to follow the example set by the USA in the case of the IBRD, a proportion of capital in a Common Fund could be issued to member governments in return for non-negotiable, non-interest-bearing, demand obligations, to be available in the event of a sudden requirement for new capital. Indeed a certain proportion of the IBRD's capital has been issued in this manner.

Conclusion:

Since they are likely to have to bear the main burden of equity finance for a Common Fund, the DCs will favour a higher debt: equity ratio for the fund than the LDCs. An eventual ratio in the region of 2:1 appears both feasible and acceptable to most nations contributing to a Common Fund. But this ratio can only be sustained if lenders to the fund are convinced that further equity finance will be available to the fund should it become necessary.

The device of issuing only a fraction of the authorised equity capital, and of accepting subscriptions for a proportion of the issued capital in return for non-negotiable, non-interest-bearing demand obligations, may provide an assurance of equity backing in a form acceptable to prospective lenders, although that will also depend on the view lenders take of how callable such additional equity really would be.

(b) The basis for equity contributions to a Common Fund

Once agreement on the debt: equity ratio of the Common Fund has been reached, there still remains to be resolved the question of the best basis for determining equity contributions from member governments. Since the allocation of voting rights in the management of the Common Fund will almost certainly be partly dependent upon the distribution of ownership of the equity capital, there will be two strongly opposing pressures at work upon member governments. One strong force will be the desire for the LDCs to have as near as possible a controlling interest in the Fund. This is enshrined in the principle of equality in voting rights and equity contributions. However, prospective shareholders of the Common Fund recognise that the financial burden that the equality principle places upon smaller LDCs would be intolerable. Therefore, it has been argued that contributions to the Fund should be based upon the proportionality principle - namely that the contribution to the Fund's equity capital should be proportional to some measure of economic resources.

As always, the most likely outcome will be a compromise. The simplest compromise would be for all members to subscribe a small, but identical, amount of capital, regardless of their economic size, and for the remaining capital to be allocated on the proportionality principle. A more

sophisticated proposal, that reflects closely the political realities of the Integrated Programme for Commodities, is to divide Common Fund subscribers into blocs of similarly placed nations, for example, placing low income nations, eligible for IDA loans, in one bloc, medium income nations in another, and high income nations in yet another, and then to apply some kind of equality principle between the blocs and to use the proportionality principle to determine the contributions within each bloc.

One other difficulty to be resolved is the interpretation to be placed upon "the economic resources" of Common Fund contributors, if these are to act as the basis of the proportionality principle for subscriptions. The two main alternatives are the "benefit" and "capacity-to-pay" approaches, neither of which yield unambiguously clear-cut conclusions.

The benefit approach to the proportionality principle is usually understood to mean that contributions to the Common Fund should be closely related to a country's share in the value of the foreign trade in the commodities to be covered by the Fund. Yet this particular measure may be highly misleading as an indicator of the distribution of the benefits from stabilisation. Appendix 1 summarises the main costs and benefits of price stabilisation. The quantification of these is still highly questionable, but, if nothing else, the attempts that have been made so far show up the error of equating the benefits from the price stabilisation with the shares of world trade in commodities.

Another practical problem with using this particular "benefit" approach is that the amplitude and the length of product cycles vary between commodities. Hence the benefits from price stabilisation relative to the value of world trade may vary considerably from commodity to commodity. Accordingly, even if the share of world trade was an adequate indicator of the benefits from stabilisation, one would have to attach a set of weights to the volume of trade in different commodities so as to reflect the differences in their circumstances. A final point of some practical importance, mentioned in Appendix 2, and which has a bearing upon the benefit approach to buffer stock contributions is the question of whether total production or merely the internationally traded production of commodities is the appropriate indicator of a nation's benefits from a Common Fund.

In view of these objections to the application of the benefit approach to Common Fund contributions, it is easy to understand why capacity-to-pay appears more likely to be adopted as a basis for the implementation of the proportionality principle. This is true, even though the estimation of capacity-to-pay is fraught with almost as many problems as the benefit approach. GNP, GNP per capita and the level of international reserves all ought to be taken into account in deciding upon a nation's capacity-to-pay. And in the typical spirit of international compromise, one imagines that they will all appear in some measure in the eventual method of equity subscription.

Conclusion:

The basis upon which equity contributions will be assessed for the Common Fund is virtually certain to take account of both the equality and proportionality principles. If the element of proportionality is intended to reflect the benefits from price stabilisation, a simple formula for equity participation related to a nation's commodity production and consumption will prove hard to devise. Therefore, contributions based upon the proportionality principle are likely to have to be related instead to some measure of a nation's economic strength or the importance to it of foreign trade, similar, for example, to that used to calculate contributions

to the International Monetary Fund, though it is worth pointing out that, in the case of the IMF, quotas are ultimately decided also on some element of political negotiation.

(c) The relation of Common Fund contributions to the formation of ICOs

Even after agreement on the basis for equity contributions to the Common Fund has been reached, there may remain one further financial obstacle to the establishment of a Common Fund to be overcome. Unless all ICOs come into existence and link themselves to the Common Fund at one and the same time, a scheme for determining equity contributions to a Common Fund, and for allocating voting rights within it, will have to include procedures for phasing in national equity contributions to the Fund as ICOs affiliate themselves to it.

With both a principal source of finance and a pool of finance, national stakes in a Common Fund ought to be related directly, or indirectly (via ICO intermediaries), to the progress made in forming ICOs and associating them with the Common Fund. A method of taking care of this would be easy to devise were there no offsetting movements in commodity buffer stocks which would allow the Common Fund to benefit from pooling. In the absence of offsetting, it would be straightforward and acceptable to relate equity subscriptions to the Fund directly to member nations' interest in each new ICO.

However, the existence of benefits from offsetting implies that the addition of a new ICO, with all its attendant capital requirements, to the Common Fund requires a less than proportional addition to the Fund's capital stock. Since these economies from pooling constitute one of the greatest incentives for creating a Common Fund rather than a series of independent ICOs, they ought to be reflected in the determination of equity contributions to the Fund. The simplest technique for building into the mechanism for subscribing equity to the Fund some recognition of the gains obtainable through offsetting would be to have two forms of equity contributions. The first contribution, made when the Common Fund was established, could be a small, fixed proportion (possibly 10 to 20 per cent) of a nation's total estimated equity contribution once the complete Common Fund was in operation, with all its linked commodity buffer stocks functioning properly. The remainder of the equity subscription could then be related to each nation's stake in the individual buffer stocks, and would become due when the ICOs in question were formed.

The greater are the benefits from pooling, the higher ought the initial fixed equity contribution to be. For, with high initial contributions, the addition to the Fund's capital that will be needed to accommodate new ICOs within it will be relatively low. Furthermore, where the gains from pooling are large, one would like the incentives for Common Fund members to establish new ICOs to be strong. The natural way of doing this is to arrange that the extra equity contribution that will be required to set up new ICOs will be small compared with the buffer stock requirements and the gains from the stabilisation of the price of the commodity under consideration.

Conclusion:

The ideal way of linking national equity contributions to the formation of ICOs affiliated to the Common Fund would be to divide nations' equity shareholdings into two parts. The first would be a fixed proportion of the total estimated equity requirements of a complete Fund, and the second would be tied to the successful creation of ICOs. The greater are the benefits from offsetting movements in ICO buffer stocks, the larger should the first part be.

3. FINANCING THROUGH EQUITY, GUARANTEES, STOCK WARRANTS AND FUTURES CONTRACTS

Many of the issues relevant to the securing of adequate finance for a Common Fund have already been touched upon in the previous chapter. If the debt: equity ratio is effectively determined to be roughly 2:1 by the process of compromise between the interests of the producers and consumers, the most important single determinant of the potential size of the Common Fund will be the amount of equity capital that the Fund can attract.

(a) Equity Contributions to the Common Fund

The gains from stabilisation discussed in Appendix 1 should provide some incentive for nations to subscribe equity to a Common Fund, even though the costs of stockholding are likely to prove too high to enable the return on equity to be much more than nominal. Common Fund shareholders ought to be attracted by the bait that the Fund offers of automatic international economic stabilisation by means of counter-cyclical policy along Keynesian lines, as well as of a moderating influence upon international inflation. In addition, price stabilisation has a strong appeal to risk-averse producers and consumers, and holds out the prospect of more efficient production. But the major force persuading the industrialised nations to contribute to the financing of a Common Fund will undoubtedly be political. The DCs fear that economic instability in LDCs exacerbates political instability, and feel open to charges that they permit, and even encourage, uncontrolled commodity markets to operate against the interests of the producer nations. Furthermore, the DCs have to recognise that the Common Fund has been adopted by many LDCs as the symbol of the New International Economic Order.

Thus the DCs have many pressures upon them to agree to support the establishment of a Common Fund. Despite pronouncements to the contrary, there is good reason to believe that the DCs' resistance to providing equity capital for the Fund will be relatively weak. For, if the industrialised nations decide to treat their contributions to the Common Fund as part of their overall development aid programme, they may choose to finance part of their equity stake in the Fund out of reductions in their expenditures on other forms of development aid.

One effect of this particular means of financing the DCs' share in the Common Fund would be to cause a serious reconsideration of the opportunity cost of establishing the Fund, and throw into question the social rate of return to be expected from the Fund. This is a topic that we shall return to later in this paper.

LDCs have a greater political commitment than the DCs to the establishment of a Common Fund, but they may face one particular difficulty in making contributions to the Fund that will not trouble the developed nations. This is that some of their own currencies are non-convertible. The nature of a Common Fund suggests that this problem can partly be resolved; for it should be possible for an LDC's Common Fund contribution to be made partly in its own currency to finance local buffer stocks held on behalf of an ICO linked to the Common Fund, although some foreign currency might still be needed for whatever prorata contribution might be decided towards intervention in international markets.

It must be noted, however, that the acceptance of the use of non-convertible currencies as the form of LDC contributions towards the Common Fund does not meet the objective of stabilising economic activity within producer nations; nor, indeed, will the alternative of allowing LDCs to subscribe non-negotiable, non-interest-bearing deposits of convertible currency, if these are activated only when local buffer stocks in the producing area are being built up. For, in both of these cases, to the extent that local buffer stocks are financed out of local contributions to the Common Fund, the economy of the producer nation does not enjoy any injection of demand when such stocks are accumulated. It is only inasmuch as local

buffer stocks are financed by payments of convertible foreign exchange from the Common Fund that the accumulation of these stocks lead to an injection of demand equivalent to the value of export of the stockpile commodities.

Another problem for Common Fund financing concerns access to the IMF and World Bank, which at present have authority to lend only to member governments or, in the case of the IBRD, to international bodies consisting of, and guaranteed by member governments. In the case of the IMF, this applies not only to access to drawings under general quotas but also to access to drawings on the oil facilities, to the compensatory drawing facilities and also to the little used buffer stock facility. In the case of the World Bank, members of the International Tin Agreement experienced difficulty in securing buffer stock financing in 1975 because those who were in receipt of IDA loans were not acceptable for IBRD help towards tin buffer financing. Furthermore, the restrictions upon IBRD lending effectively prevent it from granting loans to ICOs whose membership includes countries that are not members of the IBRD (for instance China, and all Eastern European countries other than Romania), or to ICOs whose membership includes non-governmental organisations. While some of the participants in the present Common Fund negotiations believe that IMF and IBRD rules could readily be changed to facilitate Common Fund borrowing from these two organisations, this cannot be relied upon.

Conclusion :

Despite the various economic benefits from commodity price stabilisation that have been identified, the main pressures upon industrialised nations to contribute to the Common Fund will be political. However, these pressures should be sufficient to ensure adequate equity contributions from the DCs, although there is a danger that Common Fund subscriptions may be financed out of reductions in the same nations' development aid budgets. Other difficulties that might arise in obtaining sufficient equity capital may be reduced if LDCs are allowed to subscribe in non-convertible currencies, and ICOs are made eligible for borrowing from other international financial institutions.

(b) Stock Warrants as Security

Of the various suggestions made in the course of the UNCTAD discussions on the establishment of a Common Fund, the proposal that stock warrants representing commodities held in buffer stock warehouses should be the main form of security offered for loans appears to be the most acceptable.

There is already some useful practical experience of this method of securing buffer stock finance. The International Tin Council was able to negotiate stand-by credit facilities for its buffer stock in 1975 of £13 million from Algemene Bank Nederland and £3 million from Hambros Bank on the strength of the security of metal warrants with a market value of 125 per cent of the value of the loan. As the metal price varied, so the amount of metal pledged as security had to move correspondingly.

Theoretically, the terms of the ITC's financing of its buffer stocks would have allowed it to operate with a maximum possible debt: equity ratio of 4:1. But if the actual debt: equity ratio had been allowed to rise anywhere near to that value, and further equity capital was not readily available, the ITC would have been extremely vulnerable to "bear" speculation against its lower buffer price support level. For example, if the actual debt: equity ratio was 3.5:1, speculators would only have had to push prices less than 3 per cent below the lower buffer to have forced the ITC to sell some of its buffer stock to reduce its borrowing and maintain the 125 per cent security for its loan. If the actual debt: equity ratio of ITC was 3:1, it would still have required only a 6.25 per cent speculator-induced drop in prices below the lower buffer to trigger off destabilising selling by the buffer stock.

In practice, if the buffer stock can demonstrate that its lower support price is viable in the medium term, it should be able to secure additional finance to enter the market and outmanoeuvre the bears, particularly since lenders would not wish to jeopardise the value of the warrants that they hold as collateral for their loans. But no lender or equity shareholder would welcome being obliged to extend their financial support in this way. Therefore, one anticipates that ICOs and the Common Fund will be careful not to become too highly geared, and that consequently they will restrict the amount of borrowing that they undertake against the security of stock warrants.

There is, however, an important practical difficulty about the use of warrants that needs to be faced. Unless buffer stocks are owned by a Common Fund, banks and other lenders might prove reluctant to lend to a Common Fund against warrants for stock owned by another party, that is, an individual buffer. For, where ICOs draw on a Common Fund against the security of stock warrants, the Common Fund may not be able to use such warrants as collateral for market borrowing of its own, since such warrants would not be considered as the Common Fund's property to be pledged. The other side of this practical problem is that if a way is found by which banks and other lenders are willing to advance funds directly to a Common Fund, mechanics would need to be designed to give buffer managers rapid and uncomplicated access to their financial entitlements from a Common Fund at times of heavy market intervention.

Conclusion:

Stock warrants represent widely acceptable, well tried forms of security for loans to the Common Fund. Some problems that may arise are the result of an excessive reliance upon this form of borrowing, which leaves the fund vulnerable to bear speculation. With moderation in warrant-backed borrowing, and a refusal to countenance high debt: equity ratios, the difficulties caused by high gearing should not trouble the fund unduly. A solution may be less readily found for the difficult problem of persuading lenders to accept ICO warrants as security for Common Fund borrowing.

(c) Intervention in Futures Markets

A third way of easing the burden of raising finance for commodity buffer stocks is familiar to dealers in world commodity markets, but has been little mentioned in the discussion of buffer stock finance. This is the strategy of taking advantage of the credit available in commodity markets and concentrating buffer stocks' intervention in the area of futures contracts.

Terminal commodity markets, like the London Metal Exchange, the Chicago Board of Trade or the Sydney Futures Exchange, deal in futures contracts, representing commitments to deliver commodities at specified dates in the future. When the spot prices for immediate delivery of a commodity are generally considered to be high, as is the case in the coffee and cocoa markets present, the price of a futures contract will be below that of a contract for immediate delivery. This state of affairs is known as a "backwardation". The reverse situation, where spot prices are considered to be low, is typified by the copper market today. In this situation, the price of the futures contract stands above that of a contract for immediate delivery. This is known as a "contango" in the terminal market.

Over the past year, stocks of copper amounting to 600,000 tons and worth up to £550 million during that period have been financed on the London Metal Exchange by means of the contango. It has been estimated that as much as 90 per cent of the LME copper stocks are owned by financial institutions,

which match every purchase of physical metal with a sale of a three month forward contract for the same metal. After due allowance for warehousing costs, the contango on copper offers these institutions a return slightly above that available on three month interbank lending.

At the bottom of the commodity price cycle, the contango will never rise much above the appropriate short term interest charge plus warehousing costs, because financial institutions will find it attractive to buy physical commodities and earn a return by selling them forward. Hence, a buffer stock agency seeking to support a commodity price may choose to do so somewhat indirectly by buying heavily in the terminal market. This forces up the price of futures contracts, and the spot price for physical delivery will inevitably follow its lead, linked as it is to the forward price by means of the contango.

The appropriate strategy at the top of the market is the exact opposite. The buffer stock should sell futures contracts heavily, which will cause a backwardation to appear. Anyone holding surplus stocks of material that they do not require immediately will find it profitable to sell these surplus stocks and buy a corresponding amount of material at the lower forward price for delivery in the future.

The attraction for a buffer stock in this course of action lies in the fact that the purchase or sale of futures contracts takes place in terminal markets where only a fraction of the total money value of the contracts is actually required to be paid before the contract falls due. To deal on a futures market, one need only deposit with one's broker or a market clearing house a "margin" of a certain proportion of the value of a contract, and subsequently "margin the contract up or down" in line with movements in the underlying value of the commodities covered by the contract.

The final payment or receipt of outstanding amounts is left until the date the contract falls due.

Provided the buffer stock always sells or buys back its futures contracts before it is due to take or make delivery of the material specified in them, it can influence commodity prices without having to find finance for more than a certain proportion of the value of the commodities that it is dealing in. Relative to the reduced capital requirements of the Common Fund, the running costs of buffer stock operations, such as interest payments and warehousing charges, which are embodied in the contango at the lower buffer stock support price, may look high. But they are much the same* as would have had to have been incurred if buffer stock intervention had been restricted to physical markets. Thus the buffer stock obtains the benefits of a lower capital requirement without having to pay additional running costs on its operations.

* In reality, one anticipates that the interest rate embodied in the contango will be very slightly higher than that paid by a buffer stock on its own borrowings on account of the buffer stock's high credit rating. See also the criticisms in the section that follows.

Conclusion:

Buffer stock intervention in futures rather than physical contracts should enable the Common Fund to reduce its requirement for financial backing without any corresponding increase in current costs. Transactions in terminal markets can be completed upon the payment of only a certain proportion of the value of contracts. Yet, through the contango at the bottom of the market and backwardation at the top, buffer stocks retain their control over spot prices.

(d) The Security of Forward Sales

One of the advantages of futures markets is seen to be the manner in which security in the form of the commodity warrants being dealt in, is used to advantage by both buyers and sellers. For it enables both sides of the market to operate with only margin deposits. Unfortunately, this strategy is not entirely without its possible shortfalls. One such problem is that margin requirements are not fixed, but are usually determined in such a way that they move up and down in line with the value of the material specified in the futures contract. Therefore, the financial requirements of a buffer stock may fluctuate considerably. Another problem is that borrowing funds indirectly through the contango will probably be slightly more expensive than doing so directly through financial institutions. The most serious problem, however, is likely to be the difficulty inherent in attempting to stabilise prices via the backwardation at the top of the market. Unless a buffer stock has managed to arrange at a period of high prices to be "long" in futures contracts (i.e. a net buyer for forward delivery), a strategy of creating a backwardation by selling contracts for future delivery may leave the buffer stock exposed to substantial losses. The buffer stock may find itself committed to delivering stock warrants on a date when the spot price is very high, and when the buffer stock can only acquire the warrants that it needs by bidding the price even higher still.

At the bottom of the market, the likelihood of large losses on futures contracts is very much less than when prices are high. Yet one must not forget that the very factor that makes it easy for the buffer stock to be a "bull" in the futures market - namely the possibility of dealing with only margin deposits in the way of financial stakes - also makes it easy for "bears" to sell forward on a large scale.

The difficulties associated with price stabilisation and buffer stock intervention through terminal markets strengthen the arguments for a reliance upon buffer stock dealing upon physical markets. However, this does not mean that buffer stock activities should ignore futures markets. Instead, one could argue that a mixture of physical and forward trading may provide the most favourable method both of stabilising prices and of securing adequate finance for buffer stockpiling.

To understand this argument fully, one must first appreciate why it is that financial institutions are able to earn the contango from their current activities in the copper market. They can do so because risk-averse copper consumers and speculators find it attractive to buy forward and ensure delivery of the metal at the price quoted in the terminal market.

The creation of the Common Fund will add to the copper market an international buffer stock, aiming to stabilise the copper price and earn a target rate of return from doing so. The buffer stock fund will make price forecasts, and calculate a plan of intervention in the market which will enable it to attain its objectives. When the market learns of these plans,

it must evaluate them and incorporate them into its own price forecasts. If the buffer stock's forecasts are convincing and appear to take full account of the information available, the market's forward prices will be very close to those predicted by the buffer stock, with risk-averse consumers and speculators prepared to buy forward at these prices.

The relevance for the present discussion lies in the fact that the successful implementation of this policy would imply that the buffer stock, having made its desired purchases or sales in the physical market, could sell its metal stocks forward in the terminal market, thereby guaranteeing the rate of return of the buffer stock fund during the period of the forward contract. Accordingly, there should be little difficulty in demonstrating the existence of adequate security for loans to the buffer stock.

The argument for reliance upon forward sales in this form is largely one about assuring finance for buffer stock operations. But there are other reasons for favouring this framework. Not least among these is the strong incentive that it gives for improving and refining price forecasts, so that the buffer stock can improve its role as stabiliser.

Conclusion:

If the Common Fund chooses to rely upon intervention in the physical commodity market, rather than adopt the proposal made in section (c) that terminal markets be used instead, there still remains a role for terminal markets to play, determining forward prices that will make the raising of debt finance easier. The key ingredient in the success of this strategy is a wide acceptance of the reliability of the buffer stock organisation's price forecasts. To the extent that accurate price forecasts are an essential feature of price stabilisation programmes, the special test to which the forecasts will be put by the futures markets will make the incentive for good forecasting correspondingly sharper.

4. TERMS AND CONDITIONS FOR LENDING TO ICOs

A major difference that has already been noted between the principal source of funds and pooling form of a Common Fund is whether or not uniform lending rules and target rates of return should apply to all commodity buffer stocks affiliated to the Common Fund. Since the social and distributional implications of buffer stock policy may be expected to vary from commodity to commodity, there is very good reason to suppose that the best compromise strategy for a Common Fund would involve the acceptance of differing target rates of return among different buffer stocks. However, a centralised fund lending to individual ICOs will find it extremely difficult to discriminate between ICOs in the conditions it attaches to loans for buffer stockpiling. Hence, differences in the objectives of commodity agreements will have to be accommodated within the framework of a Common Fund by means of an autonomous component in the financing of each ICO. It will be this autonomous component that will have to bear the burden of the element of subsidy in a commodity agreement.

Direct lending by the Common Fund to ICOs will probably be based upon the example of the IBRD, with a uniform interest rate charged on borrowing, and fixed high enough to cover the average cost of capital to the Fund, which also leaves a margin which could be transferred to help to finance non-buffer stock activities. However, there are two aspects of lending by the Common Fund that remains to be settled. The first is whether a commitment charge should be levied on uncommitted amounts of loans

pledged to ICOs by the Common Fund. The second is the question of whether the Common Fund should impose a limit on its lending to any ICO.

(a) Commitment Charges

Commitment charges are customarily imposed to recompense a lender for having to retain some of his funds in a semi-liquid form, earning relatively low interest rates on the short-term money market, against the possibility that a borrower will take up an increased share of his borrowing limit. For the Common Fund, making low interest rate loans to ICOs, this particular argument has a negligible power since the interest rates received on the short-term money market will be little different from those charged to ICO borrowers.

A more convincing reason for having a commitment charge is that there are fixed costs associated with negotiating borrowing powers for ICOs. But any means of allocating them to particular agreements and of recovering them through a fixed commitment charge is likely to appear discriminatory. The addition of a uniform supplement to the interest rate charges to the ICOs is currently considered to be the most widely acceptable way of covering such fixed costs and of avoiding the problem of apparent discrimination.

Conclusion:

While some commitment charge is justified, any method of identifying such charges with particular ICOs reeks of discrimination. Therefore, a uniform supplement on the interest rate charged on loans from the Common Fund is likely to have to be introduced instead.

(b) Limits on lending to ICOs

The matter of limits on the amount of loan finance that will be allowed to be made to an ICO by the central Common Fund is more contentious. While it is acknowledged by everyone concerned that the determination beforehand of rigid upper limits on the level of borrowing permitted by an ICO might leave that buffer stock vulnerable to a concerted attack by bear speculators, there is also a widespread recognition of the fact that it is unrealistic to give an unrestricted open pledge to provide financial backing for every ICO.

The scale of the financial support required to sustain even a "viable" buffer stock* will almost certainly be much greater than the \$6,000 million that has been suggested by UNCTAD. Work by the Commodities Research Unit for the US State Department on copper buffer stocks** suggests that the UNCTAD estimates may understate the true level of financial backing required for a successful Common Fund by as much as a factor of 3. Indeed the eventual financial requirements may be higher than this, if, in times of economic recession, commodity producers, merchants and end-users effectively shift their own commodity stocks to an ICO buffer stock.

* Where, by "viable" we understand a buffer stock that should achieve its target rate of return in the long-run.

** Co-ordinated National Stockpiles as a Market Stabilizing Mechanism - Copper CRU, February 1977. See also OECD, Buffer Stock Size and Compensation under a Common Fund, 1976, and J.R. Behrman, International Commodity Agreements, Overseas Development Council Washington D.C., 1977.

Consequently, it is likely to prove extremely difficult to secure agreement on a liberal availability of funds to ICOs. The setting of ceilings on the level of lending possible to a group of ICOs taken together has been proposed as a compromise method of preventing the Common Fund from assuming an open commitment to defend untenable prices, while allowing some freedom of manoeuvre in its lending. However, this proposal shares the failing of other schemes in that it still establishes, albeit indirectly, a clear limit to the level of support available to support a buffer stock against a "bear raid".

A point of great importance in the current negotiations is whether the role of a Common Fund should be confined to that of a bank or whether it should be drawn into decisions about appropriate ICA intervention points. At present, the weight of proposals is that a Common Fund should not be drawn into the latter role. But, some academicians and negotiating parties favour a system under which ICOs would have virtually automatic access to given Common Fund quotas, with borrowings from the Common Fund beyond those quotas subject to Common Fund conditions about borrowings by any ICO above its "quota". Whatever merits such a modelling on IMF procedures may have, its involvement of a Common Fund in buffer policy making distinct from a more narrowly banking role is not a concept which presently appears to have any weighty support in the UNCTAD debate.

Another important point to which it is impossible at this stage to do more than draw attention concerns the actual rates of interest which a Common Fund might need to charge the ICOs. Any discussion of this needs to start from the premise that, while a well-managed buffer can be expected to earn some return, it can rarely be expected to earn a return as high as that from most alternative commercial investment. A concessionary element would therefore have to be injected either into borrowing by a Common Fund or lending by a Common Fund or both, even leaving aside the frankly concessionary terms which would have to be attached to Fund financing of "other purposes" than commodity stabilisation. It is worth pointing out here that the hopeful comparison so often drawn with the World Bank may not be very useful, given that institution's long and extremely well-managed evolution. In the World Bank's latest financial year, for which data is presently available, namely to June 30th 1976, the World Bank's borrowing costs averaged 8.48 per cent. However, the average cost of all funds to the Bank, including paid-in capital and accumulated earnings, which are cost-free, was only 5.6 per cent. And it was this which enabled the Bank to keep its average lending rate at 7.1 per cent during 1975/76. But a newly established Common Fund could obviously not count on such advantages and even an average lending rate of around 7 per cent might not be feasible for ICOs.

Conclusion:

Any attempt to fix an upper limit to the amount of lending that is permitted to an ICO leaves the ICO exposed to bear speculation. Yet, it is equally unreasonable for the Common Fund to be obliged to support an excessively high buffer stock support price. An intermediate position, under which an ICO may negotiate for additional borrowing from the Fund, but must accept a greater degree of control over its buffer stock policy in return for extra finance, may be the most acceptable way of avoiding the problems associated with the two extremes.

5. THE ESTABLISHMENT OF FINANCIALLY VIABLE OPERATIONS

Whether or not the operations of a Common Fund are considered to be viable depends to some extent upon the attitude adopted towards the dividend to be paid on the equity capital invested in the Fund. If the equity capital is treated as having little or no expectation of dividend payments, the rate of return required from Common Fund operations to ensure financial viability will be low. The target rate of return will be merely a weighted sum of the interest rate costs of equity and debt capital, where the weights are the proportions of the total capital stock accounted for by each class of capital.

As long as the amplitude and length of commodity cycles are appropriate (i. e. large and short respectively) and the storage costs are low enough, it ought to be possible to earn the target rate of return from buffer stocking activities. It is worth noting that the recent history of commodity price volatility suggests that the ten "core" commodities considered for inclusion in the Common Fund satisfy these conditions for financially viable buffer stock policy. Unfortunately, financial viability is by itself of only limited value as an indicator of the broad social desirability of Common Fund behaviour.

Some of the social benefits not captured in measures of financial profitability are essentially intangible in nature, such as the political returns. However, there are other benefits to which it should be possible to attach quantifiable values. These are discussed in Appendix 1.

Although the Appendix produces an impressive list of the advantages of buffer stock intervention and price stabilisation, against these must be set the possible disadvantages. The major one is that there may be a high opportunity cost associated with the contributions of equity and debt capital required for the Common Fund. As far as industrialised nations are concerned, their contributions to the Common Fund might be made at the expense of other expenditures intended for the benefit of LDCs.* And in the case of primary producers, the contributions to the Common Fund may force them to reduce the scale of their development programmes, and, in as much as equity investment in the Common Fund is unremunerative, may even reduce their overall credit rating for foreign borrowing.

The former is potentially the more serious, but to the extent that a cutback in development expenditure occurs, the return from a Common Fund should be compared not with the average rate of interest charged on Common Fund borrowing, but with the alternative rate of return available from those development projects indirectly displaced by the Fund's creation.

* As a tactical point in favour of the pooling approach, it is valuable to note that in the UK direct financial contributions to ICO buffer stocks are likely to continue to come out of the Budget vote of the Department of Trade and Industry, while contributions to a principal source of finance Common Fund would almost certainly be the responsibility of the Ministry of Overseas Development.

Another possible disadvantage is that the distribution of the benefits and costs of price stabilisation may be such as to make the overall impact upon social welfare an undesirable one. Ideally, one would weight the gains and losses from stabilisation by the marginal utility of income of the beneficiaries and losers. Thus, if the poor tend to suffer from price stabilisation while the rich gain, the net impact upon social welfare could be held to be unfavourable.

These disadvantages deriving from the establishment of a Common Fund are not always sufficiently appreciated, and may be of considerable importance. Since many of the benefits and costs of stabilisation, such as the distributional implications, are more readily discernible at the level of individual commodity agreements than in a wider forum, they are best accommodated within the framework of the Common Fund by means of leaving action upon them to the ICAs, which is indeed the present majority view.

Other social considerations raised by the existence of a Common Fund, such as the degree to which it diverts funds from development aid and its impact upon macro-economic stabilisation and the rate of inflation, are not related specifically to individual commodities. Hence, they should be incorporated within Common Fund financing and lending policy in the context of its principal source of funds role.

Conclusion:

While a degree of financial viability may be attainable in many ICO buffer stocks linked to the Common Fund, it is highly questionable whether viability can be the main criterion for evaluating the success of the Common Fund. Many of the indirect effects of price stabilisation are valued highly, and, therefore, tend to imply that even money-losing ICOs should be allowed to operate. However, there are other repercussions, such as the diversion of development aid from other projects to finance Common Fund contributions, or income distributional consequences, that may work in the opposite direction.

Some of these advantages and disadvantages are readily identified at the level of the individual commodity organisations; others apply to the entire Common Fund programme. The former are best accommodated within the autonomous financial component of the ICOs; while the latter must be taken into account in the financial structure of the centralised principal source of finance element of the Common Fund.

6. NON-BUFFER STOCKING ACTIVITIES

Several of the issues that might be supposed to come within the scope of this chapter have already been discussed in earlier sections of this paper. Thus, the treatment of the income distributional repercussions of buffer stock policy has already been touched upon. In general, it was felt that, where these effects could readily be attributed to one specific commodity agreement, the relevant ICO provided the best framework within which to take account of such factors.

This particular approach still leaves unresolved the matter of the precise mechanism to be used to channel funds to ICOs to enable them to meet distributional objectives. Therefore, the final chapter of the paper will be largely concerned with examining the implications for the financing of a Common Fund of including under the Fund's aegis the promotion of a wide variety of non-buffer stock activities.

The non-buffer stock activities that are most likely to be linked to a Common Fund include those relating to schemes for the diversification of production by primary producers, where the interests of more than one group of producers (those away from whose commodity a nation is diversifying, as well as those towards whose commodities it is turning) have to be reconciled. The downstream processing of primary products, research into new uses for commodities, and the development of new techniques for producing commodities at lower costs are other non-buffer stock activities that are commonly associated with the Common Fund.

A less frequently mentioned non-buffer stock activity with which a Common Fund might usefully concern itself is the establishment and/or improvement of international terminal markets. The present paper has already referred to the possible value of a terminal market on which futures contracts can be traded. Not only does such a market improve the overall efficiency of the pricing mechanism, but it also offers ICOs the facility to secure finance for stockpiles, in the manner discussed in chapter 3. However, several of the commodities considered suitable for inclusion in a Common Fund, including tea, rice, sisal and bananas, lack any international terminal market; and in the case of bananas and rice there is not even a major formal international spot market on which ICOs can transact their price stabilising purchases and sales of buffer stocks.

Yet another socially desirable non-buffer stock activity is suggested by the experience in buffer stock management that the Common Fund will gain from its active involvement in buffer stockpiling. As a valuable by-product of its main role, the Common Fund will inevitably develop an expertise in the physical and financial problems of managing stockpiles, which it could usefully make available to nations and organisations dealing in commodities not directly related to the Common Fund. For example, the Fund would be well placed to advise nations with poor transport communications on their best strategies in the stockpiling of staple foodstuffs.

It is a relatively small step from suggesting that a Common Fund takes advantage of its expertise in stockpiling in this manner to proposing, as has been done, that the Common Fund should be prepared in exceptional circumstances to intervene and assist in initiating buffer stocking in commodities that are not covered by the Common Fund.

In some, if not all of the activities just mentioned, the Common Fund would be required to combine a financing role with a measure of aid disbursement. This immediately poses the question whether the non-buffer stock activities ought to be treated separately in the financial structure of a central Common Fund from the financing of its main function as a buffer financing bank. The lending for non-buffer stock activities will almost certainly be made at non-uniform interest rates, varying according to the element of aid in each loan. Also, it will tend to consist of much longer term loans than those associated with buffer stocking.

The special characteristics of non-buffer stock lending are sufficiently distinctive, and such lending is sufficiently unpredictable in its timing to suggest that the example of the Asian Development Bank in setting aside a certain proportion of its funds for soft loans will not be particularly helpful to a Common Fund. The structure of the IBRD, whose IDA affiliate operates and is financed separately from its parent; or the proposal that a Common Fund have a "second window", to receive grants and soft loans from aid donors, with occasional supplementary finance in the form of transfers of income from the Common Fund's main operations, both have more to offer the Common Fund.

One specific problem to be faced is that the long-term nature of non-buffer stock loans means that the non-buffer stock financing body will have a continual need to replenish its reserves, unlike the central fund. In addition, the lack of uniformity in the terms on which loans are made, the difficulty in finding adequate collateral for non-buffer stock loans, and the diversity of activities for which non-buffer stock lending may be requested, all point to the necessity of handling loans for these activities very differently from the more usual lending for buffer stockpiling.

The discussion in this chapter suggests that the case for a separate financial structure for non-buffer stock activities is well-nigh incontrovertible, but the precise structural form that it should take does not seem to be able to be determined beforehand with an equal degree of certainty. One presumes that the finance will virtually entirely be provided in the form of soft loans or outright grants, but beyond that the only rule that one can safely assert that the Common Fund should follow in this area is one of considerable flexibility.

Conclusion

Non-buffer stock activities are unusual both in their low rate of return and long-term lending requirements. In addition, some of them affect more than one ICO directly. In view of this, a separate financial structure, distinct from that used for lending for buffer stock finance, is called for. This need not necessarily be as distinct as the IDA is from the IBRD, but a "second window" is the minimum requirement.

The rate of interest to be charged on non-buffer stock lending will undoubtedly have to vary from project to project; but it would be of administrative assistance, if nothing else, if the degree of non-uniformity in interest rates could perhaps be covered by means of contributions from outside aid agencies.

APPENDIX 1

THE COSTS AND BENEFITS OF PRICE STABILISATION

In this Appendix, we shall describe five of the most commonly mentioned costs and benefits of price stabilisation. The headings under which we shall consider these effects are:-

- (i) The Waugh-Massell-Oi theory of the benefits of offsetting random price fluctuations;
- (ii) The moderation of the rate of inflation;
- (iii) The stabilisation of macro-economic activity;
- (iv) The gains as a result of risk-aversion; and
- (v) Greater efficiency of production.

(i) The Waugh-Massell-Oi Theory of the Benefits of Price Stabilisation

This particular theory seeks to identify the beneficiaries from price stabilisation, distinguishing, where possible, between cases in which price volatility is caused mainly by random fluctuations in demand, and those in which fluctuations in supply are the cause.* Although the theory has been refined considerably of late, only one result can be considered to apply in virtually all circumstances. This is that, provided the consumers' surplus adequately measures the gains to consumers, and one ignores the costs of storage, the sum of the producers' and consumers' gains from price stabilisation will be positive. The problem is that one side of the market often loses as a consequence of price stabilisation.**

The Waugh-Oi-Massell framework assumes that supply and demand curves are linear and that error terms are additive and stochastic. On these assumptions, producers can be shown to benefit from price stabilisation if the origin of the price fluctuations is variations in supply. Consumers, however, lose from price stabilisation in these circumstances. Where demand fluctuations cause the price to vary, it is the consumers who benefit from the stabilisation of prices and the producers who suffer.

* An excellent review of the literature on this theory is given in S.J. Turnovsky, The Distribution of Welfare Gains from Price Stabilisation: A Survey of Some Theoretical Issues, Airlie, Virginia, March 1977.

** See the table at the end of this section for an attempt by McNicol to quantify the distribution of gains and losses under certain simplifying assumptions.

With non-linear supply and demand curves, and multiplicative error terms, it is harder to determine the distribution of the benefits from stabilisation. But, if linearity plus additive errors proves to be a good approximation to reality, producers will expect to gain most from price stabilisation in the case of agricultural products,* in which supply variations are the rule; while consumers will have more to gain from price stabilisation where it applies to metals, whose price fluctuations originate mainly on the demand side.

Estimates by McNicol of the gains and losses that the Waugh-Oi-Massell theory identifies as flowing from stabilisation are described in the following table.

* This may explain some of the enthusiasm of farm lobbies in the EEC and other rich areas for buffer stocks.

TABLE 1
EXPECTED ANNUAL GAINS FROM PRICE STABILISATION
($\$$ million)

Beneficiaries	Supply varies*			Demand varies*			Both vary*		
	producers	consumers	total	producers	consumers	total	producers	consumers	total
Crops									
Cocoa	21.4	-7.0	14.5	-7.5	21.9	14.5	14.0	14.9	28.9
Coffee	28.5	-8.9	19.7	-10.8	30.6	19.7	17.7	21.7	39.4
Tea	8.2	-2.1	6.1	-4.0	10.1	6.1	4.1	8.0	12.2
Wool	153.0	-50.3	102.7	-52.4	155.1	102.7	100.6	104.8	205.4
Cotton	25.8	-5.6	20.3	-14.7	34.9	20.3	11.2	29.4	40.5
Wheat	105.1	-18.9	86.2	-67.2	153.4	86.2	37.9	134.5	172.3
Rice	324.2	-50.8	263.4	-202.7	466.1	263.4	121.6	405.3	526.9
Sugar	226.0	-67.0	159.0	-92.1	251.1	159.0	133.9	184.2	318.1
Bananas	1.8	-0.5	1.3	-0.7	2.0	1.3	1.1	1.4	2.5
Jute	1.6	-0.6	1.0	-0.4	1.4	1.0	1.2	0.7	2.0
Sisal	2.2	-0.9	1.3	-0.4	1.8	1.3	1.8	0.9	2.7
Beef	0.8	-0.3	0.5	-0.2	0.7	0.5	0.5	0.4	1.0
Rubber	15.2	-6.4	8.8	-2.4	11.2	8.8	12.8	4.8	17.6
Copper	114.0	-31.9	82.1	-50.2	132.3	82.1	63.9	100.4	164.2
Tin	27.3	-8.4	18.9	-10.5	29.4	18.9	16.8	21.0	37.8
Iron	57.7	-16.5	41.2	-24.7	65.9	41.2	33.0	49.5	82.4
Bauxite	15.8	-1.3	14.5	-13.2	27.7	14.5	2.6	26.3	29.0

* These are calculated assuming that supply or demand are at least 10 per cent above their base values for one-third of the time, and at least 10 per cent below the base value one-third of the time. Supply and demand are assumed to be linear functions of price, and prices are assumed to be stabilised so as to lie within a 10 per cent price range either side of the long run trend price. Storage costs are ignored.

Source: D.L. McNicol, Commodity Agreements and the New International Economic Order, California Institute of Technology, Social Science Working Paper No. 144, November 1976.

(ii) The Moderation of the Rate of Inflation

Monetarists would deny that a reduction in the degree of volatility of commodity prices could, by itself, affect the rate of inflation in the long-term. If the average level of prices is unaltered by stabilisation measures, and only their dispersion is affected, monetarists would attach no special value to the impact of a Common Fund upon inflation.

Some Keynesian believers in the importance of cost-push factors in the inflationary process would disagree with the monetarist view. They contend that cost-push pressures upon prices, transmitted via wages in particular, respond to temporarily high commodity prices through a ratchet effect. Once a sharp rise in commodity prices has been reflected in demands for higher wages, it may prove extremely difficult to force down the rate of wage inflation after commodity prices have stopped rising.

If a belief in the existence of such a ratchet is combined with a belief in the existence of a long-run Phillips curve trade-off between the rate of inflation and the level of unemployment, price stabilisation will possess a considerable value to the extent that it moderates the rate of inflation. Under these circumstances, a reduction in the rate of commodity price rises in a boom will lessen the pressure of cost-push inflation in the long run. Hence, at a given rate of inflation, an economy will be able to operate at a higher level of capacity utilisation than would have been possible without the stabilisation of prices.

Adopting this approach, Behrman* has calculated that the imposition of a stabilisation price band 15 per cent either side of the long term trend price would reduce the rate of inflation in the USA by 0.2 to 0.4 per cent annually. This translates into a potential reduction of between 0.03 per cent and 0.3 per cent in US unemployment that could be made without exacerbating the inflationary pressures in the economy, the figure varying according to which estimate of the US Phillips curve one accepts. Okun's "law" implies that this percentage should be multiplied by 3 to get an impression of the rise in real GNP permitted by the increased employment.

Even if one accepts only the most conservative of these estimates, namely a 0.1 per cent gain in real GNP of the USA as a consequence of price stabilisation, this would still be worth an annual \$15,000 million in 1975 US prices. On its own, this would be sufficient to cover any losses associated with a Common Fund.

(iii) The Stabilisation of Macro-Economic Activity

The successful operation of a Common Fund will tend to inject demand into the world economic system at times of economic depression, by buying commodities at prices higher than they would have been otherwise. When the world economy is tending to become overheated, the Fund's operations will siphon off demand as the Fund becomes highly liquid and sells its stockpiles.

* J.R. Behrman, in pp. 65-66 of International Commodity Agreements, Overseas Development Council, Washington D.C., 1977

The existence of fluctuations in economic activity during the course of trade cycles forces economies to operate on average with a margin of underused capacity, which is brought into production only during booms. Therefore, success in attempts to establish a Common Fund will lessen the volatility of economic activity, and permit economies to function with a smaller average margin of spare capacity.

The exact value of these benefits from stabilisation depends upon the precise form of financial structure employed by the Common Fund, but there is good reason to believe that they may be quite substantial.

(iv) The Gains as a Result of Risk-Aversion

Most governments and economic institutions are risk-averse. In other words, they always prefer a situation with limited fluctuations around a given mean to one in which volatility is greater. The explanation for this is not hard to find: uncertainty is unpleasant; but, more important in practice is the difficulty of making plans where revenues and expenditures unable to be predicted except with very large margins of error.

LDCs, whose economies are open and dominated by their foreign trade sectors, are particularly troubled by the problems of unpredictable movements in their key economic indicators, for they possess very few instruments with which to oppose externally induced blows to their economies. Consequently, any measures that reduce the degree of uncertainty in their activities will be of great value to them.

As with the gains from macro-economic stabilisation, the quantification of the benefits that stabilisation provides to risk-averse producers and consumers may prove difficult, but to judge from the strength of the LDC pressure for the establishment of a Common Fund, they are likely to be sizeable.

(v) Greater Efficiency of Production

Finally, one should mention the advantages that price stabilisation yields in the form of greater production efficiency.

Commodities differ from one to another in the gestation period that is required to translate production plans into reality. Where the gestation period is long, producers are obliged to take a long term view of the underlying trend in output prices; but where gestation periods are fairly short, producers may allow themselves to be influenced strongly by the behaviour of producer prices over a relatively brief period before formulating production plans.

The latter approach is not only myopic: it also encourages productive inefficiency. Resources will be attracted to the production of commodities following periods of high prices, which would have been more efficiently deployed elsewhere if prices had followed more closely their long term trend path.

The magnitude of the gains in productive efficiency as a result of the Common Fund reducing price fluctuations varies considerably across commodities. The benefits are likely to be greatest for agricultural producers, particularly those not producing tree crops, but they may be significant also for capital-intensive mineral producers whose mines have long gestation periods. However, fluctuations in investment in new mineral capacity probably originate more in fluctuations in the profits available for reinvestment, rather than as a result of a short-sighted view of the trend in prices.

The gains in productive efficiency in agriculture may well prove to yield economic benefits over and above those experienced by the individual agricultural producers. With reduced price volatility, particular geographical regions can afford to specialise in the production of those commodities in which they have a comparative advantage. For, with price stabilisation, the diversification of production in order to spread risks becomes unnecessary. Furthermore, specialisation in production encourages the development of infrastructure, marketing and processing activities, all of which enjoy economies of scale. In the long-run, the advantages conferred on producers and consumers alike by these external benefits may prove to be at least as important as the more direct, tangible benefits on the production side.

APPENDIX 2

THE OBJECTIVES OF A COMMON FUND

At the Nairobi meeting of UNCTAD in May 1976, the main objectives of the Integrated Programme for Commodities, of which the Common Fund is to form a key constituent, were set out explicitly. The relevant passages were the following.

"With a view to improving the terms of trade in developing countries and in order to eliminate the economic imbalance between developing countries, concerted efforts should be made in favour of the developing countries ...

- (i) To achieve stable conditions in commodity trade, including avoidance of excessive price fluctuations, at levels which would be remunerative and just to producers and equitable to consumers...
- (ii) To improve and sustain the real income of individual developing countries through increased export earnings..."

Thus there are three main strands of thought behind the Integrated Programme for Commodities. The raising of the real price of primary products and a consequent improvement in the terms of trade facing LDCs, presumably through the incorporation of production restrictions and export quotas within individual commodity agreements (ICAs), is the first. The stabilisation of commodity prices is the second objective. Inasmuch as this is to be at prices that are "equitable to consumers", the second objective is in serious danger of conflicting with the first. The final aim of increasing the export earnings of LDCs, depends heavily upon trade liberalisation policies, such as tariff reductions; but provided worldwide demand for primary products is sufficiently inelastic, the attainment of the first objective will automatically lead to the third.

In the following appendix we shall analyse the particular role that the Common Fund can play in the attainment of the broad objectives of the Integrated Programme for Commodities.

(a) The Common Fund and Shifts in the Terms of Trade

It is useful to clarify right at the outset what will be understood by a "Common Fund" in the present paper, so as to avoid misunderstandings later. The Common Fund is the financial institution that will occupy a central role in lending funds to finance commodity buffer stocks. As such, the Common Fund will not be involved in the formulation and implementation of policies related to trade liberalisation or production restrictions. One is tempted to assert that the Common Fund will only concern itself with price stabilisation by means of buffer stockpiling carried out by the ICAs linked to the Common Fund, but this ignores the likelihood that the Common Fund will be required to provide finance for some non-buffer stock activities closely related to the operations of ICA buffer stock schemes. Therefore, for the purposes of this paper we shall restrict ourselves to a study of the financial structure of a Common Fund, defined as the central financial institution lending funds to finance commodity buffer stocks and closely related activities.

In view of the nature of its activities, one anticipates that the Common Fund will have little to offer towards the objective of shifting the terms of trade facing primary producers as stated in the Integrated Programme for Commodities. Nevertheless, there is an extent to which the establishment of a Common Fund could provide a framework within which the terms of trade of LDCs can be improved.

It is generally agreed that price stabilisation by means of buffer stockpiling yields benefits that may more than outweigh the costs that it incurs. The nature of these benefits is described in some detail in Appendix 1, and some of them will be to the advantage of consumers of primary products. This enables the developed countries to relax their view that an improvement in the LDCs' terms of trade is an inefficient device for transferring income from consumers in importing nations to the LDCs. For, as long as consumers can be shown to be net beneficiaries from commodity price stabilisation, there may exist a small margin for negotiation over the trend in product prices within the context of agreements financed by the Common Fund.

It must be stressed that the shifts in the terms of trade that are attainable within the context of a scheme of price stabilisation sponsored by a Common Fund will be small. Yet the degree to which potential shifts can be realised may be affected by the precise form of financial structure adopted by a Common Fund.

There is reason to believe that the willingness of the developed world to concede higher commodity prices will be less if the funding of buffer stocks is undertaken by one central institution - the principal source of funds approach - than where each ICA is largely responsible for its own finance - the pooling of funds approach. There are certain commodities in which the beneficiaries of price rises are very clearly poor peasant farmers in poor countries. Jute farmers in Bangladesh are a case in point. Hence if, say, the jute ICA is negotiated and financed independently of other ICAs, one imagines that consumers will be less concerned about creating a precedent, and will be more willing to be generous to producers, than they would be if all commodities were subject to uniform rules determined in centralised bargaining.*

Conclusion:

The contribution of the Common Fund to the objective of improving primary producers' terms of trade will be only marginal. The scope for shifts in the terms of trade will be restricted by the extent to which consumers are net beneficiaries from price stabilisation. Nevertheless, we believe that a pooling of funds approach will give greater freedom to Common Fund financed ICAs to improve primary producers' terms of trade than a principal source of funds form of the Fund.

(b) The Common Fund and Price Stabilisation

There is less reason to expect producers and consumers to differ about the desirability of price stabilisation. However, the perception of the benefits from stabilisation will generate marked differences between the two groups over the most suitable financial structure for the Common Fund.

* This point is developed further in section (c) below.

The theories of the advantages and disadvantages of stabilisation are described in Appendix 1. Summarising that Appendix briefly, there are five main effects of stabilisation to distinguish between, namely: (i) those gains to consumers and producers that have been traced to a buffer stock offsetting random and short-term fluctuations in supply and demand; (ii) the possible reduction in the rate of price inflation if some sort of ratchet tends to cause the initial inflationary impact of high commodity prices to persist; (iii) the benefits from world-wide anti-cyclical policies along Keynesian lines, that occur if a Common Fund boosts economic activity during periods of economic recession and moderates the upsurge in activity when the world economy is booming; (iv) the increased efficiency of production that follows price stabilisation, as a result of high cost production units no longer being brought into operation on account of a false optimism engendered by periods of high prices; and (v) the greater ability of producers and consumers to plan when price uncertainty is reduced.

Effects (ii) and (iii) are generally considered to generate benefits of value mainly to advanced economies, while (iv) and (v) are valued more highly by LDCs. The distribution between producers and consumers of the gains identified in (i) has attracted a considerable amount of academic interest, but little that is conclusive emerges, other than that the distribution varies according to circumstances from commodity to commodity.

Another important difference to note between effects (ii) and (iii) and the other three listed above is that, whereas the benefits noted in (ii) and (iii) apply to the entire set of commodities covered by the Common Fund taken together, the advantages described under headings (i), (iv) and (v) will be closely associated and identified with individual commodities. The practical significance of this lies in the conclusion to be drawn that the interest of consumers in the establishment of ICAs as part of the Common Fund will be different from that of producers. Industrial consuming countries will value each individual commodity stabilisation agreement highly, viewing such agreements as landmarks in the stabilisation of world economic activity. However, this does not mean that the consumers will prefer a centralised Fund structure. Each ICA is, for them, a valuable building block in achieving world wide stabilisation; but each block should, in their opinion, be appraised carefully and separately. Both they, and the producers, acknowledge that a centralised Fund structure will hasten the formation of ICAs; and it is precisely to prevent this occurring on an indiscriminate scale that the consumers tend to favour a slower, more careful, piecemeal approach to the establishment of buffer stocks. The producers, however, despite the more specialised nature of their interest in stabilisation (some will possibly be interested in the creation of only one ICO) will press harder for the formation of a central financing facility, believing this to be the best strategy for securing the rapid formation of the particular ICOs that they are interested in.

The differences in the emphasis of the two groups will be reflected in different approaches to financing a Common Fund. Producers may be characterised as valuing the whole (a fully operational system of linked ICAs) more highly than the sum of its constituent parts. Consumers, for their part, attach most value to the constituent parts - the ICAs.

In practice, the divergent priorities of the two groups will mean that producers will be prepared to make a larger financial contribution to a principal source of funds version of Common Fund than to the component ICAs linked together by a pool of finance. The consumers' willingness to commit funds to the two alternatives will have the opposite ranking. As we argue throughout this paper, the most satisfactory resolution of this conflict of option over the most desirable structure of the Common Fund will be a compromise, with a principal source of funds component to its financing, as well as a pooling of funds subscribed to the various member ICAs.

Conclusion

The stabilisation of prices by a successful Common Fund yields five main identifiable categories of benefits. The benefits perceived by producers are related mainly to the establishment of a broad Common Fund, linking several ICAs, whereas the advantages that appeal most strongly to consumers are centred upon the separate ICAs. The differences of perception of the gains from price stabilisation imply differing approaches to Common Fund finance. Producers will display a preference for a principal source of funds version of a Common Fund, while the consumers will favour a pooling of funds approach.

(c) The Common Fund and Income Distribution

The consideration of the benefits and costs of stabilisation and of the possibility of improving the terms of trade facing primary producers serves to highlight one particular aspect of the debate about the Common Fund that warrants closer examination. This is the matter of income distribution.

At its heart, the Integrated Programme for Commodities is a programme for redistributing income internationally. On the surface, the Common Fund is the only constituent of the Integrated Programme in which explicit income distributional objectives have little or no role to play. Indeed, this helps to explain why the Common Fund proposals have progressed further than others in the Integrated Programme. Yet there remain several areas - for example, the distribution of the costs and benefits of price stabilisation, and the provision of finance - in which income distributional considerations impinge upon the Common Fund.

The manner in which the distribution of the costs and benefits of price stabilisation relates to income distribution internationally is self-evident. However, the way that the provision of finance affects income distribution requires some further explanation.

All the plans formulated for financing the Common Fund speak hopefully of obtaining equity capital at little or no opportunity cost, in addition to raising loans at favourable interest rates. In other words, it is hoped that the Common Fund will be able to raise equity capital without being expected to pay a regular monetary dividend, such as would be paid on more conventional forms of investment. In these circumstances, merely to break even and operate a "viable" buffer stock (in the sense of not making a financial loss) implies an element of redistribution from the buffer stock equity holders to the beneficiaries from stabilisation.

Many economists believe that nations' involvement in the Common Fund will prove to be like a non-zero sum game, so that one country's gain from its establishment need not be offset by another nation's or set of nations' loss. However, this does not upset the argument that income distributional considerations impinge upon the Common Fund. For there still remains the need to take account of the distribution of the benefits of the Common Fund among participants and non-participants alike.

Once one appreciates the sense in which any decision regarding buffer stock financing and viability contains implicit value judgements regarding income distribution, one must acknowledge the likelihood that the most popular proposal for financial targets for buffer stocks, namely that all buffer stocks should aim at achieving the same rate of return, will be

sub-optimal. For each ICA there will be a trade-off between buffer stock profitability and the degree of price stabilisation. Stabilisation in turn yields certain benefits and a particular distribution of them. Ideally, the value of these should be captured in measures of the social rate of return (discussed in Chapter 5). However, unless all Common Fund contributors are willing to abide by the estimates of shadow prices used as a basis for calculations of social rates of return, and, even more important, unless Common Fund contributors are prepared to meet losses in the case of a buffer stock which has a very high social rate of return but does not meet the target financial rate of return, it may prove impossible to attain anything like the best combination of price stabilisation and buffer stock profitability.

To take a hypothetical example of the possible conflict that may arise between financial and social objectives, it is conceivable that a small loss on jute buffer stock activities would generate considerable benefits for Bangladeshi jute farmers, at relatively little cost for jute consumers; while for another commodity, the activities of a profitable buffer stock would effectively transfer income from poor producers to rich consumers. A principal source of funds would be under pressure to apply the same financial criteria to both cases, regardless of their different merits. The same need not be true of ICAs with their own sources of finance. If, in our example, a jute agreement is widely believed to be a particularly effective way of channeling aid to Bangladeshi peasant farmers, jute consumers may agree to allow a large element of aid, in the form of underwriting buffer stock losses, to be included in the financial arrangements of the jute ICA.

The contention that considerations about the international and intra-national distribution of income should impinge upon buffer stock decisions has implications that stretch beyond those already mentioned. One that is believed to have surfaced already at the International Cocoa Organisation concerns the introduction of price supports when governments in producer areas do not pass higher prices on to farmers. Higher export prices in these circumstances will have little or no effect upon supply and an equally limited impact upon the incomes of peasant producers. Although it might be argued that there still exists some redistribution of income to LDCs, one imagines that consumers would prefer to see higher world prices reflected in local producer prices.* As with the other points already made about income distribution, it is probably easier to accommodate some kind of understanding regarding domestic producer pricing policy within a pooling of funds agreement than within a principal source of funds agreement.

The issue of the distribution of the benefits of higher producer prices within a producer country leads naturally on to the question whether the appropriate indicator of a nation's interest in a particular commodity agreement will be given by its gross production and consumption or merely by the

* One presumes that consumers would have to accept a certain level of export taxes as consistent with the theory of optimal tariffs. This theory points out that where, as with Brazil in the case of coffee, Malaysia with rubber, Ghana with cocoa or Bangladesh with jute, a relatively small proportional change in a nation's output will alter world prices, that particular nation's net earnings from the commodity in question will be maximised by fixing a domestic producer price somewhat below the world price. The gap between the two prices is equivalent to an export tax.

nation's involvement in international trade. The fact that a government could theoretically redistribute income between its own domestic producers and consumers and stabilise internal prices does not mean it will happen. If a country like the USA is both a major producer and consumer of a commodity whose domestic price follows closely the non-USA price (copper is a good example), one must conclude that its interest in price stabilisation will be considerably greater than that indicated by its net foreign trade position.

Conclusion

Whether or not it explicitly takes account of them, the creation of a Common Fund raises questions relating to the distribution of income between producers, consumers and the subscribers of capital to the Fund. Since the distributional questions have both intra-national as well as international aspects, they suggest that the ICAs linked to a Common Fund may be obliged to take an active interest in the internal commodity policy of member nations. In addition, income distributional considerations may imply that the optimal policy for some ICAs would be to run their buffer stock operations at a financial loss. This would be easier to accommodate within a pooling form of Common Fund than with a principal source of funds approach.

(d) The Common Fund and Compensatory Finance

The issues covered in section (c) under the broad heading of income distribution are likely to prove among the hardest to incorporate within the framework of a Common Fund. Nevertheless, they are very relevant to the present study since they appear to lead to a slight preference for a pooling over a principal source of funds approach, on account of the former's greater ability to permit some differences between the financial behaviour of individual commodity buffer stocks.

The conflict between social objectives, the use of a Common Fund as an intermediary in the disbursement of economic aid and the desire for financial viability in Common Fund operations* also arises in what have come to be called the "non-buffer stock activities of a Common Fund". However, in their case, a principal source of funds clearly constitutes the best financial structure. Non-buffer stock activities have come to be equated with measures to encourage primary producers to diversify their economies, or to improve their production techniques, but the heading was once considered to include also an element of compensatory finance designed to stabilise a country's revenue.

In the case of commodities, such as metals, whose prices vary mainly as a consequence of fluctuations on the demand side of the market, successful price stabilisation by a Common Fund will lead to a considerable measure of supply stability, and, therefore, of revenue stability. Consequently, price stabilisation will do away with the need for a separate compensatory finance facility for many mineral producers.

* Although, as we note above, the financial viability is illusory, assuming, as it does, that equity capital is equivalent to an interest-free loan, with no expectation that dividends will ever be paid.

The value of a compensatory finance facility to the producers of crops characterised by large, unpredictable supply shifts is unimpaired by the establishment of a Common Fund. Inasmuch as a Common Fund would obviously be well placed, by virtue of its close involvement with the ICAs, to keep a close eye on changes in export earnings caused by unplanned supply fluctuations, it is an eminently suitable institution to administer an international compensatory finance facility. However, there is a natural disinclination on the part of prospective Common Fund subscribers to impose extra duties upon an, as yet, untried institution, especially when there already exists the IMF facility and the EEC's STABEX scheme, which, if expanded sufficiently and broadened in scope, should be capable of meeting the demands for revenue stabilisation emanating from LDCs.

Conclusions

Although success in the stabilisation of prices should reduce the need for a separate export revenue stabilisation facility for metal producers, there remains the need for some such facility for many agricultural exporters. The Common Fund might seem well placed to administer the facility, but the existing IMF and EEC facilities, if granted greater powers, are likely to continue to bear the main responsibility for compensatory financing.

APPENDIX 3

AN INTERNATIONAL COMMODITY CURRENCY

Most of the proposals for securing Common Fund financing, discussed in this paper are fairly conventional. However, one cannot present an evaluation of the Common Fund without mentioning a less conventional approach to buffer stock finance, namely the proposal that the Common Fund could be employed as a means of creating an "international commodity currency".

Hart, Kaldor and Tinbergen presented the case for a commodity-backed international reserve currency to UNCTAD in 1964, suggesting that monetising primary commodities would make the new currency acceptable. They envisaged that an international currency reserve fund would combine the objective of commodity price stabilisation with its role as a controlling authority over the supply of international liquidity. In the June 1973 issue of the Economic Journal, John Williamson surveyed the literature on "International Liquidity" and reviewed reactions to the Hart, Kaldor, Tinbergen proposal. By and large, these are hostile to a link between commodity stockpiles and an international reserve currency.

The main objection to a commodity reserve currency is that, if it is adequately to cater for the world's growing demand for international liquidity, an ever increasing volume of commodities would have to be tied up in stockpiles, unable to perform any useful productive purpose, and held there merely to provide the necessary backing for world trade. Williamson refers to estimates that if the world adopted a full commodity standard for international liquidity, the annual resource cost would be \$6-8,000 million, which is to be contrasted with the negligible resource cost of a system of pure fiat money. Although primary producers would benefit considerably, one cannot imagine consumers sanctioning transfers of this order.

Another important practical objection is that it may prove extremely difficult satisfactorily to combine a reserve currency role with the objective of buffer stock intervention so as to ensure price stability. The latter function may require the Common Fund to hold little or no material in buffer stockpiles at some times, and substantial amounts at others. Furthermore, the commodity composition of the stockpiles will change over time. All in all, it is hard to imagine that a price stabilising Common Fund would always find itself holding assets that were considered entirely suitable as the basis for the main international reserve currency.

Nevertheless, this, and other, objections do not rule out the possibility that a Common Fund might be financed in part by the issue of SDRs, and that it might act as a stimulus to the use of the SDR as an international reserve currency*. But, one would be wise to assume that, initially at least, finance for a Common Fund will have to be secured primarily through conventional methods, without the possible benefits of a radical transformation of the world monetary system.

* See, for example, G. Bird, The Role of SDRs in Financing Commodity Stabilisation, Journal of World Trade Law, Vol. 10.4, July/August 1976.

The UNCTAD Integrated Programme and Macro-economic Considerations

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THE UNCTAD INTEGRATED PROGRAMME AND MACRO-ECONOMIC CONSIDERATIONS

The Integrated Programme for Commodities

1. The Integrated Programme for Commodities, including the idea of a Common Fund, was mooted by the UNCTAD Secretariat late in 1974, revised thereafter and endorsed by UNCTAD IV for further negotiations. It represents a package approach to the solution of the world's commodity problems. The Programme, as outlined in the substantive Resolution 93(iv), sets out seven objectives, including avoidance of excessive price fluctuations, improvement and sustenance of the real income of individual developing countries, improvement of market access and reliability of supply for primary products and the processed products thereof, diversification of production and expansion of agro-processing in developing countries, encouragement of research and development to improve the competitiveness of natural products vis-a-vis synthetics, and improvement of market structures and systems of marketing, distribution and transport in the field of primary commodities. In a convenient summary form, the objectives are (i) to improve the terms of trade of the developing countries and to ensure an adequate rate of growth in the purchasing power of the aggregate earnings of their exports of primary commodities, while minimising short-term fluctuations in these earnings; and (ii) to encourage more orderly development of world commodity markets in the interests of both producers and consumers. The operational part of the programme consists essentially (i) of promoting international producer-consumer commodity agreements and the setting up of internationally managed buffer stocks covering 18 commodities of central interest to developing countries (the 'core' products being cocoa, coffee, tea, sugar, hard fibres and manufactures, jute and manufactures, cotton and yarn, rubber, copper and tin, i.e. those products of which developing countries are the major or the only exporters, constituting in sum about 70 per cent of world exports);¹ (ii) of the establishment of a Common Fund (amounting to 6 billion dollars) to provide the financing needed for the acquisition and maintenance of the stocks (mainly for the ten core commodities), and for some other purposes included in the programme (the 'second window').

2. The Common Fund's primary function will be to lend to individual commodity organisations operating international buffer stocks and the Fund will expect to be repaid as the organisations acquire funds through stock disposals. It will not in itself act as a commodity trading organisation.

Background of the Programme

3. The historical rationale of the Programme is fairly obvious. In the post-second world war period, primary commodities have been the least stable and dynamic sector of world trade, and from the point of view of the developing countries the existing system of world trade, operating under a (quasi-free) market mechanism has been patently inefficient and unjust.

¹ The list is open-ended, and includes in the first phase all the products suggested by the developing countries in the Manila Declaration in February 1976, i.e. bananas, bauxite, iron ore, manganese, meat, rock phosphates, tropical timber, and all vegetable oils (including olive oil) and oilseeds, besides the ten core commodities.

Between 1950 and 1974, the participation of developing countries (excluding the oil-exporter countries) in world exports decreased from 28 to 16 per cent, and over 1952-72 when world trade rose by over 7 per cent per year, the increase in exports of developing countries was only about half of that. The widening disparity between per capita income levels of developed and developing countries from 10:1 in the early 1950s to 14:1 to-day - a reflection of such trading patterns - has combined the traditional concerns of the sixties (growth and industrialisation) with the current concerns of depauperisation and equity in dialogues on a New International Economic Order. While it is recognised that trade is a positive, and not a zero-sum, game for the two groups of countries, it does not follow from this that there is no exploitation through trade, and indeed trade is held by many to have been the goal of colonialism. Thus one school of thought which may be associated with Hobson through to Marx, Lenin and their modern followers have considered trade as a major vehicle of imperialist development and exploitation. According to this view, industrialised capitalist countries developed their poor-country sources of raw materials under a colonial or neo-colonial environment and have always tampered with the 'rules of the game' in the world commodity markets according to their own requirements of price and income stabilisation, e.g. through national action (subsidisation and protection to domestic producers), side-tracking the need for trade liberalisation. The other group, stressing the political or idealistic reasons for colonialism, has averred that trade has been the outcome rather than the prime mover of colonialism, but they too have not questioned the actual existence of a close association between the two (Kleiman, 1976, p.459).

4. The low-income countries bent upon a policy of development through self-reliance are thus deeply concerned not only about the international primary-commodity prices, but also about their particularly vulnerable status in the world trade and economy. These countries, when faced with the problem of burdensome gluts, do not have the financial and other resources at their command to intervene in the commodity markets effectively. They are conscious of this disadvantage vis-a-vis the powerful developed-country importers in terms of market structure and control and financial power - a situation largely engendered by the market mechanism under conditions of unequal bargaining power. The inevitable tendencies to conflict generated by such circumstances need hardly be stressed.

5. Thus while the ideal of a free, just and rational world economic order based on the competitive market system may still be attractive to many to-day, our experience with the actual course of development of the world economy is surely enough by now to show that the ideal is a chimera. The orthodoxy and inefficiency of laissez faire and the aberrations in the world trade regime were assailed by no less a person than Lord Keynes, indisputably the greatest economist of this century, albeit a rather 'unfaithful' disciple of Alfred Marshall in matters of free trade as in several other respects. Keynes' concept of the criteria of an efficient market system was essentially that which would guarantee an adequate growth of output of raw materials and agricultural products for consumers ('freedom of access'), without undue price or income instability for producers ('freedom of sales'). Putting forward in December 1942 what was to be the British proposal for primary-commodity prices in the course of the inter-allied negotiations on the future organisation of the world economy in 1943, Keynes (who was then consultant to the U.K. Treasury and major architect of the post-war international financial co-operation) pleaded for centralised international action, including an international multi-commodity organisation, "capable of effecting a vast improvement of system, at any rate in the case of the great staple raw materials" (Keynes, 1942, pp. 299-315). In his original draft of the proposals too, Keynes had called for the internationalisation of the American

Vice-President Wallace's 'ever-normal granary'. After a lapse of more than three decades the Integrated Programme clearly presents another challenge to the current operations of commodity markets, although like the Keynesian proposals it does not contain the seeds of a complete alteration in the commodity trading system and of replacement of multilateralism by bilateralism and restrictionism. It is also important to note that the Integrated Programme recognises the distinctive characteristics of individual commodities, and indeed the commodity-by-commodity approach has not been discarded as long as it is incorporated into the wider Integrated Programme. And yet another foremost economist of the day, Lord Kaldor in his Presidential address to the Royal Economic Society in June 1976 strongly pleaded for the creation of international buffer stocks for all the main commodities as the "most promising line of action for introducing greater stability into the world economy" (Kaldor, 1976, p.713).

Trends in Export Prices and Earnings

6. It may be useful to present at the outset a concise review of the post-war trends and fluctuations in the prices of and earnings from exports which have adversely affected the developing countries and which the Integrated Programme (along with its centrepiece viz. the Common Fund) seeks to rectify. A recent study undertaken by the Commonwealth Secretariat (1976) throws some light on the price situation. The study was based on UN time-series data on export prices and terms of trade, and employed linear regression equations to estimate the time-trends, and the standard errors of the regression coefficients divided by the means as the indices of instability. (With index numbers of prices as constituents of the series, the trend rates of growth were yielded by the regression coefficients of the linear time-trend equations). The index of international prices as compiled by the World Bank was used to convert current export prices into constant or "real" terms. The findings of the study relating to commodity prices were as follows:

1. Considering the more or less normal period of 1954-72 (i.e. excluding the years of the short-lived Korean and the recent commodities boom), the real prices of primary exports as a whole dropped annually by about 1.3 per cent, the rate for developed and developing countries being 0.7 per cent and 1.8 per cent respectively. The instability indices for the two groups of countries were 0.19 and 0.21 respectively.
2. The terms of trade of all primary-commodity exports (defined as the ratio of the prices of primary commodities to those of manufactured exports) declined at an annual average rate of 1.5 per cent over 1954-72. The terms of trade of primary exports for developed and developing countries declined on average by 1.4 per cent and 2.2 per cent respectively.
3. The over-all terms of trade of the developing countries declined by about 0.56 per cent annually compared with an improvement of 0.58 per cent recorded by the developed countries over the period, i.e. 1954-72. All the above estimates were found to be statistically significant.

7. In a more recent study based on UNCTAD data Behrman (1977) shows that the linear trends in deflated prices of the ten core UNCTAD commodities (and 15 other commodities) mostly over the period 1950-75 (i.e. including

the Korean war peak at the beginning and the 1972-74 boom at the end) have tended to be negative. Thus significantly negative estimates were obtained for six of the ten core commodities and 21 of the 32 total commodities included in the exercise.

8. To the extent commodity-export price fluctuations are not compensated for by changes in the volume of exports in the opposite direction, the developing countries have also suffered from particularly sharp fluctuations in their export earnings. Recent studies by Mathiesen and McKinnon (1972), Naya (1972), Glezacos (1973), Massell (1970), Lawson (1974), Leith (1970) and Knudsen and Parnes (1975) have brought out that instabilities in export earnings for developing countries were substantially larger than for developed countries, although it is difficult to estimate precisely the contribution of commodity-export fluctuations to the instability in aggregate export proceeds. These studies did not consider the period of the recent commodity boom and crash during which period the relative instability in export earnings for the developing countries was likely to have been aggravated, after a modest decline in the sixties. The following table reproduced from the Report of the Select Committee of the House of Lords on Commodity Prices (1977, Vol.1, p.ciii) gives in a summary form the extent of instability of export proceeds of the developing as well as developed countries.

Average Degree of Instability of Export Proceeds A (1951-70) and B(1963-75)
Various Indices of Instability
 (standard deviations in brackets)

Index	I	II	III
(A) Developing countries	9.66 (4.78)	17.67 (11.69)	7.47(3.28)
(B) Developing countries	13.50 (8.76)	21.02 (17.31)	12.62 (7.72)
(A) Developed countries	5.72 (2.46)	10.05 (3.45)	4.39 (1.54)
(B) Developed countries	7.50 (3.28)	9.50 (3.64)	9.35 (5.30)
(A) Ratio developing/developed country instability	168%	176%	170%

Notes: Instability Indices used:

- (1) The square root of the square of the percentage deviations from a five-year moving average centred on the mid-year.
- (2) The square root of the square of the deviations from a log linear trend.
- (3) The absolute % deviations (ignoring sign) from a five-year moving average centred on the mid-year.

- A. 1951-70, 26 developed countries, 90 developing countries.
 B. 1963-75, 26 developed countries, 66 developing countries.

Source: Basic Data for (A) from UN, Yearbook of International Trade Statistics (1974 and various issues) and for (B) IMF, International Financial Statistics (August 1976 and various earlier issues).

The Integrated Programme and Export Instability

9. The two major immediate objectives of the Integrated Programme are (a) the stabilisation of the relevant international commodity markets and (b) improvement of the real income which developing countries receive from their primary-commodity exports. Stabilisation implies not only the avoidance of excessive price fluctuations but mitigating the fluctuations in export earnings as well. Export earnings could be increased by price stabilisation when fluctuations originate primarily on the supply side or by increasing the price when the demand curve is price-inelastic.¹ The adverse effects of price and export revenue fluctuations on the economies of developing countries are widely acknowledged and therefore, to the extent the UNCTAD objectives of price and income stabilisation are realised under the Integrated Programme, important gains will accrue to the developing countries. In the sections that follow we analyse these likely gains and show that stable prices and earnings are conducive to global welfare.

Gains to Developing Countries: Investment in Commodity Production

10. By eliminating uncertainty price stabilisation would lead to a more favourable climate for investment in the commodities sector and ensure a more ample supply of commodities to the world. Uncertainty over price expectations erodes the incentive to invest in commodities production and it discourages new (potentially efficient) producers from entering the commodities field. Erratic price gyrations complicate investment planning as producers cannot distinguish between short-term changes and long-term trends in demand or supply. This precludes them from the desired adjustment to capacity to ensure that output corresponds to the technically optimum point on the long-run average cost curve. During periods of low demand and prices productive capacity remains unutilised and during periods of scarcity and high prices there may be unjustified investment which cannot be sustained in the long run. Stable prices could therefore be conducive to greater efficiency, and the more favourable (and stable) are the terms of trade to the primary-exporting developing countries the more current technological advance will be exploited through new investment and the faster the growth of commodity output. In fact, a stable increase in mineral and agricultural prices, as compared to prices of manufactured goods is essential owing to the relative scarcity of natural resources, which makes them more costly as time goes by.

11. Price fluctuations also affect cash flow and the ability of producers to finance investment. The impact is likely to be the more severe on small producers in that they have little internal resources to fall back upon in times of a price depression as well as limited creditworthiness. On the other hand, stable and remunerative prices would encourage them to produce steadily; numerous empirical studies have exploded the myth that peasant producers in developing countries do not respond to incentives. There is ample evidence to show that they do have a positive price-elasticity of supply response and would react rationally and substantially to favourable prices in the absence of undue uncertainty and resource constraint, although there may still be fluctuations in their output because of stochastic factors like weather. Additional resources provided by external agencies like banks or

¹ It is understood that the Statistics Division of the British Ministry of Overseas Development has recently conducted a study which concludes that on balance stabilisation of export prices through buffer stocks of selected major export commodities is likely to stabilise the export earnings of producer countries.

government financial institutions would be helpful but price expectations must be right if the availability of credit is to lead to increased investment and output (see for instance, Commonwealth Secretariat, 1977a, p.14).

12. The distributional and welfare impact of price fluctuations on developing countries from the production side will depend largely on the way their commodities sector is organised. If the large-scale or plantation structure dominates and there are minimum-wages and employment legislation, the effects of instability may be more on the profits of producers (and government revenues) than on the well-being of workers. But if small holdings are important, and there are no agencies of public intervention e.g. marketing boards, the impact would be the most severe on peasants and labourers. Even in the former category there may be adverse repercussions on labour income if the labour laws and trade unions are ineffective as is very often the case.

13. For some commodities with long gestation lags, e.g. tree crops and minerals, there is a long investment-output cycle and the effects of price gyrations on investment cause serious economic loss. To the extent that price stability mitigates the investment cycle the resultant output cycles will also be reduced. Furthermore, effective price stabilisation under the Integrated Programme could ensure resource transfers and mobilisation policies meant for diversification of production (and exports) to solve cases of chronic over-production or declining demand. This could be reinforced by direct assistance through the 'second window' operations of the Common Fund.

Price Stability, Natural Products and Synthetics

14. An allied issue concerns the competition from synthetic substitutes of natural products like jute, sisal and other textile fibres, rubber and copper. In the case of these products reduced price fluctuations could surely contribute to a steadier growth in demand, output and export earnings. Price fluctuations exacerbated by speculation adversely affect long-run demand by encouraging substitution of simulated goods by risk-averse users (manufacturers) who prefer a stable price for materials. This process is largely irreversible in that substitutes generally require heavy fixed capital investments which continue to run even when prices of natural products decline. The Integrated Programme could ensure stable, competitive prices and availability of natural products, thus aiding in the maintenance of their market shares and possibly in recapturing some of the past volume losses. To be precise, the possible gains will result from two sides: (1) by ensuring convenience to users through a reduction in the range of fluctuations and (2) by holding maximum prices below the point at which investments in substitutes appear profitable.

Gains from Improved Foreign Exchange Earnings

15. An improvement in export proceeds will affect the economy of developing countries in two ways. There is in the first place the direct effect on the incomes of the producers in the export sector. Secondly, there are the indirect (foreign-trade) multiplier and accelerator effects. It may be expected that these effects will stimulate the rest of the economy and increase the GNP, the gains in national income being more than proportional to the initial changes in the export proceeds.¹ Moreover,

¹ Sudden upsurges in export earnings may, however, cause inflationary pressures for the domestic economy.

the export earnings of low-income countries are often crucial to the implementation of the development plans of their national governments. Price stabilisation could ensure steady export earnings and through this the developing countries' capacity to maintain uninterrupted flow of imports of the necessary capital (and consumer) goods for planned economic development. Otherwise, governments will have to adopt highly restrictive foreign exchange reserve policies, particularly in those countries which have inadequate reserves and large outstanding debts. At any rate, the international borrowing capacity of developing countries is relatively limited, and they can ill afford to maintain sizeable foreign exchange reserves for cushioning unanticipated declines in revenues from major primary-commodity exports. Such shortfalls in receipts may lead to massive balance of payments deficits which cannot be rectified by currency devaluation. If borrowing on acceptable terms is ruled out, the only alternative is stringent import control which, as indicated above, will inhibit planned economic progress. The volatility of the export earnings of developing nations, as earlier hinted, has increased sharply in the seventies, and this has disrupted their economic growth in spite of meticulous planning.

Stable Prices and Government Revenues

16. Finally, stable commodity prices are likely to have a significant impact on government revenues because of the major contribution that primary exports make to the exchequer through export and direct taxes in many developing countries. This would mitigate difficulties at the macro-economic level in government spendings on development projects and social welfare schemes which are becoming increasingly important and politically imperative in the developing world. Particularly grave are the consequences of commodity price slumps on employment in the socialised sector.

17. A sudden upsurge in commodity prices is no better for the low-income countries in this respect. As Alister McIntyre, the former Secretary-General of CARICOM, observed in the course of his evidence before the Select Committee on Commodity Prices, "Windfall increases in revenues generated by the boom constitute an irresistible temptation to governments to step up expenditure and employment in areas regarded as vital to national development. This is particularly so under conditions of worldwide inflation where a decision not to spend today means a smaller command over real resources tomorrow. As the level of public sector activity expands, an irreversible build-up of expectations tends to take place which represents a potential threat to development and social stability once the boom is over. On the whole, if the developing countries are increasingly going to promote their development through a process of self-reliance, then they need commodity arrangements that will facilitate more orderly planning and the prudent management of local resources" (House of Lords, 1977, Vol. III, p. 572-73).

Export Instability and Economic Development: Empirical Evidence

18. Thus a priori arguments strongly suggest that greater (and surer) access to foreign exchange, *ceteris paribus*, raises the probability of increasing the rate of investment in developing countries which means higher rates of economic growth, given the neo-Keynesian (Harrod-Domar) capital-centred framework of analysis¹, higher employment through the operation of the employment multiplier, and increased economic welfare. The results of some empirical studies also tend to support this hypothesis. MacBean in a study that has been much-publicised found no significant statistical relationship between the growth rate of the real investment and real GDP on the one hand and export instability on the other over the 1950s in a sample of developing countries. But the weight of a priori reasonings on the effects of export instability was so convincing that he was constrained to make the following guarded statement about his findings: "The study has not established that fluctuations in export earnings do no damage to under-developed countries, but it has shown that the contrary view of grave internal troubles arising inevitably from export instability is not upheld by examination of the readily obtainable evidence" (MacBean, 1966, p.341). Indeed, MacBean ends his treatise by recommending methods for stabilising export earnings.

19. Later, Erb and Schiavo-Campo (1970) studied time-series data, country by country, for a sample of 44 less-developed countries to adduce a significant negative relationship between their export instability and GDP over the period from 1954 to 1966. Similarly, Kenen and Voivodas (1972) reported a strong, plausible statistical relationship between export instability and the level of investment. Their regression results covering 1950-66 and 1956-67 and 50 countries showed that instability did appear to reduce investment. Also, Glezakos (1973) found that export instability had an adverse effect on economic growth. The results of his regressions of real per capita income growth rate on export instability show that over 1953-66 instability seemed to have a significant negative effect on the real per capita income growth rate of the developing countries included in the sample. Specifically, export instability was responsible for about one-fourth of the observed variation in the income growth rates of the countries considered. Finally, Knudsen and Parnes in a recent study (1975) reported significantly positive relations between export instability and the rate of GDP growth. To test the effects of instability on growth, they calculated regressions using data on growth rates of GNP and GNP/per capita, and average levels of instability for the years 1960-69 for 28 countries. The resulting equations indicate that instability had a significant relation with growth of both GNP and GNP/per capita in the selected countries. A World Bank analysis revealed that for countries with high growth rates in exports (greater than 6 per cent a year) fluctuations were not detrimental to GDP growth, but for countries which experience low export rates of growth, fluctuations were a decisive handicap (House of Lords, 1977, Vol.III, p.561).

¹ Under the simplest Harrod-Domar formulations, which is a logical extension of the Keynesian model, $K = rY$, where K is the capital stock, Y is national output and r is the (constant) capital-output ratio. Then $I = \Delta K = r \cdot \Delta Y$, so that Q (the ratio of investment to gross domestic product) = $r \cdot Y_g$. Q and Y_g (rate of growth of gross domestic product) should be directly related. Of course, there are factors that could prevent higher investment from resulting in economic growth in developing countries. Uncertainty in the planning horizon could cause investment to seek shorter-term and less productive investments. Or investment could be made primarily in infrastructure, which would yield higher growth rates only over the long term.

Since most developing countries rely heavily on primary commodities whose growth rates have been sluggish, these findings imply that fluctuations in export earnings jeopardise their economic performance. And obviously, a primary target of the Integrated Programme will be to stabilise the prices of such commodities.

Effects on Developed Countries

20. Perhaps even more important, in the context of the current state of negotiations on the Integrated Programme and the Common Fund, is the fact that important and diverse macro-economic gains will accrue from the Programme to the developed countries as well. It is likely that almost all sections of the community in these countries will benefit from the price and revenue stability that the Programme will usher in.

Gains to Consumers

21. Price uncertainty creates costs which fall on consumers in respect of planning of family budgets. Consumers in industrialised countries do not gain significantly when commodity prices slump (as will be discussed in a later section) but lose when prices turn up sharply. The consumers would accept as 'fair' reasonably higher (but stable) prices that might result from the Integrated Programme because the commodities in question represent a small proportion of their budget. It is estimated (Green, 1977, p.27) that the 18 commodities are at most 4 to 5 per cent of the consumers' market basket. Moreover, the effects of higher export prices on consumer prices can be partly or wholly offset by tariff reductions in the case of some commodities. And historically, consumers have focussed more attention on the question of stability which seems to reflect significant risk aversion, since under some circumstances price stabilisation per se would reduce the consumers' surplus.

Gains to Manufacturers and Traders

22. Industrial fabricators buying primary materials as inputs for their own manufactured products generally dislike volatile commodity markets which inhibit them from planning ahead. Most manufacturers prefer to hold the prices of their products relatively stable over a considerable period of time rather than apply frequent increases and reductions. Commodity price fluctuations have adverse repercussions on their cash flow if the cost of primary materials accounts for a large part of their aggregate production costs. It also makes for uncertainty when tendering for contracts (House of Lords, 1977, Vol.I, p.xxxiv). Thus some manufacturers will benefit directly from stable prices of commodities, and to the extent that they increase investment because of lower risk, consumers would gain from additional supplies.

23. Traders in industrialised importing nations would also benefit from the Integrated Programme. Although they may complain occasionally, they are in general strongly in favour of international commodity arrangements. This is because they are likely to gain on two grounds from price-stabilising measures: 'the costs of information' about prospective availabilities are lowered and correspondingly the risk of losses due to stock shortfalls are also less (Waters, 1974, p.786). The cost of price stabilisation may be insignificant to them if the consumer demand for their product is sufficiently price-inelastic as is the case with all the major commodities included in the Integrated Programme. However, commodity market intermediaries, e.g. brokers and speculators in terminal markets, would lose (probably quite heavily in the long run) from price stabilisation, and their opposition to the Integrated Programme is well known.

The Integrated Programme and Inflation and Recession in Developed Economies

24. There may be much larger macro-gains from price-stabilisation to industrialised countries through the reduction of inflationary pressures which have become virtually endemic in modern capitalism. Most contemporary economists, apart from the orthodox or the 'Friedmanite' monetarists concede to the eclectic neo-structuralist view that an increase in import prices has both direct and indirect upward effects on the general price level in developed (and some significantly 'open' developing) economies.¹ The sophisticated multinational model of the transmission mechanism constructed by Project LINK, which welds together the national econometric models of 31 countries or regions through the use of a matrix of international trade, uses import prices as directly determining domestic prices in almost all the national models.² A priori, the direct effects of import prices of primary commodities on the developed importing countries will be through price increases of imported consumer goods of primary origin. Such increases may almost immediately be reflected in the level of consumer prices in those countries. Secondly, price increases of supplementary inputs of raw materials would be reflected in manufacturing costs and passed on by the producers into the prices of final goods presumably with some time lag.

25. The actual experience of inflationary developments in some industrialised countries bears out this hypothesis concerning imported inflationary shocks from rising commodity prices. In the United States, prices moved up sharply in the first half of 1973 and continued increasing through the first half of the following year. This acceleration in the rate of American inflation could be traced to a number of factors, but "arithmetically the primary stimulus came from the near-explosion in the retail prices of food and the prices of internationally traded commodities" following worldwide demand and low inventories for food and other primary commodities (Shapiro, 1977, p.281). Popkin (1974) estimated that a 14.5 per cent increase in the price of non-food and non-fuel raw materials caused a 1 per cent increase in the consumer price index of the United States (Waelbroeck, 1976). And Behrman rightly holds that this is an under-estimate of the likely impact of change of world commodity prices on American inflation in that it takes into account the effect of the proportion of commodities which are produced only in the developing world. Moreover, "both estimates are on the low side to the extent that there exist substantial oligopolistic industries which use commodity price rises to implement 'cost-justified' increases in their own prices" (Behrman, 1977) - a very important phenomenon as we shall observe subsequently.

¹ Whilst few would deny that inflation is a monetary phenomenon in the sense that it is accompanied by a rise in the quantity of money, many would deny that its origins are monetary.

² In most of the structural models for developed market-economies under Project LINK wages are explained by some version of the Phillips curve, output is determined by aggregate demand, employment is determined as a function of output through short-run production functions, and demand prices are directly determined as a mark-up on unit labour costs with an allowance for demand pressures, as they are reflected in unemployment or utilisation rates.

26. Similarly, in Japan the period mid-1972 to 1974 witnessed a galloping inflation the like of which was not experienced since the monetary adjustment of the immediate post-war years. Among imports non-oil primary commodities like foodstuffs, lumber and iron ore registered the highest price increase prior to the oil crisis and after the crisis the price of crude oil increased very sharply. The direct effect of the rise in the import price index on the wholesale price index amounted to 1.6 per cent for 1973 and 3.7 per cent for the first half of 1974 against total increases of 15.9 per cent and 17.8 per cent respectively. However, if the indirect effects through higher costs of production or even through the rise in the cost of living and in wage rates were considered, the inflationary impact of the rising costs would have been much greater. According to an estimate prepared by the Bank of Japan, the direct and indirect effects of the rising costs of imports accounted for 4.1 per cent in 1973 and 9.4 per cent in the first half of 1974 of the rise in the wholesale price index, i.e. about one-fourth to one-half of the total increase was attributable to imports (Komiya and Suzuki, 1977, p.317). In sum, rising prices of imported raw materials were a major cause of the inflation in Japan contributing directly and indirectly to the rise of wholesale prices.

27. Generally speaking, the sharply rising commodity prices in the course of 1972 and 1973, which themselves resulted partly from the rapid recovery in the industrialised countries, was followed in turn by a discontinuous cost (wage)-price spiral in these countries because of the existence of oligopolists and of powerful trade unions. Since price adjustments under oligopoly are difficult and complicated, producers may use commodity prices as well as wages as the basis for such adjustments, and inflationary expectations intensify the wage-price spiral. Lord Kaldor strongly made out this point in his Presidential address to the Royal Economic Society.

28. What adds to the complexity of the situation is that sharply increased primary-product prices hamper economic expansion in the industrial economies directly, because through their inflationary (and balance of payments) impact they provoke recessionary macro-economic (fiscal as well as monetary) policies. Such policies choke off long-run capital formation leading to a rise in unemployment and loss in output, and in turn adversely affect the demand for and prices of primary exports. The experience of the years 1974-75, when the world witnessed the most severe recession of the post-war period, would readily bear this out. Largely as a result of the reduction in industrial demand and unemployment (leading to curbed imports) the average price of the primary commodities exported by the developing countries levelled off in the second half of 1974 and began to recede in the first half of 1975. "By mid-year the price relationship between the manufactures exported by the developed market economies on the one hand, and the foodstuffs and non-ferrous metals exported by the developing countries, on the other hand, returned to the 1963 position" (UN, 1976, p.12).

29. A steep fall in commodity prices would not, however, lead to a reduction in inflationary pressures in industrialised countries. Generally, wages which move up alongside the rise in commodity prices do not decline with the fall in commodity prices during the downswing of the trade cycle so that there is a 'ratchet' effect on real wages through the cycle. This is because of reluctance of industrial workers to acquiesce in any cut in their living standards. The increasing practice of introducing cost-of-living clauses in wage (and salary) contracts implies that price increases resulting from short-term commodity shortages tend to raise costs of production permanently.

30. And sharp declines in commodity prices far from encouraging the use of commodities by the industrial sector in developed countries has the very opposite effect. The fall in demand for industrial products originating from the primary producers (both in the developing and the developed world) more than neutralises any stimulus to industrial demand in developed countries on account of the rise in real incomes of urban workers from the fall in food and commodity prices; the rapid fall in commodity prices according to Lord Kaldor ushered in the greatest industrial depression in history in 1929. And as Sir Harold Wilson pointed out, "before the war Sir William Beveridge and I produced evidence that every industrial slump in Britain, every increase in unemployment for the previous 100 years, was associated with a collapse in primary prices in countries from whom we imported much food and raw materials" (HMSO, 1975, p.3).

31. Essentially, therefore, violent commodity price fluctuations show up in persistent world inflationary pressures because industrial prices are largely non-competitive and determined on a cost-plus-mark-up basis by oligopolistic firms in the developed countries. Such fluctuations also dampen industrial activity and living standards in these countries, and create an extra burden on their balance of payments. This pro-inflation and anti-growth (and anti-employment) ratchet asymmetry is aggravated by speculation. Historically, periods in which industrial production grew fast in the capitalist world were periods in which commodity prices were stable. For centrally planned, socialist countries the nature of the impact of commodity price fluctuations is basically the same, although its extent is less severe in that the adverse effects can be offset more effectively by domestic measures to regulate demand. Some of the violent impact of the surge in commodity prices in 1973-74 were felt in the centrally planned block as well, in the form of an economic slow-down.

32. It behoves a rational international community to devise generalised commodity agreements including buffer stocks, as visualised in the Integrated Programme, which eliminate pronounced commodity price fluctuations and the capricious redistribution of revenue between producers and consumers that result from such fluctuations. This is particularly imperative at this juncture when there is a continuing danger that "the rise in commodity prices will bring in its train a new inflationary wave in the industrial countries, causing the repetition of the same kind of process as we experienced in 1974 and 1975, but starting from much higher levels of unemployment" (Kaldor, 1976, p.712). The growing economic interdependence of the United States, Western Europe and Japan, carrying with it a synchronisation of their business cycles and the international dimensions of the inflationary problem have made commodity price stabilisation a most crucial policy issue. The stabilisation mechanism as contemplated under the Integrated Programme will be switched on when commodity gluts are just building up - the authorities of the various individual buffer stock schemes intervening to buy commodities. The value of these purchases would be a net accretion to the purchasing powers of commodity producers and the investments in stock acquisitions will have a substantial multiplier effect. These will boost the demand for industrial exports ensuing from primary producers which in turn will encourage investment in industrialised countries. In times of scarcities the policy will be reversed in an orderly manner through stock-selling operations. Such a stabilisation policy is bound to mitigate the destabilisation of investment (and output) that results from the fluctuating profitability and planning uncertainty in the industrial sector of developed countries, and create a dynamic welfare gain for such countries in terms of reducing the swings of the customary business cycle. It will also contribute significantly to the elimination of the vexed phenomenon associated with 'stagflation' in the capitalist world.

The Integrated Programme and Utilisation of Petro-Dollars

33. The Integrated Programme could also help in the smoothing out of international capital flows, and the recycling of the big balance of payments surpluses of the OPEC nations - surpluses of petro-dollars which are likely to accrue for years to come. If the oil States with these surpluses for external investment throw their weight behind the Integrated Programme and the Common Fund, there will be benefits to all concerned. Several OPEC members need investment outlets with some spread of risk and moderate return, and there has been a growing willingness on their part to widen the scope and lengthen the period of their investments, thereby preventing the great bulk of funds from flowing into short-term deposits (e.g. bank deposits and American and British Treasury Bills) with all the disruptions that once threatened the world banking system. OPEC countries are members of the Group of 77 and their support to the Integrated Programme in the form of readiness to contribute to the Common Fund was of considerable significance for the outcome of the commodity deliberations at UNCTAD IV. In a statement to the recent Geneva Conference on the Common Fund, the Director-General of the OPEC Special Fund said that loans to the Common Fund might be considered as possibly a sound investment of liquid assets. The delegate of Venezuela subsequently confirmed that OPEC would be contributing a substantial sum to the Common Fund over and above member countries' contributions, as a capital subscription or as soft long-term loans, presumably at rates less than the eight per cent or so obtainable on World Bank or syndicated Eurocurrency securities. The integrated character of the UNCTAD scheme increases the probability of substantial financing from the OPEC with its favourable repercussions on the world economy both in the short and in the long run.

Macro-Effects of the Integrated Programme: Empirical Studies

34. There has been little formal discussion of empirical nature of the possible macro-economic effects of the Integrated Programme, and a recent quantitative study by Behrman (1977) merits particular consideration in this connection. It ought to be noted, however, that Behrman's paper is a 'pre-publication' version and may be revised subsequently. Therefore it is appropriate and fair that his findings be treated with due circumspection.

35. The basic object and approach of the study can be summarised as follows: Applying econometric commodity models developed by the author (Adams and Behrman, 1976) and the Net Present Value Criterion, the study simulates the operations of buffer stocks designed to keep prices from fluctuating outside of a range of 5 per cent and 15 per cent on either side of the known secular trend for the market-determined price over the last quarter century. (The secular trends in deflated prices for the selected commodities - mostly over the period 1950-75 - are calculated by means of linear regressions on the basis of UNCTAD export price indices and OECD GDP price deflators). The simulations replay the historical period 1963-72 as if these buffer stocks had then existed for a group of eight of the UNCTAD-identified ten core commodities (coffee, cocoa, tea, rubber, jute, sisal, copper and tin) as well as five other products (wheat, rice, wool, bauxite and iron ore).

36. Central to the simulation model is the identity which holds between private stocks of (individual) commodities, and production, demand for current use and buffer stock purchases and sales. Current private stocks are equal to stocks in the previous year plus current production minus demand, and plus/minus buffer stock purchases and sales. Through changing stocks the buffer stock agency can alter private inventory levels to keep

prices within a desired percentage of the secular trend. The prime determinant of the deflated price is hypothesised to be the ratio of private inventories to world demand in a log-linear function with a secular time-trend. On the demand side, traditionally formulated equations link demand to income and price. The general specification for demand posits that per capita demand is a log-linear function of deflated prices (with a distributed lag), per capita GDP in the consuming areas and a disturbance term. Because of differential responses across country types, three such functions are estimated for developed, developing and centrally planned economies. It is through these price responses (elasticities) that the buffer stock programmes affect demand. On the supply side the underlying theory is the traditional agricultural supply response to price. Thus production is functionally related to expected real price with distributed lags, a time trend to represent secular shifts due to technological change, development of infrastructure etc., weather and a disturbance term. Particular attention has been given in the estimation on catching the appropriate lag structures which in many cases reflect the special characteristics of the individual commodities. On the supply side this involves attention to the natural lags involved in developing new production, and on the demand side it involves the time lags in patterns of consumption or of substitution between natural products and synthetic substitutes. The equations - the statistical significance of the parameters of which are all tested - yield short-run and long-run elasticities of demand and supply for various commodities. On the basis of this model the order of magnitude of required buffer stockpiles is obtained.

37. The present discounted value of a buffer stock operation is taken to be the sum of three components: (1) the (negative of the) present discounted value of the initial commodity stock (if any). The initial commodity stock is just of sufficient order to enable the buffer stock manager to always defend the ceiling over the period of the simulation; (2) the present discounted value of all activities (i.e. revenues minus expenditures) of the buffer stock over the period of its operation. Revenues are from sales at the price ceiling; expenditures are from purchases at the floor price, transaction costs (a constant percentage for the average stocks held each year) and a stock deterioration (at rates proportional to quantities); (3) the present discounted value of the stocks still held at the end of the decade. All rates and ratios (i.e. for transaction costs, storage costs, deterioration) are assumed to be constant in real terms at levels suggested by UNCTAD. The initial and final stocks are valued at the average prevailing market prices in the year before and year after the decade of buffer stock operation respectively. All values are discounted to the start of the period (although in 1975 prices) by using a real discount rate of from 2 to 5 per cent (implying a nominal rate of 8 to 13 per cent at current inflation rates).

38. The findings of the study show that the net benefits of the buffer stock programme would accrue not to the buffer stock agency itself but instead to consumers and producers of the commodities concerned and, in addition, to the economies of their respective countries. (Indeed, there would be a net cost from buffer stock operations, estimated at a total present discounted value of under 2 billion dollars for the eight core commodities over the ten-year period). These benefits are the following: Total revenue of the producers in developing countries (obtained by weighting the present discounted value of real gross revenue gains for each commodity by the share of the developing-country output of that commodity) would rise as a result of price stabilisation (although they would fall for some commodities e.g. copper and tin), given the supply and demand conditions incorporated in the commodity models. Price stabilisation of the core commodities would thus

create a modest additional resource transfer to the developing countries of 5.4 billion dollars in present discounted value (24 billion dollars if all the selected commodities are considered); at the same time it provided more certain prices for consumers. Thus a negative value for buffer stock operations does not mean that they are undesirable from the point of view of all producers. Net gains are positive even if the losses due to buffer stock operations are subtracted from the gross revenues.

39. If price stabilisation were not around the historical secular trends but around slightly higher trends, the gains to the developing countries would be substantially larger. For example, if the secular price trends were to be increased above their historical growth rates by 2 per cent, the present discounted value of added revenues to developing-country producers over a decade from the eight core commodities would be over 80 billion dollars. This would however require very large stockpiles and stockfinancing.

40. If the price bandwidth is changed from + 15 to + 5 per cent around the secular price, gross present discounted producers' revenue would increase from 4.1 billion dollars to 5.8 billion dollars, and alter the present discounted value of buffer stock operations from -1.9 to -4.1 billion dollars for the sum of the eight core commodities. Similarly, if the real discount rate is changed from 5 to 2 per cent, for example, the present discounted real values of gross producers' revenue would increase from 4.1 billion to 4.8 billion dollars and those of buffer stock operations would fall from -1.9 to -2.3 billion dollars.

41. The findings also indicate that the access to financial resources of 6 billion dollars suggested by UNCTAD is not likely to be sufficient for the core commodities, and a total of about 10 billion dollars would be necessary. However, substantial reductions in financial requirements may be possible through the integrated financing across commodities, as part of the UNCTAD Programme, which would allow profits from sales of some goods to be used to finance purchases of others.¹

¹ The study gives the bivariate correlations during the 1954-72 period among the deflated prices for the ten core UNCTAD commodities, and 23 other primary commodities. Among the 45 correlation coefficients for the prices of the ten core commodities, only 14 are significantly non-zero and positive. The other 31, of which 15 are negative, are not significantly non-zero at the 5 per cent level. The negative correlations all involve jute, tea and copper. That less than a third of the historical correlations among the UNCTAD core commodity prices are significantly positively correlated does support the case for financial integration. "Moreover, the existence of the commitment for integrated funding as opposed to segmented financing would make the ability of the buffer stocks to defend price floors against speculation much more convincing for the same total financing."

42. A highly significant finding of the study is that gains from the reduction of inflationary pressures, especially for consuming countries, may be substantially greater than the revenue gains to producing countries. Over the 25-year period reviewed, the core commodities had average price levels substantially above the secular trends a number of times. Studies by Popkin and Waelbroeck earlier referred to indicate that an increase of 30 to 50 per cent in the prices of core commodities would be required to cause a 1 per cent rise in the U.S. consumer price index. In the context of the historical pattern of commodity price increases, such a range implies that imposing \pm 15 per cent bands on prices might reduce inflationary pressure at least by 0.2 to 0.4 per cent for several years in a decade of operation. By applying a Phillips curve relationship between inflation and unemployment on the basis of available estimates, the study concludes that in order to avoid such a degree of inflation unemployment would have to be increased by about 0.03 to 0.3 per cent in the United States. Conventional employment-income relations suggest that this would translate into about 0.1 to 0.9 per cent of the real GNP. Even on the conservative assumption of the bottom of this range, it would imply an economic gain (prevention of unemployment and GNP loss) well over 15 billion (1975) dollars each year for the American economy alone. Similar considerations would apply to the other industrialised importing nations. This shows that the ultimate gains to consumers from reducing inflationary pressures may be much larger than their losses to producers.

43. Behrman clearly recognises that the macro-welfare impact of a policy of price stabilisation cannot be adequately represented by changes in producers' and consumers' surplus. Thus as earlier indicated price stabilisation would provide dynamic welfare benefits by reducing planning uncertainties and by raising the rate of investment because of the reduction of risk. Consumers too would gain from the reduction of planning uncertainty, and to the extent that producers increase investment because of lowered risk, consumers would benefit from the larger supplies. However, existing quantitative methods are inadequate to permit reasonable estimation of these dynamic welfare gains.

44. Like any empirical economic exercise Behrman's study is necessarily based on several assumptions, and we may take a short, critical look at some of the major ones and their broad implications for his findings.

1. The price targets and floors and ceilings are in real terms. This is a logical assumption. The object of the Integrated Programme is essentially to stabilise the growth in the purchasing power of the earnings of developing countries from primary-commodity exports. And it is pertinent to note that the use of price targets in real terms does not necessarily imply 'indexation'. The secular trends in the real prices may be either upwards or downwards, and indexation is a special case in which the secular trend of real prices is changed to zero. However, it is difficult to see the logic of the creation and operation of a Common Fund and its associated commodity arrangements without some sort of indexation at least over the short and the medium term. As aptly observed by Green (1977, p.10), "fixed money price ranges for commodities and 10 to 12 per cent annual increase in manufactured goods import prices can hardly be perceived as stabilisation as opposed to stabilised, internationally managed impoverishment of peripheral exporters; an operation one can hardly expect

them to co-operate in for long". The developing countries have often been accused of fudging, as a tactic, the question whether they sought stabilisation or increase of prices. This is an unfair allegation in that they have always clearly laid great emphasis on 'fairness' of price and revenue, implying some form of indexation to ensure stabilisation around remunerative price trends. The de facto flexible approach of the International Tin Agreement (through the adjustment of floors and ceilings by the Tin Council) or the ACP-EEC Convention of Lome which links agreed sugar export prices to the EEC's internal beet sugar prices are all examples of the principle of indexation in actual practice. It would be interesting to analyse the implications of a zero growth rate in real prices of the primary exports of developing countries within Behrman's analytical framework rather than his illustrative 2 per cent increase in the price trends. On the basis of the observed trends in the real prices of primary-commodity exports it would appear that indexation should lead to added revenue of much less than the 80 billion dollars (as would result from a 2 per cent increase in price trends) to producers in less-developed countries. The cost of operation of the programme in terms of stock acquisition and financing will also be correspondingly low.

2. The bandwidths around the secular price trends which are maintained by the buffer stock operations in the simulations are ± 15 per cent. The UNCTAD Secretariat, in the Preparatory Meeting prior to the March 1977 Negotiating Conference on the Common Fund suggested a bandwidth in each agreement of ± 10 per cent around a target price defined as either the 1971-75 average (in 1976 dollars) or the (projected) 1974-78 average (in 1975 dollars). With these bandwidths and targets the gross present discounted revenue to developing-country producers is likely to be about 5 billion dollars (on a rough and ready reckoning) from buffer stock operations in respect of the core commodities.
3. No export or production quotas are utilised by the commodity agreements. However, in Behrman's model actual quotas and restrictions are used to the same extent as in the sample period, since the structural estimates reflect the impact of any such policies. Over the sample period export restriction arrangements were actually in force in the case of sugar, coffee, tin (in conjunction with buffer stocks) and tea (informal quotas) for some years. To the extent that the Integrated

Programme leads to the adoption of new export-quota type of arrangements e.g. in respect of rubber, hard fibres or tea, the estimates may be affected, albeit not surely to such an extent as to vitiate the relevance of the existing ones.

Of course, the model specification does not make allowance for any form of government interventions that have affected commodity markets in the past or which may be important in the future. As Behrman (1976, p.12) admits, "this is a simplifying assumption intended to ease the job of constructing the models, and particularly to facilitate their use as a part of large systems". But he rightly points out at the same time that "much of the evidence of the performance of market-stabilisation schemes suggests that, except for some specific instances, the assumption of substantially free markets is appropriate".

4. The simulations over a particular historical period (1963-72) are supposed to provide relevant information about the likely orders of magnitude associated with buffer stock operations. The use of the ten-year period ties the results to that particular period, but the period is long enough to cover a wide diversity of experience, including major swings in the world economy. The length of the period thus mitigates the extent to which the results are likely to be biased by the choice of a select period. The adoption of a period as long as ten years is rational also because it actually allows enough time to cover several commodity price cycles of historical duration.
5. Decisions concerning private inventories are not affected by the operation of the buffer stocks. This of course is a heroic assumption. A priori private inventories might be expected to fall due to less uncertainty for hedging and speculation and the assurance of additional supplies from the buffer stock. However, on the other hand, the reduction in risks of carrying inventories may cause them to rise, ceteris paribus, if inventory holders are risk-averse. The estimation of the cost of operating through the market presupposes knowledge about how much the buffer stocks would have to buy or sell to affect a given change in the market prices. Fixed elasticities and estimates of annual quantities coming on to the market, as assumed by Behrman, are not sufficient for this purpose because market expectations will change as a result of the existence of international buffer stocks, and under the impact of the market's own assessment of their ability or willingness to hold the ceiling or floor prices.

Behrman admits that his procedure does not very satisfactorily incorporate speculative inventory behaviour. Indeed, the neo-classical partial-equilibrium, or comparative-statics tools are often criticised on the ground that a change in one of the variables, given an initial equilibrium, sets in inexplicable and unpredictable changes in expectations, and these tools are incapable of solving dynamic problems when risk and uncertainty are introduced into the models. If alternative hypotheses, such as concerning private inventory

behavioural relations were adopted, some of Behrman's conclusions regarding the gains and costs from price stability would become less straightforward. It is extremely difficult, however, to decide firmly on both theoretical and empirical grounds, whether one type of expectation or behavioural hypothesis is more rational than another in portraying what really happens in the various commodity markets. In almost all formal models of economic theory and econometrics the expectations hypothesis is usually extrapolative, i.e. based on the supposition that the expected value of a variable is a weighted value of its levels at different points of time in the past, and Behrman's is no exception in this regard. A 'sensitivity analysis', i.e. an analysis of the sensitivity of the simulation to structural changes in either direction for inventory behaviour, or for any other aspect of the model, "could be explored in principle," but such an exercise, Behrman points out, would be much beyond the time and resources of his study.

45. Admittedly, there are formidable difficulties in trying to evaluate in precise quantitative terms the likely welfare implications of the Integrated Programme for the developing and developed countries, and adopting partial analyses based on historic time-series data of 'free' market prices for this purpose has obvious limitations. As already noted, the production and marketing of processed and manufactured goods are to a considerable extent on an oligopolistic basis and it is wrong to assume that the buyers' side of most commodity markets is a large number of small, independent bidders as postulated under perfect competition. Thus to assume the free play of the market and to neglect institutional factors would be to risk arriving at imprecise conclusions anyway. Conventional cost-benefit analysis takes market price as data and thus ignores imperfections; it is also incapable of considering non-marginal changes. But while these are standard pitfalls about which economic theorists continually caution their fellows who venture into the applied world, empirical studies will remain reasonably justified and useful to the extent they are able to provide, albeit with some compromise with the realities of a complex economic world, results which give broad indications of the direction, orders of magnitude and cardinal ranking of some of the crucial variables. In this regard, Behrman's study represents a useful and pioneering quantitative exercise on the costs and benefits of the Integrated Programme, particularly because his model has the advantage of being reasonably simple and manageable.

46. Before concluding, it may be in order to refer briefly to another recent study by Green (1977) which also attempts a general macro-analysis of the likely costs and gains of commodity price stabilisation through managed marketing as visualised in the Integrated Programme. The major assumptions underlying the exercise are (1) a Common Fund covering the 18 commodities in respect of stabilisation (not solely or universally via buffer stocks) within 10 per cent relative to 'average prices', and 'co-ordination of individual commodity agreement parameters for market management'; (2) 'de facto indexation in commodity agreement operations' over the short and medium term; (3) a nil 'micro-stability gains or losses' from operations in individual commodities taken as a group; (4) some 'second window' operations in respect of diversification and processing. However, the elaborate methodology underlying the estimates has not been spelt out in the study (described as a 'prolegomena') so that an objective and critical assessment is difficult and inappropriate. Nonetheless, Green's findings are reproduced in the appended table for the interested reader.

Concluding Remarks

47. The study demonstrates that the macro-economic, multiplier effects of a comprehensive and global commodity price and income stabilisation scheme, as visualised under the UNCTAD Integrated Programme for Commodities, are conducive to the welfare of both developed and developing countries, although some of these effects are not precisely quantifiable. The likely gains relate to (a) income, employment, inflation and cyclical fluctuations in industrialised economies, as well as (b) income, employment and balance of payments of less-developed countries, and (c) investment in commodity production which determines the long-run physical availability ('security of supply') of non-renewable resources and agricultural products - a crucial concern for the industrial powers that has been dramatised by the Club of Rome. Indeed it is apposite to say that the Integrated Programme purports to integrate both allocative and distributive elements within a global 'social welfare function'. Even the devout followers of the neo-classical doctrines, to whom the efficiency and 'Pareto-optimality' of market economy are broadly relevant objectives for contemporary industrial economies, now support the need for government intervention for the replacement or modification of the market price mechanism where it cannot be expected to work effectively for re-distribution of income and wealth. And as indicated previously, developed countries e.g. the United States and the EEC have long recognised the importance of avoiding excessive fluctuations internally and have introduced intervention measures to protect the real incomes of their primary producers. The extension of these principles in the international sphere under an adequate, multi-commodity package approach could result in important macro-economic benefits for the world as a whole. And commodity reform is much more desirable than "massive additions to aid which is - no matter how well-meant - a plea for Eurocentric paternalism and a rejection of self-reliance based on equal bargaining and fair bargains" (Green and Singer, 1975, p.435). The Integrated Programme and the creation of the Common Fund, on the other hand, should not be regarded as a new exercise in international aid or unrequited resource transfer, "but as a vital instrument in restructuring international trade in the interests of developed as well as developing countries", as stressed by the Secretary-General of UNCTAD in his report to the first Preparatory Meeting on the Common Fund. What often creates a misapprehension about the Programme is that a rise in the purchasing power of developing countries as a result of higher export prices would involve a zero-sum game inasmuch as it would lead to a corresponding decline in the purchasing power of the developed importing countries. However, this is a 'static' view and in a dynamic set-up, when the full interaction of all the forces are taken into consideration, the situation is changed radically. The increase in the purchasing power of developing countries by translating an enormous - almost insatiable - potential demand (owing to unfulfilled needs) into an effective one will generate forces which in turn will stimulate economic growth, employment and exports in the industrialised countries. Thus in the long run, the cumulated effects of the rise in the purchasing power of the developed countries would lead to a positive-sum situation wherein all concerned will mutually benefit. Indeed it is quite conceivable that the Integrated Programme, in so far as it leads to a steady rise in the purchasing power of developing countries, may form the best remedy for the most intriguing post-war economic problem of the developed world, viz. the dilemma of the trade-off between unemployment and inflation implied by the Phillips curve. However, unless the developed countries are convinced of these tangible long-run benefits, immediate or short-run considerations will continue to eclipse all others, including those of the ethical case for a more equitable world economic order. Hopefully, such a conviction is not far away.

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COMMON FUND AND PRICE STABILISATION:
GREEN'S ESTIMATES OF COSTS AND BENEFITS

GAINS AND COSTS (\$'000,000) ^a						
	Industrial Economies		Peripheral Economies		Net	TOTAL
	Year 1 ^b	Year 10 ^c	Year 1	Year 10	Year 1	Year 10
1. Price Stability ^d	+10,000	+13,000	+4,000	+5,200	+14,000	+18,200
2. Trend Stabilization and Terms, shifts ^e	-500	-6,500	+1,000	+13,000	+500	+6,500
3. Marketing Participation	-300	-1,560	+300	+1,560	-	-
4. Supply Development	-	+2,000	-	+4,000	-	+6,000
5. Processing, etc. ^f	-	-	-	+1,500	-	+1,500
6. Fund Equity ^g	-150	-195	-100	-130	-250	-325
Total	+9,050	+6,745	+5,200	+25,130	+14,250	+31,875
Alternative I	+4,050	+245	+3,200	+22,530	+ 7,250	+22,775
Alternative II	+8,800	+3,495	+5,700	+31,630	+14,500	+35,125
Alternative III	+9,550	+13,245	+4,200	+12,130	+13,750	+25,375

In alternative I a 5% (not a 10%) reduction of instability is assumed.

In alternative II a 50% larger trend stabilization/terms of trade shift effect is assumed.

In alternative III trend stabilization and terms of trade shifts are assumed to be nil.

Notes: a. Constant 1976/77 prices.

b. First fully occupational year

c. Assumes 30% volume growth over decade.

d. Includes gains on intra-industrial economy trade and peripheral economy imports.

e. This combines basic stabilisation of trends (in real terms), 15-20% real price increases over a decade for tea, jute, bananas (at producer price level), some erosion of long term real purchasing power for commodities under synthetic pressure.

f. This is a pro forma and rather conservative estimate. Major breakthroughs on research into new uses and into processing could yield much larger gains. The larger the gross gains, however, the greater the problems of estimating opportunity cost to arrive at the net level.

g. Assumed to be paid 60% by industrial economies and 40% by peripheral economies (including OPEC members).

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for the Regulation of International Commodity Trade

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SUMMARY

1. The object of the paper is to discuss the extent to which experience with the agricultural policies of developed countries can be related to the problem of international commodity regulation. The basic similarity of the problems is striking (paragraph 4), and the techniques used by governments in farm policy also have a close affinity to those suggested in an international context (paragraph 5).
2. Traditional (pre-1930s) farm policies relied heavily on tariff protection against the growth of agricultural trade: the 'new' policies of market intervention arising from the depression went further, in particular, in exporting countries (paragraph 8). This was consistent with the growth of government control over other aspects of economic life.
3. Farm policies evolved to meet wartime and post-war conditions, and then to assist in the control against inflation in the last decade. As commodity prices resume their more normal relative levels, concern over farm income support has tended to re-emerge. But the political basis for such policies may now be much weaker than previously.
4. The objectives of farm policies are a reflection of the agricultural trade balance, the general economic attitudes and performance, and the political structure of the country concerned. There are strong similarities in the ways in which developed countries have tackled their farm and agricultural market problems, in spite of these differences in economic circumstance. In particular the instruments used have differed in emphasis rather than in kind.
5. Political attitudes towards the role of the market in influencing personal incomes and business investment decisions is one important factor in the development of farm policies. But this has varied over time in all countries, and is not a reliable guide to the policies of any particular country.
6. Countries have used a mix of policies including the improvement of markets through producer organisations, the state purchasing and sale of output surplus to domestic market needs, the control of output through delivery quotas and acreage allotments, and the payment of supplementary subsidies to hold up farm returns. The emphasis has been on price control in agricultural markets, rather than the improvement of efficiency and the facilitation of resource adjustment per se.
7. All the countries studied have run into budgetary problems, and the control of exchequer costs has proved the main constraint on farm programmes (paragraph 40). The policies have not been particularly cost-effective, but have survived because they appear to be tackling a nagging and persistent social problem. The more positive policies have aimed at improving market channels and investment decisions: the least successful have given blanket guarantees of markets which would not exist without government support.

8. International commodity programmes differ from farm policies in their institutional and administrative forms. A political consensus which readily accepts income transfers, and a sizeable bureaucracy which is adept at modifying programmes to new conditions have given farm policies a degree of continuity and flexibility. These conditions may be less easy to obtain at an international level. Control over markets may be easier to achieve, and problems of information less serious at a national level (paragraph 47).
9. Short-term intervention in markets has often, in national policies, taken the place of longer-run market development. This has led to an obsession with current market prices. International policies might benefit from the integration of all aspects of commodity market performance. In particular, long-term market trends are not often influenced by short-run price policies. Developed country agriculture adjusts to economic conditions in the economy as a whole in spite of, rather than as a result of government price policies (paragraph 53).
10. The setting of price levels is a crucial aspect of national policy and equally important in international market regulation. The appropriate price enables control instruments to be effective: an insupportable price brings the most sophisticated control device into disrepute. The experience of farm policies suggests that flexibility in price fixing has to be maintained (paragraph 56). The techniques need have applicability to international discussions (paragraph 57).
11. As to the choice of instruments, farm policy experience points to several conclusions. Supply control has been successful in a limited number of cases, but raises difficulties in administration in an international context. As with other methods of revenue increasing, the full effects tend to be dissipated over time. Stabilisation policies have also been useful in distributing crop output over time to meet demand. But the scope for such policies is constrained by the actions of others as well as by the nature of the product concerned (paragraph 65).
12. Policies which provide a market floor have been less successful, in that they are not increasing the value of the crop or product to consumers. As such they run into financial difficulties. They are in any case more difficult to operate internationally, as they rely on residual markets into which to dispose of unwanted produce (paragraph 66).
13. In national as well as international policies, the basic choice in an inherently unstable market is that of deciding which variable to allow to fluctuate. Deliberate variability in stock levels, for instance, can stabilise consumption patterns. By contrast, efforts to control stock levels and financial costs implies that other variables in the system become less stable. In national policies, domestic price stability has tended to be the dominant aim, to the detriment of stability in other aspects of the market (paragraph 67).
14. Farm policies interact with each other through the medium of international trade in temperate zone products. World prices react to the

assiduousness with which countries pursue domestic objectives. This also has implications for international programmes. They must offer the equivalent degree of security as national programmes if they are to supplant them. The same problems do not arise with minerals and tropical agricultural products (paragraph 71).

15. The conclusion of the paper is that flexible pricing and adequate funding can improve the performance of international markets. Domestic farm policies have often run into problems when rigid price support mechanisms have attempted to obscure the underlying market conditions (paragraph 73).

INTRODUCTION

1. The terms of reference for this paper were to discuss the measures used in developed countries in pursuing price stabilisation and income support objectives in the agricultural sector, and to relate these to the regulation of international commodity trade. I was asked to consider the policies of the US, Canada, the EEC and Australia; to cover the types of measures used, the commodities affected, and the objectives behind such policies; to quantify where appropriate the extent of support; and to draw out the implications for the adoption of price stability and income support measures in international commodity trade.

2. I have interpreted the assignment in the following way:

The governments of all the countries mentioned, as well as most other advanced economies, have experimented with a variety of measures which regulate the market for agricultural products. The extent to which these policies have been successful throws light upon the possibilities and limitations of international commodity control. Three aspects of such experience have particular interest - the choice of instruments of policy used in the pursuit of particular objectives, the methods of financing such policies together with the implications of various financial devices, and the administration of such programmes including the decisions taken on price levels and on the adaptation of policy instruments to changed market circumstance. In the search for acceptable and appropriate means of regulating international commodity trade, the lessons, mutatis mutandis, of such experience are of value. Moreover, the existence of such policies has itself some direct implications for international regulation in the products in question.

For convenience, I shall refer to the EEC as a country to avoid having to use a phrase such as countries or regional groupings of countries when making a generalisation. Except when otherwise stated, reference is to the EEC of nine countries. I have used the phrase farm policy or agricultural policy in its broadest sense to include government measures - in particular, those taken by central government or at the federal level - which impinge directly on the operations of the market for farm products. Such measures often include policies designed to influence variables, such as consumer prices, which are not related to farm incomes.

3. The limitations of the study need to be acknowledged. It is not possible to include a full evaluation of the policies discussed in all their complexity. Such information is often not available even to the governments responsible for the measures, and is certainly outside the scope of this report. The degree of quantitative assessment possible is limited not only by time but by the nature of the policies themselves and their underlying objectives. How much price stability and income support was intended by a particular policy, and what cost could be considered reasonable in attaining these aims? Such questions are not capable of quantitative evaluation by an economist. Even political appraisal of success is unlikely to be unequivocal. This paper is more concerned with underlining the implications of government measures. As such, it relies on an analytical examination of the experience: judgements on 'success' are largely impressionistic rather than precise. Similarly, the implications of this experience for international commodity trade regulation are not amenable to quantification. It may, for instance, be possible to say what problems could arise in a renewed attempt to stabilise world sugar prices by means of a buffer stock policy: to detail the stock management rules necessary in such an attempt requires a very different exercise.

4. Within these limitations, a number of constructive avenues can be explored. The basic similarity of the problems of developed-country agricultural policy and those of international commodity regulation is striking. Both start from a feeling of profound dissatisfaction with the unfettered workings of the market. In the case of farm policies, governments have taken the view that the performance of free markets has unacceptable social consequences for those who are engaged in the production of farm goods. This shows up in the level of incomes of farmers and in the stability of such incomes. Depressed or unstable farm incomes in turn have implications for the whole rural economy and often for the economy in general. Fluctuating farm product prices are of concern to consumers and variations in export revenue or in import cost tend to destabilise the economy as a whole. If a 'free' world market is also unstable, then the concern at an international level is with the implications for countries deeply involved in such trade. Macro-economic policy becomes difficult in such a situation. And if such a market produces periods of depressed prices then foreign exchange earnings and real incomes suffer in exporting countries much as rural incomes are held down by low product prices in agricultural regions of developed countries.

5. But the similarities run deeper. The techniques by which governments can influence the workings of the market are basically limited. Even if there were no correspondence in the objectives and motives for such intervention, the instruments used in the attempt to improve markets would be from the same stable. The analytical implications of a particular policy measure in a market are not in themselves dependent upon the motives behind such a policy nor, in general, upon the geographical and political definition of the market in question. An examination of these techniques is of interest in its own right. Each technique or policy instrument has its own characteristics, which can be stated in terms of the effect on the market, the incidence of benefits and of costs, the administrative decisions, and flexibility in the light of changed circumstance. This study will attempt to explore both the relationship of policy measures to objectives and the characteristics of the measures themselves.

6. The report is subdivided in the following way. Section I deals with the development of farm support policies in the four countries - the objectives, the mechanisms, the problems and the achievements of these measures. The second section relates this experience specifically to a set of perceived problems in international commodity trade, and attempts to define the differences as well as the similarities between these two sets of problems. A concluding section gives an appreciation of the possibilities and constraints facing negotiators dealing with commodity problems in the light of the experience of farm policies. Finally, some more detailed analytical and statistical material is presented in the appendices.

I. Agricultural policies of the U. S., Canada, EEC, and Australia

(i) An historical overview

7. Agricultural policies in one form or another have a long history. Until the last five decades, such policies tended to be a reflection primarily of the trading position of the country concerned. Agricultural markets were protected by a variety of instruments designed to give preference to domestic producers. Protection levels were often high, in particular, where old-established forms of agriculture were threatened by technical developments overseas and the opening up of new lands. But whereas these trade policies, implemented largely through tariffs and quantitative restrictions, did represent a conscious effort by governments to influence agricultural conditions, they are of minor relevance to the question at hand. They were by their nature policies which were more suited to the problems of importing countries. They reflected attempts to preserve the profitability of 'old world' agriculture against the natural advantage of the new. They did not involve extensive government involvement in the marketing of agricultural products, and they did not impose any sizeable burden on national treasuries. Exporting countries, although they also employed tariff protection, found the pattern and direction of trade severely constrained the assistance that such policies could offer to domestic agriculture. Since international commodity problems have

mainly been associated with the concerns of the exporter, experience with these tariff-type agricultural policies is unlikely to have direct relevance today. Indeed, the more 'global' the commodity problem, the more difficult it would be to find a group of producers against whom to discriminate by means of a tariff.

8. The growth of government involvement in agricultural markets was fostered by the depressed conditions of the 1930s. The new policies required the backing of trade restrictions, but introduced new domestic instruments. The exporting countries participated and even led the way, as the volume of agricultural trade slumped. The motives were akin to those that prompted intervention in other aspects of economic life. Governments assumed a new and enlarged role - that of countering cyclical variations in regional and national economic activity. This new national economic order introduced short-run stabilisation policy into the arena of administrative action. Farm policies nurtured in this period had as their aim the amelioration of rural depression. These 'new' policies were broadly of two types: the establishment of para-statal bodies for the marketing of farm products, and the attempt by governments to limit supply. The growth of marketing legislation built upon and encouraged the development of co-operation among farmers, which in many countries had already reached a considerable level of development. The new legislation provided a more comprehensive framework in which voluntary co-operation could grow, but also introduced rules which allowed a co-operative marketing venture once established (usually by means of a producer referendum) to obtain more or less exclusive selling rights for the product in question. Where the government took steps to control trade, the combination of producer marketing agency and trade restriction effectively separated the development of that sector from the cold winds of world conditions.

9. The development of supply control, which reached its height in the U.S., was also inevitably linked with trade restrictions. The basis for successful supply control rests on the existence of a market demand relatively unresponsive to price. Where unrestricted trade is allowed, such conditions often do not obtain. Thus trade policy became inextricably entwined in domestic agricultural programmes, and trade flows came to reflect domestic policy decisions rather than commercial cost-advantage. The new policies ensured that agricultural trade would be treated in a different manner to industrial trade in international discourse. Together with the growth of an administrative infrastructure and a determined political sub-system, the modern agricultural policy had been born.

10. Whether these depression-generated policies would have survived a return to economic prosperity is an open question. The Second World War intervened to add a new task to that of maintaining rural spending power. Governments took command of the strategic potential of agriculture and harnessed it to the war effort, and subsequently to the task of recovery and reconstruction. As with many other facets of economic life, regulations and controls established over this period survived into peace-time. Governments took on responsibility not just for broad macro-economic management but for social conditions and for economic programmes. Farm policies took their place in the orchestra of instruments of the modern mixed economy. Their tasks included the maintenance of incomes in rural areas not just against economic collapse but to ensure equity and social justice; their prime responsibility was to preside over the modernisation of agriculture, to protect those in danger of being left behind by the process of technical change, and to harness the fruits of scientific farming for the cause of economic growth. The instruments of supply control and marketing agencies were supplemented by injections of government funds for research, for farm

credit, and for extension services. New policy measures were aimed at problem sectors, including firm price guarantees backed up by exchequer payments or supported by state purchasing. The trade policies developed to support earlier programmes were used more aggressively to expand domestic markets and maintain overseas sales. Farm inputs were often subsidised, and improvements in the quality of farm land encouraged. The strains of the post-war world economy also impinged on farm programmes. Foreign exchange needed to finance industrial expansion as well as to pay off debts could be earned by increasing agricultural sales abroad or saved by reducing food import requirements. Those who left farming contributed their labour to the expanding industrial sector, and those who remained improved their individual productivity by farming larger areas with the help of modern methods. Farm policy walked the tightrope of encouraging expansion by guaranteeing markets and supporting incomes, and facilitating mobility by stimulating the exodus in particular of the young and the landless to the towns.

11. Towards the end of the nineteen-fifties it became clear that the balance could not be maintained. Farm expansion had been too successful: the output generated found no buyers at the prices fixed under farm programmes. But to reduce these prices would not only offend social equity but put undue burdens on those who neither had the mobility and education to move to urban employment nor the resources to exploit the new technology. A new concept was needed - that of 'adjustment' in agriculture. The market related policies remained, now justified by social concern for the rural poor, and a set of structural measures attempted to fill the gap left by the undue emphasis in social security and welfare programmes on urban conditions. Costs of policies to dispose of excess production escalated and competed with demands for funds for rural development. The edifice of farm price supports began to look out of place in the more liberal environment of the sixties, and the ingenuity of administrators was taxed to the full in trying to contain the flow of overpriced agricultural output. Much of the complexity of present-day policies stems from the attempt to restore the balance between legitimate and commendable programmes to stabilise agricultural markets and the unwanted consequence of the accumulation of unsaleable commodities produced for the government rather than for the market.

12. The process of reducing the real value of price supports, of limiting programme costs, and of disposing of surpluses was well under way when the events of 1972-1974 interposed a new set of problems. A shortage of animal feeds increased farm costs already under pressure from accelerating inflation. A combination of harvest failures and policy changes put unprecedented pressure on cereal supplies. The shock of the escalation of oil prices led governments to redouble efforts to control inflation and to offset balance of payments deficits. Economic activity faltered, and government spending plans based on the continuation of growth had to be checked. The complex of government agricultural policies had new demands imposed upon them: domestic farm output, once in surplus, became a valuable ally in the effort to control consumer prices. Stocks expensively hoarded became useful food reserves, to be replenished when exhausted against the contingency of the next 'food crisis'; export volume became less important as export prices increased, and became subservient to maintaining supplies for domestic use. Consumer subsidies quickly appropriated expenditures which in other circumstances might have paid for farm programmes. Traditional patterns of trade, with reliable sources of imports at relatively low cost, were remembered with nostalgia where previously they had evidenced the disruptive marketing policies of exporters shifting the failures of domestic programmes onto world markets. With the augurs pointing to continued market instability and the likelihood of recurrent food shortages, importers began to think in terms of conscious food supply policies, into which agricultural programmes and the level and pattern of domestic output would naturally fit.

13. It is becoming clear that this policy reaction was somewhat hasty. World prices have now receded, relative to those of other products, to the levels associated with the early sixties. The old programmes are reverting to their pre-crisis roles of underpinning markets for domestic producers. But government funds are still tightly controlled, and the political base of agriculture has been weakened by the attentions of other interest groups stimulated by the elevation of farm policies in the national consciousness. The re-emergence of old problems could provoke a fresh attempt to provide lasting solutions. High on the list of such possible approaches is the more determined search for international or co-operative intergovernmental action to deal with farm product marketing problems. Increasing awareness of economic interdependence has brought such a possibility nearer than at any time since the national farm policy began.

(ii) National policies compared

14. Two characteristics emerge from this brief historical sketch of the development of farm policies. The first is their flexibility. Changes in economic conditions - the degree of inflation, the rate of growth, the balance of payments position, and the level of unemployment - have had a major impact on the emphasis of agricultural policy measures. Each new problem leaves its mark on the direction of the policies and the instruments used. This makes it difficult, and even misleading, to talk about the 'objectives' of such policies. Governments do formulate objectives, but what is significant in influencing policy is not these political statements themselves but the perception of the dominant problem at any point in time. The explicit objectives of almost all countries include the stabilisation of market conditions, the provision of equitable returns on farm resources, and the adequate supply of goods to consumers at reasonable prices. Implicit in the link between these objectives and the formulation of policies is the judgement that unregulated markets are unstable, that farm resources are underpaid in the market-place, and that supplies are likely to be unreliable and overly expensive if governments do not intervene. But the history of agricultural policies paints a more complex picture.

15. The higher-level objectives of a modern society include economic and social stability combined with an equitable distribution of material benefits and the realisation of the development potential of the countries natural resources and human skills. Pressures arise of a positive and a negative kind: positive action is required and expected of governments to facilitate change and take advantage of opportunity, and negative or defensive policies are called for when events move against particular groups and interests. The political structure keeps such concerns before the administration and their response is bound to produce an array of ad hoc devices designed for the moment. Agricultural policies, or at least those with the greatest visibility, have tended to be of the defensive type. Agriculture has not, during peace-time, been planned in western democracies. Policy success cannot be related directly to a set of articulated goals; it is more a question of whether the most serious impact of events within and outside agriculture has been softened. The flexible use of policy instruments has contributed to the continuity of the major agricultural programmes over the past forty years.

16. The other dominant feature of agricultural policies in the major developed countries has been their similarity. This is related to the degree to which they react to changing circumstance, since the changes themselves are of a kind that disregard national boundaries. Depression, inflation, agricultural technology, social aspirations and political views on the role of government in the economy all spread throughout the industrial world.

This communality of circumstance and government responsibility produced similar reactions, in agriculture as well as in other areas of economic and social policy. In agriculture, the impact of this common response has been largely responsible for the trading difficulties observed in international markets for temperate-zone commodities. These problems are discussed further in the treatment of commodity market issues below. But despite the general similarity of approach, differences naturally occur among countries in the way in which agricultural problems are handled. These differences can be traced to the peculiar national characteristics which shape domestic policy response. The most important of these is the inherent trading pattern, the relationship between the size of the domestic market and the capacity to produce various agricultural products. The actual trade pattern is of course influenced considerably by the policies themselves, but the size, tastes, and affluence of the population circumscribe the domestic demand and the basic resources of land and technical skills put limits on overall supply. Moreover, the availability of employment in the non-farm sector has a major impact on the size of the farm labour force, and the level of off-farm incomes influences the acceptable level of incomes in agriculture. The structure of land use inherited from previous generations, and the legal basis for tenancies and land ownership all modify the concept of productive capacity, as does climate and its variability, soil type and the development of rural infrastructures. But in spite of this, few countries can at will and with reasonable cost alter the inherent balance of agricultural trade. These trade patterns in turn limit the choice of policy instruments and give their own emphasis to the perception of problems. This combination of different problems and different constraints itself makes comparison of policy success more difficult.

17. The difference in farm structure and land tenure traditions, besides influencing productive capacity puts its own stamp on national policies. If farm policy is to preside over social change and to regulate the burden of such change then one would expect to see the emphasis of policies reflect the magnitude of the adjustments to be faced. Important in this respect is the political attitude towards change induced by economic pressures - the degree of paternalism expressed in government programmes. These same political attitudes to the question of individual and collective responsibility show up in the emphasis given to stability objectives. The willingness to absorb publicly the risks in agriculture differs even between countries in rather similar economic circumstances. Agricultural policy will reflect in most cases the dominant political ethic, though this can be tempered when national interest is at stake in international affairs.

18. Finally, the difference in economic performance seems to have a marked influence over agricultural policy decisions. In part this reflects the ease with which a growing economy can absorb change, though expenditure on farm programmes may increase in periods of affluence both because of the availability of government funds and also because the income aspirations of farm people are linked to the living standards of their urban counterparts. In periods of rapid inflation, administered farm prices often lag behind the general cost of living and the prices of farm inputs. Balance of payments problems usually stimulate government activity in the agricultural sector; a persistent surplus has in some cases led to a reduction in protection for domestic agriculture.

19. The similarities and differences show up in the comparison among US, Canadian, EEC and Australian policies. One common feature which has a bearing on agricultural policy is that all of these countries have a federal structure. Discussion of their policies is complicated by the sharing of power between central and state or provincial governments. In the case of

the EEC, the conflict between member state and Community responsibility is most marked. National governments have kept to themselves a number of policy instruments, in particular, legislation relating to land ownership, taxation, and the farm labour force. They have passed to the Community control over foreign trade and the responsibility for the major aspects of domestic commodity market policy. Though decision-taking resides in the Council of (national) Ministers, policy initiatives in these areas must emanate from the Commission. A limited degree of price differentiation has re-emerged in the EEC through the operation of the system designed to counter exchange rate movements. In Canada the federal government also controls trade both international and inter-provincial. Marketing legislation which does not involve restraints on trade between provinces is enacted at the provincial level; most of the major farm policies are the responsibility of the federal government. In the US, state legislation also regulates local marketing conditions but federal agencies have responsibility for the bulk of the commodity programmes and for international trade policy. In Australia, States have considerable powers over production, marketing, and land use within their territories, whilst the Commonwealth government again is responsible for international trade. States participate in decision making at the Commonwealth level.

20. This federal structure is important for two reasons. First, the existence of predominantly free trade within the boundaries of the federations imposes significant limitations on the potency of restrictive marketing policies, and hence on the ability of governments to favour one group of producers. Thus regional interests, which vary widely on account of economic conditions as well as soil and climatic disparities, have in general to be satisfied at a federal level. The problem is most marked in the EEC, where regional specialisation has proceeded less far than in the other areas. But even in the other countries, the politics of farm policies are those of regions, states and provinces coming together at a federal level. The other feature of a federal structure is that of common financing of farm programmes; the shape of agricultural policies is an important determinant of transfers of funds from one area to another. Where such transfers are generally acceptable, the particular policy instruments used may be of lesser importance; Where they are contrary to considerations of equity they may lead to the rejection of policy measures that would otherwise be satisfactory. The problem of transfers is of greatest political importance in the EEC, but can influence farm policies in other countries as well.

21. All four countries are important trading entities, and agricultural trade is in each case a significant part of their international transactions. Canada and Australia are the most 'open' of the economies; the EEC and the US are, though less dependent on trade, more important in absolute terms on account of their much greater economic size. Both aspects are significant for agricultural policy. The absolute size of exports (or imports) of a particular commodity limits the extent to which the world market can be used to absorb additional supplies generated by price supports. In contrast, the larger the relative share in trade the greater is the possibility of the use of market power through supply control. If agricultural trade is an important part of the total international trade in a country then it is more likely that policies in that area will be influenced by considerations of general trade policy. This may not be entirely rational, as extra output is likely to have the same value expressed in foreign exchange earned or saved irrespective of whether trade is significant or negligible. But policy priorities are bound to be influenced by the visibility of items in the trading account. Though convenient to talk of the US and Canada as agricultural exporters, both have very considerable imports of farm products. Australia

does not need to import significant quantities of temperate-zone products, and therefore has a less ambiguous trade interest. The EEC is a net importer of agricultural products but with considerable export sales.

22. There are significant differences among these countries in their attitudes towards the role of government in economic decisions which prereflected in the choice of farm policies. Australia and Canada share a relatively uncomplicated political ethic that the task of government is to provide the framework for commerce, and that subject to socially acceptable minimum living standards the individual entrepreneur bears the major responsibility for output and investment decisions. This leads to a low degree of direct government involvement in agricultural markets except where the national interest appears to suggest otherwise. The Canadian and Australian Wheat Boards are the prime examples of agencies using monopoly trading powers to control sales, operating in an otherwise relatively liberal economy. The US, also philosophically inclined to free enterprise, has not set up agencies under federal legislation to control trade, and the powers of producer organisations are limited by anti-trust laws. In spite of this preference for a low government profile in economic affairs, strongly supported by some of the major farm groups, the US government has a comprehensive and involved set of agricultural measures administered by a sizeable bureaucracy. Europe represents an odd contrast. Individual member states differ in their approach to economic management, but in setting up the Common Agricultural Policy the decision was taken to involve government agencies intimately in the regulation of markets but, except in the case of sugar, to avoid output control. Producer co-operation is encouraged but its scale is limited by the competition legislation of the Rome Treaty. No attempt has been made to give sole trading rights to Community agencies, despite the fact that such arrangements were an important part of the pre-existing policies of member countries. The general attitude of the Community to such problems as farm incomes and their protection against market forces is much more paternalistic and dirigiste than the other countries, but in practice the policies of the EEC show less willingness to adjust output and control marketing channels than the more market-orientated economies of Canada, Australia and the US.

(iii) Policy instruments used

23. Just as there have been similarities and differences in the approach to policies in the agricultural sector in the four countries, so an examination of their choice of policy instruments shows both diversity and similarity. Often it is the emphasis among policy measures that differs from country to country. This is to be expected since policies and objectives cannot be simply related. If the objectives themselves are a complex reflection of the perceived problems, then the instruments must complement and interact with each other in the meeting of these objectives. Agricultural mechanisms can be discussed in at least three ways: the types of instruments can be viewed in relation to their strengths and weaknesses; the instruments used in the control of particular commodity markets can be compared across countries to illustrate the variety of approaches to related problems; and the main characteristics of each national programme can be described as reflecting the particular problems faced in that country. The analysis of the individual instruments is relegated to an appendix: the remainder of this section deals first with national characteristics and then with a discussion of commodity problems.

24. The policies of the USA emanating from the Agricultural Adjustment Act of 1933 but subject to major modifications at intervals since that time might best be described as an attempt to reconcile the political desire for individual and corporate economic liberty with the over-riding concern of

successive administrations for the health of the agricultural industry. The sector is to be saved from itself. The major innovation in early US policy was supply control in the most significant commodities through acreage allotments and marketing quotas. Much of this legislation remains today. Two federal agencies, the Agricultural Stabilisation and Conservation Service (ASCS) and the Commodity Credit Corporation (CCC), are responsible for the administration and financing of farm programmes. Price support schemes are mandatory for the 'basic' commodities - cotton, rice, tobacco, wheat, maize (corn), peanuts, as well as for barley, rye, oats, sorghum, wool and milk. Other commodities, such as soyabeans and flaxseed are also supported under the discretionary powers of the Secretary of Agriculture. Fluid milk sales are regulated under marketing orders relating to the major urban areas, and sugar has usually been supported under separate legislation. Meat and poultry products are marketed freely domestically, though subject to some trade controls.

25. The most severe problems, and hence the most comprehensive legislation, surrounds the main arable crops in which the US also has a pronounced export interest. Supply control has been applied over much of the period as a means of regulating output to meet domestic and foreign demand. A further outlet, food aid, was added in the 1950s to relax the pressure on accumulated surpluses as well as for more altruistic motives. The surpluses themselves were an indication of the failure of supply control to limit output of export crops. As a consequence, support prices (limited to those farmers who participated in acreage reduction schemes) were lowered, and partially replaced with direct payments. Acreage controls were themselves relaxed for cereals to meet shortage in 1967 and 1968, reintroduced in 1969, then given a somewhat more flexible form (the 'set-aside' arrangements) in 1971-73, and subsequently dropped again when world markets became firmer in the last few years. Policy changes danced to the tune of export demand developments and the associated budgetary costs incurred in price support payments, export subsidies and storage charges. The main aim in recent years has been to control such costs arising from the obligation to support farm prices by attempting on the one hand to maintain and expand export markets and on the other to avoid the overpricing of domestic output relative to market demand. Thus many of the provisions of domestic programmes, in particular for cereals and for sugar, were allowed to lapse when prices rose in 1973. Future policy will indicate the extent to which attitudes to government involvement in domestic markets have been significantly modified by the events of the past five years.

26. Canadian policy has had to keep in step with that of its neighbour and trading partner to the south. The concern with overseas cereals markets is an even more dominant theme in Canada. The methods employed have differed from those of the US. Acreage control has only been attempted on one occasion (the LIFT programme of 1970) for the major arable crops. But a comprehensive system of delivery quotas, by farm, has been in operation since 1940, allowing Canadian wheat producers in the Prairie Provinces little individual choice in their farming pattern. In return, that output is marketed with the weight of the Canadian Wheat Board (1936) which can adjust deliveries to meet anticipated domestic and export outlets. In general, the CWB has been self-financing; it is relieved of the 'residual buyer' obligations of the CCC in the US and the intervention agencies in the EEC. The main federal instrument of Canadian policy for products other than Western wheat is the Agricultural Stabilisation Act (1958), and the

associated funding agency, the Agricultural Stabilisation Board (ASB). Many commodities are mandatorily supported at price levels related to historical averages, such as cattle, sheep, pigs, dairy products, non-prairie cereals, and eggs: others receive occasional support through deficiency payments (such as wool, and sugar beet) and through government purchasing (potatoes). The Canadian Dairy Commission, also funded through the ASB, is the most important federal agency after the Wheat Board other marketing legislation being predominantly at the provincial level. Liquid milk markets are, as in the US, controlled by a quota system matched to local demands, with national support measures operating mainly in the market for manufacturing milk. Canadian agriculture also received an improvement in income related to the 1973 sellers market, and this will have an important influence on future policy attitudes.

27. Australian policy bears considerable resemblance to that in Canada, though modified by the importance of wool, sugar and dairy product exports, and by a somewhat more distant relationship with the US. The wheat market is dominated by a federal agency, the Australian Wheat Board (1948), which has however only relatively recently instituted individual farm quotas (1970). It is 'grower-controlled' to a greater extent than the CWB, the CCC, or the EEC intervention agencies. Its activities were intended to be self-financing, like the CWB, but have attracted considerable government funds at periods of low world prices. Domestic and overseas markets are separated, to enhance earnings from sales of the crop. This aspect, the maintenance of separate and generally higher prices on domestic markets, is also a feature of dairy and sugar policies in Australia. State marketing boards allocate liquid milk quotas, whilst a national agency is responsible for milk product exports. An equalisation fund, supported by export subsidies and government bounties, provides for the payment of a pooled price on domestic and overseas sales. Australia, as is the case in the US and Canada, allows a relatively free market to obtain in meat, though exports are promoted by a marketing board. Sugar production is controlled by farm quotas, and income is supported when necessary by export subsidies and fixed domestic prices. The wool situation has stimulated its own set of policies over the years, based on the original Australian Wool Board (1936), and has gradually involved more marketing control and the introduction of minimum prices and deficiency payments. A new body, the Australian Wool Corporation, now administers this programme. Production of wool has not, so far, been restricted.

28. Policies of the European Economic Community have at once a simplicity of form based on a relatively short history, and a complexity of motive accounted for by their intergovernmental nature. The main difference between EEC policy and that of other countries in the matter of instrumentalities is the emphasis on border controls facilitated by the fact that imports of the major products are of much greater significance. The establishment of a comprehensive system of threshold prices to prevent direct price competition by overseas suppliers from weakening domestic markets has been in many respects the cornerstone of the Common Agricultural Policy (CAP). Where such border protection is ineffective, support buying on the internal market guarantees a floor price. Produce so acquired is usually exported with the aid of subsidies financed by central funds. Marketing agencies at a national level are not, at present, a major feature of policy, and no Community-wide marketing bodies exist. The future of such relics from past national programmes, such as the marketing boards for milk, hops and potatoes in the U.K., is clouded not only by the ambiguity of their function within an EEC market system but also by doubts of their compatibility with more general notions of fair competition.

29. The system of variable import levies applies to cereals, rice, sugar, olive-oil, and milk products. Protection for livestock products derived from cereals - pigmeat, poultry and eggs - is related in part to the effect of the levy on grain. Imports of other meats attract fixed duties, modified in the case of beef by a variable component related to domestic market prices. Soyabeans enter freely, with a modest tariff on the related oils and meals. Domestic intervention buying covers cereals, rice, tobacco, sugar, beef, butter, cheese and oilseeds. More flexible support buying and aids to private firms for storage apply to fruits and vegetables, wine, pigmeat, flax and hemp. Deficiency payments help to support the incomes of durum wheat producers and stimulate the use of domestic tobacco and oilseeds. Production quotas, allocated by country in the first instance, operate only for sugar beet. The 'guarantee' section of the European Agricultural Guidance and Guarantee Fund (FEOGA) is responsible for expenditure incurred in price support operations. Producer groups at a sub-national level are encouraged, and are occasionally used as a vehicle for price support activities.

(iv) Commodity policies compared

30. The previous discussion of policy instruments indicated the range of devices employed in each of the four countries. Evaluation of the effectiveness of these measures is simplified by considering their application to particular commodity markets. The discussion will be limited to wheat, feedgrains, dairy products, and sugar. More general implications for other commodity markets are given later. The commodity classification is useful in the present context in two respects: first it underlines the link between the attributes of the commodity in question and the type of policy measure appropriate in that market, and secondly it illustrates the relationship which exists among national policies. Both of these aspects will be discussed at length in the later part of this report.

31. The wheat market provides a convenient starting point for a cross-country comparison of policies. The problems faced by the US, Canada, and Australia are basically similar. Wheat markets are subject to instabilities arising mainly from the influence of the weather, but also to a more limited extent from demand changes particularly in the market for animal feed. The fact that this demand for feed wheat is also known to be responsive to price implies that supply instability can be absorbed to a limited

extent by changes in feeding patterns. Its place as the world's major traded foodstuff imposes additional obligations on major exporters. As a consequence, they face the need for policies which maintain stability of incomes for their own producers, which ensure supplies for countries where domestic output is particularly vulnerable to yearly fluctuations, and which are consistent with the overall demands of economic policy. Since wheat farms in these countries are in the main of reasonable size and use modern technology, the problem of low absolute farm incomes does not directly arise. In Europe, by contrast, small scale wheat farming has been preserved, particularly in Germany, Denmark, and the Netherlands. The wheat policy of the EEC does not have to cope with variations in yield to the same extent as on the new continents, but prices set under the CAP have reflected the generally higher (non-land) costs of production.

32. The fact that wheat is easy, if expensive, to store, reflects itself in the willingness of farmers, traders, and government agencies to carry over a part of the crop to the next season. A fairly extensive trade in wheat futures on major commodity exchanges ensures reasonable information on short term market trends, and allows merchants to hedge against sudden price movements. The oligopolistic structure of the private trade in some countries gives rise to concerns about undue market power and to possible manipulation. Uncertainty about Soviet conditions, which in quantitative terms have a marked effect on supplies, tends to make the market sensitive to rumour and speculation. The long term trends point to a steady but not dynamic growth in demand largely centred in low and middle income countries: trade patterns have already reflected this trend in recent years.

33. All the four countries have pursued policies which try to prevent changes in world conditions from impinging directly on domestic producers. Only Canada and Australia control output at the farm level with delivery quotas, facilitated by their near-monopoly selling agencies. Though apparently satisfactory to farmers, it is doubtful whether this para-statal trading really confers much market power. Output in these countries may not in fact have been much less than if farmers were free to choose production levels, and the boards in consequence may not have been selling significantly less grain than if a more competitive market structure had obtained. The major benefits have probably come in the orderly marketing of the domestic crop over the year, rather than the manipulation of output quantity. In both the US and the EEC, state buying agencies have imposed a floor in the market, and as a consequence have accumulated stocks when world prices have been low. Direct export subsidies have then been needed to remove unwanted reserves into overseas commercial (and concessional) markets. The US has used acreage control, with significant payments to induce farmer participation, to limit wheat output in surplus periods. Whilst being reasonably effective in controlling the programme costs involved in storage and export subsidies, these land diversion policies have probably not kept world prices up over time. Any firming of the price of US wheat has encouraged additional output in other countries. Only more concerted action among the major exporters could really have made supply control effective in the medium run.

34. The stock policies of these four countries have not been noted for their consistency and articulation. Wheat accumulates on farms in Canada if harvests are good relative to CWB delivery quotas. The government pays certain storage costs, and farmers adjust their next year's production in the light of their own carryover. Though such a system will tend to stabilise farm income in the light of fluctuations in domestic yield, it is not clear that it provides an effective stocks instrument such as might be required by an internationally co-ordinated set of reserves. Similarly in Australia no

active reserve policy is pursued. The policy of the Wheat Board is to maintain working stocks, but there are no 'government-owned' reserves as such. On-farm storage is not so prevalent in Australia as in Canada or the US. European Community storage policy is essentially a byproduct of the intervention-buying system. Given little flexibility in setting this price, the intervention agencies have to accept grain offered to them, subject to various quality and other standards. They can dispose of this grain on tender to exporters who benefit from a subsidy. It would be possible to regulate stock holdings by varying this subsidy, but this is not normally done. One or two individual member countries are reported to have their own emergency stocks, but these have no importance in terms of market stability. The US employs a somewhat more sophisticated stock system through payments for on-farm storage as well as through CCC administration of grain stocks purchased under price support programmes. In recent years the volume of commercial relative to government stocks has increased, and there has been a reluctance to incur the costs involved in extensive storage programmes. The aim in the US, as with Australia and Canada, has been to preserve credibility as an exporter by being able to offset from reserves the variations in domestic output: the reality has been that the level of stocks has reflected external demand as well as internal supply. In most years this represents a stabilising mechanism for other countries, but in the absence of more satisfactory co-ordination of stock management it can also contribute to price fluctuations.

35. The market for feed grain is somewhat less sensitive than that for wheat, both in domestic and international terms. The national objectives are also somewhat more complex as higher feed grain costs impose a burden on the livestock sector. In addition, much of the grain used in animal feed is consumed on the same farm on which it is grown. As a consequence, feed grain policies are less visible in the four countries. It is in fact arguable that, in the absence of the programmes in the wheat sector, feed grain prices might have been left even more to the play of market forces. In economic terms, the two major characteristics of feed grains are the relatively price-elastic demand and the dominance of the US as the major exporter.

36. The relatively modest scope of feed grain policies shows up in Canada, where the Canadian Wheat Board handles only about one third of the barley grown in the prairie provinces, and where the delivery quotas do not seem to be an effective limit on production. For non-prairie barley and oats, only rather low minimum prices are set under the Agricultural Stabilisation Act, and have not involved the government in deficiency payments. The major domestic programme is a system of subsidised freight rates to move grain to eastern livestock farms. Ontario corn prices are protected by means of a tariff on imports which enter mainly from the US. In Australia the feed grain policies are almost entirely in the form of State marketing boards, which buy and sell the local crops in competition with each other but do not attempt to support prices. In the US, the main instruments of feed grain policy have been similar to those in wheat. Acreage allotments and, later, set-aside programmes have been in operation. Only one half of the farmers who grow feed grain have participated in these schemes; but those who did received price support payments and diversion payments according to the area of land which they kept out of production. This has had the effect of allowing the US government to limit surpluses at times when market demand has been weak. The support price for feed grains as well as the national acreage allotment have been adjusted to preserve market balance. As the major exporter of corn, these adjustments have been tantamount to supporting world price levels, a stance which was relieved by the price rises of five years ago. EEC maize and barley policy also follows that

relating to wheat: in this case, however, a net deficit position ensures that little support buying is required as prices are maintained by use of the import levy.

37. The dairy sector is by its nature complex and the range of policies reflect the various facets of the market. Unlike the situation in the major cereal growing areas, many dairy farmers in North America, Europe and even Australia have small herds, are relatively poor, and retain the sympathy of urban voters. Price supports are accordingly generous, which leads in part to the establishment of a smaller number of much larger enterprises the output from which puts pressure on the market. Countries which would otherwise import dairy products have no hesitation at restricting market access to deal with internal problems. In doing so the market demand is curtailed and the surpluses exacerbated. The usual instruments of market control, besides tight import restrictions, are differentiation by product and by destination. In the US, Canada, and Australia, captive urban milk-sheds are allocated by licence to local producers and wholesale prices are controlled. Milk going for manufacture into butter and cheese, commonly from smaller farmers in more remote areas, is sold at lower prices but still requires considerable subsidy. Only in Europe has this market division been avoided: all milk sells for roughly similar prices maintained by heavy government involvement in the manufactured milk market. Without any effective means of controlling supply, the EEC faces more severe policy problems. And with milk prices a sensitive domestic issue, the task of reducing the level of support given by the CAP has proved too great for the Community. At present about one-third of the EEC agricultural spending is on dairy product support, and this in turn represents almost one-quarter of the entire Community budget.

38. The sugar market is an example of a situation where farm policies do not seem to emerge naturally from broad social and economic concerns. No social problem exists, as in the case of dairy production, and no national interest is at stake as in the case of wheat. It does not, as does feed grain, form the basis for a large secondary agricultural industry. Sugar supplies are important in diets both directly and through their use in prepared foods. But this does not explain why protection of the incomes of sugar beet producers has become such a permanent feature of developed country agricultural policy. Generous price supports are explicable only in terms of the political acumen of a small group of businessmen and farmers. Allied with historical trading patterns, the protection of the domestic sector leads to some unique policies. In the US, which has been a major importer of raw sugar, a combination of direct subsidies, occasional acreage controls and domestic production quotas is used to maintain farm incomes. In the EEC prices have been set generally at a high level and yet it is the only crop to have come under production controls. In the UK, before joining the Community, acreage was tightly controlled even though one-half of sugar consumption was satisfied by imports. Canada employs deficiency payments to support a small sugar sector, and Australian policy, reflecting an export interest, has been to maintain high domestic prices and grant export subsidies. The political nature of the sugar trade suggests that farm policies in this sector do not give an unambiguous picture of countries using selective intervention to support and stabilise farm incomes: factors specific to sugar have played a dominant part in shaping such policies.

39. Policies for other products vary from high levels of support given to crops grown in areas where as a matter of regional policy it is felt desirable to maintain population and incomes - such as for durum wheat in Europe - to virtually free market regimes where no particular interest is at stake or

where policy instruments would be unduly cumbersome to administer. In Canada, Australia, and the US, the meat sector receives little direct support from government, though imports are controlled by 'voluntary' quotas in the case of the US and exports are subsidised in Australia. A floor price operates in Canada but payments are only needed when markets are cyclically depressed. The EEC has run a more active intervention policy for beef, but has avoided too close an involvement in the pigmeat sector. Wool production receives price support in the US, and in Australia the market is organised by a grower-controlled board: in the EEC, wool is treated as an industrial product and escapes the attention of the CAP. It may be significant that 'new' crops which have grown in importance since the start of farm policy legislation, have also tended to have more liberal market regimes - such as US soyabeans, where modest price supports and CCC storage policies put a floor in the market without attempting to regulate supplies.

40. An evaluation of all these policies is not feasible within the scope of this report. But several points of a general nature can be made. First, the most common method of control by governments over farm programmes appears to be through budget appropriations. Except in the EEC, where budgetary scrutiny is as yet incomplete, policies appear to be subject to implicit financial limits. As these are reached or exceeded so policy changes are implemented. A policy is considered generally satisfactory when it does not represent a drain on the public purse. The cost-effectiveness of policies is rarely scrutinised, and would in most cases probably show a rather poor performance relative to other social and economic programmes. It is almost certain to be the case that direct income supplements paid to farmers would be a cheaper way of achieving equity objectives, and that crop insurance schemes or the averaging of incomes over a period of years for tax purposes would represent better ways of smoothing the fluctuations of farmers' incomes. Price stability, whilst desirable as an end, has probably been achieved at high cost through market intervention. A 'pure' stabilisation scheme should have little cost if it evens out the flow of goods to meet demand. The fact that farm programmes have had a significant budgetary cost suggests that the manipulation of the pattern of supplies has not reflected itself in an increase in the total value of the crop or product.

41. Many of the farm programmes discussed above have a more positive element, the improvement of the marketing channels themselves. Such policies as the establishment of marketing boards, which can anticipate demand and assist producers in their investment decisions as well as providing some protection against concentration in the industries to which farmers sell, are generally constructive. But sound marketing, and the production of appropriate types and qualities of farm goods for markets is often discouraged by the activities of agencies which appear to hold out a blanket guarantee to buy whatever is offered for sale. Farming 'for the government' is an unwelcome side-effect of many price support policies.

42. The limitations of any particular aspect of farm policy can usually be explained in the circumstances peculiar to that country and commodity. Perhaps the most serious criticism of such policies is not their inappropriateness in a domestic context but their cumulative impact on the world agricultural system. Resources are devoted to agriculture in a way that is inconsistent with the generally desirable aim of producing foodstuffs and agricultural raw materials at the least cost. This economic cost has generally been found to be modest in terms of the income levels of developed countries. But in global terms such distortions can have a significant effect. At a time when developing countries are reviewing their own investment plans

for agriculture, both as a part of their food supply policies and in terms of the contribution to foreign exchange earnings, the impact of developed country agricultural policies on the pattern and terms of world trade can lead to costly decisions which can be ill-afforded. There is, however, another aspect to the external impact of developed country policy towards agriculture. If aggressive domestic stability policies throw much of the burden of production instability onto world markets then those markets themselves will be unreliable. The integration of domestic policies with responsible attitudes to international trade has yet to take place.

II. Lessons and implications for international commodity control

(i) National and international policies compared

43. In order to indicate the applicability to the question of international commodity control of the experience of developed countries with farm policies it is necessary to compare the context in which these two sets of policies operate. The objectives of such policies have a basic similarity. Dissatisfaction with the outcome of market forces leads to belief that selective policy interventions can stabilise and raise producer incomes. Such interventions themselves are pursued with similar instruments, such as output control, price fixing, and reserve policies. Both types of policy have financial and distributional effects which are either intended or accidental. But the degree of similarity is put into context more sharply by examining the differences. It is these differences that indicate the extent to which experience with one set of programmes can be transferred to assist in the formulation of policies of the other type.

44. The main difference would seem to be one of administration and politics rather than economics. The prerequisite for a viable farm programme is the existence of a political consensus which accepts that government has responsibilities to the farming sector. In all four of the countries discussed in the previous section this consensus has existed for forty years. Farm policies have on occasions raised party-political issues, and changes of government have left their mark on the shape of agricultural programmes. But even when these policies have been unpopular, the call has been for reform rather than dismantlement. The greatest pressure on such policies has come from farm groups themselves who can always find ways in which support systems can be improved. Consumer, urban, and manufacturing interests commonly complain of undue expense and of maladministration in farm programmes, but make no conscious political effort to dilute these policies or to move towards their eventual termination. The reason appears to be twofold: first when seen within the complex of domestic policies which impinge on virtually all aspects of economic life, the agricultural programmes lose much of their visibility, and secondly, they have attracted a large bureaucracy which has become skilled in manipulations designed to divert criticism, obscure embarrassing issues, and correct blatant imbalances. The first of these two reasons is tied up with the existence both of a political system sensitive to diverse group interests and of an economic system which contains general taxation and redistribution programmes to counter the inequitable effects of any particular set of sectoral measures. The second is responsible for the continuity and flexibility of farm policies, as well as for their complexity, and has meant that 'outside' groups can rarely muster the right ammunition or keep track of the moving target.

45. In the context of intergovernmental discussions of commodity policy, these conditions may not be fulfilled. A political consensus is harder to reach among governments where national interests are reasonably distinct. Most congressmen and members of parliament have in their constituencies some people who make their living from the land: relatively few countries grow coffee. Agreement on measures to stabilise coffee prices must therefore either have elements attractive to non-producing countries or be bound up with similar measures relating to other trading issues. In this connection, it is worth noting that farm policies have rarely been established as a means of diverting a threat. Though farm groups may on occasions predict national disaster if some particular sector is left unsupported, governments are not often impressed. And if those same groups indicated that in the absence of public support they would themselves 'organise' to achieve their aims, then

most administrations would be delighted to let them try. This is not to indicate that all international commodity negotiations are stimulated by fear of the disastrous consequences of lack of agreement, but merely to point out that by the nature of things few governments need farm policies to placate implicit market power. The more common stance is to encourage and cajole producer co-operation in the face of traditional habits of independence and rivalry.

46. The search for an international consensus on commodity policy has of course been tied up with the package of developments articulated within the United Nations framework as the New International Economic Order. Moreover, the linking of commodity issues in the Integrated Commodity Programme helps to fulfil the condition implicit above that programme stability is further enhanced by a multi-product approach. In particular, the use of a common fund to divert attention from individual programme costs is in accordance with government practice in farm policies. But the absence of an international taxation system is a major distinction. Within countries a taxation system, usually progressively related to income, helps farm policy in two ways. It removes into a quite different area of discourse the question of the raising of funds, and consequently blurs the connection between income generated by and expenditure incurred in the programmes. Secondly it ensures that excessive benefits from policies are 'clawed back' in the form of taxes and any deficiencies of income not remedied by policies are made up from other social security programmes. These comments apply particularly to farm policies which have a visible budgetary component, but the same considerations undoubtedly hold in those cases where price levels are manipulated to transfer income.

47. The fact that farm policies are both complex and flexible attests to the skill of their bureaucratic progenitors. International policies relating to commodity trade, by contrast, tend to rely heavily on single instruments; they are often negotiated over a lengthy period, emerging as an inflexible compromise; they do not have the backing of administrative skills on anything like the same scale as even relatively minor national programmes. Moreover, though many national officials are actively involved with the negotiation and operation of international agreements they themselves find problems of divided loyalties and conflicting priorities. Policies also require in most cases a degree of detailed statistical and technical information which has traditionally been collected by ministries and departments of agriculture. Again the factual base for many commodity policy negotiations is itself weak - not through any lack of competence of the international organisations who are responsible for such information but because they lack the influence over data sources, often national governments, which the governments themselves have over their own national institutions and individuals. The control of information is itself an important part of market power: it may be premature to assume that such information will be readily available to run an international commodity policy.

48. A further significant difference between national farm and international commodity policies revolves around the question of control. It is possible in most circumstances for a government to restrict entry into a particular sector of domestic agriculture, to limit the numbers of firms permitted to sell a product, and to influence through legislation the purchase and use of the commodity. In international terms the degree of control that a group of countries participating in a commodity pact will have is circumscribed by their ability to prevent others from receiving benefit from the agreement without accepting the disciplines involved. This 'free-rider' problem does surface occasionally in domestic farm policies, where it raises questions of individual liberty and restraint of trade. In international policy it is

quite fundamental to the question of whether an agreement is viable, and it subsumes the question of responsibility for the activity of domestic firms operating in overseas markets.

49. One practical difference between most domestic farm policies and the conclusion of international agreements is that the former operate essentially within a currency area. This has two aspects: first, the currency in which prices are denominated is that which is of interest to producers, and secondly, there is no ambiguity about financial liability for programme expenditures. By contrast, currency changes have a potential impact on the viability of commodity agreements and complicate the calculation of financial contributions.

(ii) Lessons of farm policies

50. With these differences in mind, the experience of national farm policies can be related to the control of international commodity prices. The objectives of such control will be taken as the stabilisation of export earnings of developing country primary producers, around a trend which at worst reflects the rise in the cost of imported products and at best transfers purchasing power over time to low income countries.

51. The major lesson which appears to stem from the experience of developed country agricultural policies is that policies designed to alleviate short-term problems are not in themselves a sound basis for long-run market adjustment. The typical 'life cycle' of a policy would seem to be as follows: a crisis is experienced in a particular agricultural sector; policy instruments are fashioned or adapted to meet it; the sector comes to rely on the policy; the policy absorbs the effect of the crisis and becomes costly; pressures develop to modify the policy, which achieves some stability until the next crisis. This process is discernible in the 'permanent' support systems, such as the EEC import levy - export subsidy policies and the US wheat and feed grain programmes, as well as in the more obviously ad hoc schemes such as are used widely in Canada and Australia. The ability of policies actually to anticipate trends and to assist in the adaptation of the industries concerned to meet new economic conditions is put in doubt by the experience of these four countries. The reason would seem to be the undue emphasis on price to the exclusion of other elements which determine resource returns. Thus the problems into which these policies run is largely manifest in terms of the appropriate price to set. To over-simplify somewhat, if the price established within a policy is 'wrong', no amount of clever manipulation of instruments can hide the fact: if the price is 'right', constructive intervention by governments can absorb risks, develop markets, promote better resource deployment, and create the appropriate climate for profitable investment.

52. This condition, translated into international terms is of course contentious. It implies that, over time, the determinants of the terms of trade of primary exporters are the state of technology and the level of demand in the market. Primary products would trade in the same commercial environment as other goods. Political aspirations regarding the development of these markets would have to be consistent with underlying economic trends. The regulation of international commodity markets would involve the creation of stable conditions to allow profitable investment decisions to be taken. The result may or may not involve significant resource transfers through price trends: this would be determined by underlying cost advantages and by the pattern of demand. This may not be satisfactory in broader political terms. But the experience of domestic price policies, in so far as it is

relevant, shows that even within countries - where administrative problems are less - the scope for manipulation of the long term trend in prices of farm goods is severely constrained.

53. In practical terms, the implication of this conclusion is as follows. Agricultural incomes have developed broadly in line with those in the non farm sector, in spite of long periods of decline in relative farm prices. This has been brought about by dramatic improvements in productivity, an orientation of production patterns to meet emerging demand, mobility of the workforce and of investment capital among sectors, and increased education and skills to close the gap between the urban and rural labour force. Agricultural policies related to the improvement of marketing channels and information, the development and adoption of technology, and the mobility of the labour force have contributed to this situation. Farm price policies which have seemed to offer to farmers an alternative route to prosperity through guaranteed markets and open-ended subsidies have often delayed these adjustments. This delay has been consistent with the general social concern for a sharing by other sectors of the economy of the burdens of such adjustment. But the quid pro quo has been that policies themselves operate within accepted cost limits and do not permanently mask the underlying trends. The absorption of risk on current investment of human and physical capital is widely accepted: the creation of artificial markets for future investment has rarely been tolerated for long. It seems likely that the international community might impose similar constraints on the attempt to regulate commodity markets.

54. If this is the case then it suggests three aspects of the problem of commodity control where farm policy experience may be of value. These are the setting of price levels, the use of instruments, and the development of complementary policies to relieve the burden on price control mechanisms. The level at which policy prices are set is, as was suggested above, the most difficult and most crucial aspect of policy administration. In one sense it is the only way of distinguishing between support and stabilisation policies. It is also the main determinant of policy costs, with the type of instrument used largely indicating the incidence of the cost. In most cases, the setting of policy prices is an annual preoccupation which attracts attention from those responsible for budgets and consumer food prices as well as focusing public opinion on the farm problems. The price-setting process is often the time when changes in policy instruments are introduced, and it provides in many countries an opportunity for the various interested parties to discuss with government the trends within the industry. In the light of all this, many administrations have attempted to employ various formulae to assist in the determination of prices. Such quasi-mechanical price decisions are occasionally encompassed in the basic legislation, limiting the freedom of the executive body to make changes without new authority. But even in these cases there is a degree of flexibility in the choice of prices.

55. Three types of considerations influence annual price decisions and therefore over time the trend of such prices. First, and most popular with farm groups are those that relate to farm costs. Perhaps the best known of these is the concept of 'parity price' used in the US since the inception of the farm support programmes. This reflects the relationship between prices received by farmers and those paid by them for the basic production prerequisites. Individual commodity parity prices are the product of the relative commodity price and the overall 'parity ratio' using the period 1910-1914 as a base. An alternative measure, the level of parity income, has been suggested but not generally adopted. Clearly if successive administrations had to keep farm product prices at their parity levels, there would be no pricing flexibility. Instead, the system is a way of keeping support prices within bounds, say between 75 and 90 per cent of parity as in the case of manufacturing milk, determined by Congress. Support prices for some crops have dropped at times to about 50 per cent of parity, indicating that the formula does little more than reflect pricing decisions taken on other grounds. Policy price decisions in the UK, before accession to the Community, were based on another variant of the cost-based formula. The annual cost increase attributable to the production of supported products was calculated and the figure 'agreed' with representatives of the farm sector. In addition a productivity increment was estimated and the value of price guarantees was raised by some figure between the cost increase itself and that which would have been suggested if productivity had lowered costs by the full amount. Again this gave some pricing flexibility by the under-recouping of costs when the budgetary burden of the policy was deemed to be excessive. More recently, the EEC Commission has used as a starting point for its proposals to the Council of Ministers an 'objective method' of calculating price increases necessary to keep labour incomes on certain types of farm in line with non-farm earnings. The Council has not as yet tied itself to accepting such a formula, and insists on modifications to the price proposals to meet other objectives.

56. The second method of price fixing has been the use of historical series for each commodity. Thus in Canada, many commodity programmes have included the stipulation that price levels be no less than 80 per cent of the previous 10-year average. The Agriculture Act (1957) in the U.K. limited price decreases to an average of $2\frac{1}{2}$ per cent per year, with a slightly greater tolerance for each commodity. Rapid inflation has removed any constraints that such limits might have had on product prices. The third, less specific, pricing rule has been to link price changes to market conditions. This can still imply a level of price support, but is intended to put limits to government cost and to allow policies to reflect circumstances sooner than would otherwise be the case. This technique is used to a certain extent by the EEC Commission when allocating price increases among commodities; it is even more prevalent in Australian and Canadian Wheat

policies where initial price supports (and hence minimum administered prices) are set to reflect anticipated domestic and export demand strength. In the US, at times when acreage control is in operation, the support prices are set concurrently with average targets also on the strength of the market.

57. Similar choices face those responsible for administering international commodity programmes. Cost-based pricing was incorporated in the arrangements under the Commonwealth Sugar Agreement: it is implicit in the Lome sugar arrangements through the linkage with internal EEC prices. Proposals for indexation are a broader version of these schemes, relating to developing country import prices rather than to commodity production costs. Experience in domestic farm policies suggests that any rigid formula has to be reinterpreted regularly to keep programme costs in check. Historical averages of prices might be thought to have advantages in markets where conditions have fluctuated cyclically. In domestic programmes they have been used mainly to give farmers longer term assurance against the progressive lowering of support prices. In international terms they may act as reference points which could trigger off compensatory finance or other policy actions. But to link a commodity price to its own history is unlikely to prove satisfactory. Ultimately under such a scheme the policy price would come to be an average of previous policy decisions; until it did so there would be a danger of exacerbating problems by stimulating output on a price downswing and suppressing it when prices turn up.

58. If cost-based pricing decisions ignore market information and historical average prices reflect with a lag the market instabilities then price fixing on the basis of anticipated conditions would seem to be superior. For national programmes this is borne out by experience. Support prices announced in advance of the production decision can relieve individual farmers of a certain amount of the marketing risk, and combined with longer term guarantees can reduce also the investment risk. But in international programmes there is the complication that these prices represent the major short-run determinant of the export earnings from primary products and hence of national income for many countries. Whether 'market information' in these circumstances can lead to an objective assessment of a reasonable future commodity price is doubtful. The experience of the EEC is in this regard of interest. Common prices under the CAP have a marked distributional effect on member countries. The result is that pricing decisions which otherwise might have reflected market trends and kept FEOGA costs in check are avoided by ministers who have their own 'shopping-list' of price changes which are domestically profitable or desirable. The balancing act between desires and market realities works on a national level because of the ultimate authority of the government both for taking decisions and financing the policy. Even in a European Community with established supranational agencies the outcome of the price fixing process is essentially a multilateral bargain. At an international level one might expect these problems to be multiplied.

59. The experience of the Community is instructive in another aspect of pricing. The choice of the unit in which to express agreed farm prices has become acute with the divergence of exchange rates. A 'unit-of-account', originally valued at one US dollar then subsequently linked first to gold and then to the joint-float European currencies, is used in determining annual price levels. But individual member states have tended to look to the CAP for price guarantees in terms of their own domestic currencies. This has led to a complex system of border taxes and subsidies which preserves the illusion of common prices and the reality of common decisions whilst at the same time not offending national concepts of the appropriate domestic level of prices for farmers and consumers. This too suggests that price policies at an international level would, in a period of exchange rate changes, have to find some way to share risks from currency fluctuations.

60. The second potential 'lesson' for international commodity control arising from experience with farm policies is concerned with the use and choice of instruments and of their effects. Although, as was suggested earlier, support and stability policies are difficult to separate analytically since any instrument that influences the level of incomes or prices can be used selectively to stabilise those variables - it is convenient to treat them as distinct in the present context. Income increasing policies likely to be considered in the control of commodity markets are predominantly of the supply management type: stability measures would include buffer stocks, and supply and purchase commitments. A third category, of non-price measures, would include schemes such as compensatory financing. Agricultural policies give some indication as to the strengths and weaknesses of each of these policy types.

61. Supply control policies rest on two prerequisites for their effectiveness. First market demand must be such that additional revenue generated from extra sales is appreciably below the cost at the margin of production. Only in these cases will a reduction in output add to net returns. Prices can of course be raised further, but at an economic cost. Secondly, there must be a reasonable degree of control of all sources of production, or at least a strong incentive for general compliance. The first condition is more likely to hold at an international level where output from the major producing countries could face a relatively inelastic demand. In national policies, this condition has often not obtained, and the 'power' of producer groups and marketing boards to raise prices without loss of income has been rather limited. Governments can ban alternative sources of supply, but have not the same leverage on export markets. The second condition has been overcome domestically in various ways: licensing producers or giving marketing boards exclusive rights is one approach and making additional payments dependent upon compliance with supply control policies is another. In international trade regulation, a degree of moral suasion might suffice, but it is not easy to see how one might establish incentive payments for participation.

62. The experience of domestic policies suggests that price support by supply control has certain limitations in the long run. These might be thought of as competitive and non-competitive leakages of the benefits over time. Competitive leakages arise where the increased profitability arising from the output control becomes attracted to the instrument of control itself. This is particularly apparent where output quotas are associated with the land resource. Farms blessed with such quotas change hands at prices which reflect the capitalised value of the additional profitability. This raises a problem in that new entrants into that sector may not receive any of the programme benefits, and as a consequence income problems may re-emerge over time. Moreover, the government may have considerable difficulty in modifying the policy when its effects are locked up in the capital

structure of the industry. This is in fact a part of the more general problem that policy induced profitability will tend to be bid into capital values, particularly of land, however prices are supported. Such leakages through competitive pressures would presumably take a different form in international commodity control. Benefits would accrue to countries who could choose how they were to be distributed. If export rights were to be endowed by some form of licence or contract then the value accruing to this right could be redeemed if such a contract were saleable. In this case the benefits could be captured by the initial recipients of such export quotas even if they choose to move out of that particular market. Saleability of quotas has been accepted in many farm programmes because it offsets the tendency for production patterns to get entrenched. It could, at the expense of the problems mentioned above, provide extra flexibility in international commodity programmes.

63. Non-competitive leakages occur when the value of a quota can be captured in part by buyers of the product in question or suppliers of non-farm inputs. The most successful farm quota schemes appear to be those where farmers and processors share an interest in output limitation. In such circumstances the incidence of the benefit must be in doubt, as the market power of the buyer will be enhanced. In international terms this suggests that supply control will be more effective if importing countries accept and facilitate trade quantity limitations. But the benefits themselves may go in part to interests in importing countries that find the value of their own sales increasing from the processing and distribution of the restricted commodity. Transfer of processing to primary producing areas would help to avoid some of these conflicts.

64. Experience with stability policies in developed countries illustrates two propositions. The first is that stabilisation if properly carried out can enhance the value of a crop or livestock product: the capture and distribution of this benefit is the art of orderly market management. If a crop is sold directly after harvest its value to producers will generally be low. The economic returns from arbitrage over time will accrue to someone else in the marketing chain. Similar gains are to be had for evening out year-to-year fluctuations in production, but since the cost of storage will escalate it may not be in the interests of any private individual to take the risks involved even when ex post the holding of reserves might have been profitable. Storage policies associated with the farm sector have usually made provision for some of the benefit of intra-season storage to be reflected in farm incomes, through graduated price supports over the marketing year or through the remission of some part of storage costs. In this respect, the non-recourse loan system operated in the US is important in that it allows the farmer to market his crop according to seasonal demand whilst at the same time being able to finance production costs in advance of the final sale of his output. Where futures markets are available, the risk of adverse price movements during the season can be reduced by hedging. Farm policies have in general improved the position of the farmer with respect to the orderly marketing of products over the normal production cycle.

65. It is unlikely that farmers themselves will find it profitable to hold products over from one season to the next except when compelled to do so by lack of market outlets. Private traders may however have such capacity and motivation. But even the merchants and processors will face capacity constraints which put an upper limit on such storage as well as minimum stock requirements which will prevent a complete run down. In the presence of significant market fluctuations, the result will be periodic peaks and troughs to prices which no private agencies will feel able to control. If governments wish to do so they can implement policies which make stock volume more responsive to price. When prices are depressed then stock

accumulation by government agencies can supplement that of private firms, and when current supplies are tight these reserves can be released to yield a capital gain which will defray the physical cost of storage. Such an active stocks policy has one major drawback at a national level. Other countries may choose to allow the burden of such a reserve scheme to be borne by that government which has the strongest interest in the commodity and which appears to have the resources and the will to carry it out. US commodity programmes, in particular in wheat, became very expensive when they attempted to stabilise world markets almost single-handed. At an international level such problems are overcome, conceptually, by a co-ordinated agreement to manage stocks in a number of countries or by the establishment of a common stock with accepted rules to distribute the financial burden. Such an arrangement should be able to increase the value over time of the commodity by intertemporal arbitrage; it should also be able to run at a modest cost if the accumulation and disbursement rules for the stockpile are realistic in relation to market developments.

66. The type of government purchase policy which is occasionally justified in terms of price stability is that which is associated with a floor price. National policies that use this device are characterised by the disposal of government purchases at prices below that at which they were bought. Such schemes are in fact better thought of as price support, since their effect is merely to add a subsidy element over and above the price that the market would provide. The volume of stocks in such schemes as the EEC intervention policy may be considerable at any one time. They may even increase when market prices are low and be reduced when demand improves. But they do not represent stabilisation policies unless sales from these stocks are related to current and anticipated market conditions, as well as purchases. Since the world as a whole has no convenient outside market on which to dump unwanted surpluses accruing under such schemes, there is unlikely to be any international commodity policy equivalent.

67. The choice of stabilisation instrument illustrates the second of the two propositions mentioned above. If a market is unstable, either through variations in output or in demand, then stability can only be obtained by influencing the source of the fluctuations directly. Control over yield fluctuations may prove difficult, and the stabilising of the economic conditions that influence consumer demand has proved elusive. Hence the corollary of the proposition: instability inherent in a market can be shifted but not eliminated. The task facing governments is to decide which variable they will encourage to be unstable in order to add stability to other elements in the market. Stocks policy is a case in point: if stock levels are destabilised, by appropriate accumulation and disbursement, then consumption and prices can be held reasonably steady; if stock levels are not allowed to vary, then prices will be more volatile. Similarly, stability of export earnings may be a goal, in which case prices and stock levels and even consumption may have to absorb the inherent variations in the market conditions. In farm policies, stability of farm incomes as such has not been a dominant goal: the variable more usually stabilised has been domestic price. As a consequence, there has been considerable variability in farm programme costs, stock levels and farm returns. Export earnings and import costs have also reflected the market position and have not in themselves been the object of stabilisation schemes.

68. The third area of developed country agricultural policy experience which might have some lessons for commodity policy is the use of non-price measures and other devices which do not fall neatly into the above categories. Some of these have been mentioned already, for example the establishment of delivery contracts, the improvement of productivity, and

the provision of better market information. Each of these is too specific to particular commodity conditions to be dealt with in a general way. But some other types of policies should be mentioned, such as, the proposals for the extension of compensatory finance and the related question of indirect indexation via supplementary payments when terms of trade are weak. Experience with deficiency payments policies may shed some light on these questions. Generally speaking, the problem with such national policies as have used financial transfers to supplement market prices is that their cost is both unpredictable and visible. The visibility of the budget cost in turn leads to difficulties where regional or (in the EEC) national transfers are involved: from the point of view of administration, the fact that programme costs are evident can be an advantage when the policy is running well though an embarrassment when things get 'out of hand'. The lack of predictability is in the nature of the policy instrument itself, since it is designed to absorb variations in price that would otherwise impinge on farm incomes. But the combination of these two elements has meant that countries have in general had recourse to methods of controlling cost, such as through a limit on the amount of production qualifying for the full guaranteed price. Alternatively the guarantee price on which deficiency payments are based may be implicitly linked to the market price by a limit on the actual budget outlay. Open-ended deficiency payments policies have not in general survived for long.

(iii) Additional implications of farm policies

69. In addition to the lessons which one can draw from the experience of the operation of individual farm policy instruments, there is a further implication relating to the interaction of such policies. It was suggested above that developed countries reacted similarly in their farm policy response to particular market conditions, albeit with a different emphasis. It was also mentioned that the fixing of domestic prices tends to be the focus of policy, and that these domestic price targets come to reflect local aspirations, cost levels, and farm structures. In addition, a major rationale for farm policies is to defend against the unexpected and the adverse occurrence on world markets. Put these three together and one has a self-justifying system of intervention in major commodity markets where each country is struggling to defend domestically conditioned price targets against fluctuations on world markets which are themselves exacerbated by such policies. This is the main reason why stocks policies have not proved successful in the control of temperate-zone agricultural trade: the stocks themselves have to absorb the inconsistencies among the domestic price targets which show up in the form of surpluses, and in turn prove inadequate when the policies are reversed in a situation of scarcity. To put it another way: the stocks are used for domestic price stability in each country, and are therefore unavailable to stabilise world prices whenever the domestic price targets prove inconsistent.

70. This in turn leads to an odd pattern of behaviour in world market prices. The range of such prices reflects the extent to which the national price policies are pursued without regard to world market conditions. At the lower end, such prices reflect the willingness of exporters to grant export subsidies in an attempt to dispose of domestically generated surpluses; at the upper end the prices reflect the willingness of importers to bid for products in a market made more tight by the reluctance of exporters to expand supply. This price 'band' is itself different to that to be found in mineral and industrial raw material markets, where the lower end tends to be related to production or extraction costs and the upper end to the level at which demand is curbed by the use of substitutes.

71. This difference has two implications for international commodity control. First, the existence of domestic farm policies, and indeed the dominance of their objectives, must be recognised in international negotiations. The task facing the international community is to substitute action at a world market level for the domestic policies presently pursued. In addition, the international policy can aim to use the domestic market control mechanisms to achieve world market stability. The same problem is not present in other commodities such as minerals or tropical crops, nor is the same opportunity to employ existing instruments. Secondly the scope for influencing the terms of trade over time is greater in non-temperate zone commodities, as the 'band' is wide and the behaviour of price within that band is a function of structural relationships in the market. In temperate-zone foodstuffs, the band, reflecting national policies and priorities, can only be narrowed by a greater consistency among those policies themselves, and the level of price on world markets within that band reflects essentially domestic decisions not so amenable to international agreement.

(iv) Conclusions

72. My conclusions can be quite brief. Farm policies are based on the general belief that agricultural prices and markets are inherently unstable and that selective intervention can restore order. The results have been politically satisfactory in that governments have been seen to be reacting to legitimate concerns. In the long run it is doubtful whether the most visible of the policies have had much impact on the level and trend in incomes. This is governed by the relationship between agriculture and the economy as a whole. Obsession with the control of price has diverted attention and funds away from more basic problems of adjustment in rural areas. The mechanisms used are similar to those under discussion in the context of international commodity regulation. The same problems are likely to arise. Market prices can be manipulated with the injection of considerable funds. Supplies can be both controlled and phased over time through the establishment of agencies with sufficient authority. None of these interventions is a substitute for the anticipation and encouragement of long term market developments: they can however have a beneficial effect over a short period to avoid the most serious consequences of market disruption.

73. The key decision is that of the prices to be set under such policies. Agreement may be more difficult in an international context as interests are more clearly defined. But an inappropriate price that cannot be supported with the funds and mechanisms available will weaken the best control scheme. By contrast, a flexible approach to pricing can form the basis for a constructive development of policy measures which improve the equity of the trading system without impairing its essential functions. The existence of an adequate method of funding these policies is a necessary condition for their success, but is in itself not sufficient to ensure their continuation if other decisions such as the level of prices are not consistent with underlying market conditions. Unwinding an ill-conceived policy can be painful in a national environment: in international relationships the price of failure is all the more serious.

APPENDIX A: Analysis of policy instruments

Although it was suggested in the text that agricultural programmes were largely a collection of ad hoc devices designed to counter problems as perceived in the context of a particular time and place, it is still possible to discuss the relative impact of various policy instruments. The number of such instruments is relatively small and their major effects can be stated with some degree of confidence: it is their appropriateness in a particular circumstance that is much more difficult to evaluate. In this appendix, an attempt is made to compare policy instruments. This comparison will involve the strengths and weaknesses of the measures themselves, the administrative and financial problems that have been encountered, and the constraints imposed on these policies by their setting. The set of policy instruments considered is restricted to those that directly impinge on the level, stability and distribution of farm incomes and of the level and stability of wholesale or farm-gate prices of agricultural products. This excludes many measures which relate to environmental quality, food standards, and to the legal framework of land ownership and use. But it includes all the instruments likely to be translated to an international commodity control programme.

Policies to influence levels of farm income in the short-run are conveniently classified on the basis that income itself depends on the difference between costs and revenue, and in the longer run that income per head of the farm population (or per farmer) depends not only on the trend of aggregate farm income but also the number of people over whom it must be shared. Policies to stabilise farm income are in large part implemented by adjusting the income-level policy instruments to counter the effects of instability. Influencing the distribution of income are policies that discriminate among farm groups and those that alter the pattern of ownership of farm assets.

Policies which are designed to influence the level and stability of prices are in one sense covered in the above classification of income policies, since they affect the level of producer receipts and hence profits if costs remain the same. But price and income stability are not the same if output varies, and a fixed price level may operate in conditions where profitability is not an aim of policy. It is therefore convenient to consider price policies under a separate heading, even at the expense of some overlapping.

(a) Farm income policies: lowering costs.

A straightforward way of raising farm income in the short run is to lower the cost of purchased inputs. This is often done directly, through input subsidies of which a subsidy on fertiliser is perhaps the most common. More indirect subsidies include concessional credit terms and the favourable tax treatment of farm businesses. More indirect still are the policies which aim at increasing productivity, and those which improve the management of the farm business through education and extension activities. All these policies are relatively easy to administer, and their cost can be controlled and monitored. It is not so easy to judge their effectiveness. In some cases, such as the provision of credit, the investment in research and development, and the dissemination of management information, the government activities supplement and to a certain extent replace those of private firms. But even where they are not strictly 'necessary', these policies are generally accepted and raise few problems. Direct input subsidies have the disadvantage that some of the benefit is likely to accrue to the providers of such inputs, especially if they can manipulate their own prices. This is true of capital grants as well as subsidies on current purchases such as fertiliser. The

premise that these inputs were being underutilised once provided a rationale for such subsidies, but this is unlikely to hold in advanced economies. As an income-raising device they are not popular with legislators, and are generally used only when there has been an exceptional rise in the price of a particular input. Tax relief policies are also coming under more scrutiny in many countries, as the feeling spreads that the benefits are reflected in higher land values rather than management and labour incomes.

(b) Farm income policies: higher revenue.

Rather more policies aim at raising farm revenue. The ways are numerous, but the following devices are widespread in developed country farm policies. Supply limitation, to take advantage of an inelastic market demand, and market differentiation to use the different nature of sub-parts of the market to increase sales revenue, are two important ways of raising revenue. In addition, the total size of the market for domestic output can be increased by taxing imports, or by subsidising exports. In some cases, market size is increased by sales promotion, and by the discouragement of substitutes. Payments to producers (and to consumers) in the form of direct subsidies raise revenue without having to manipulate market conditions. These policies are generally more difficult to administer than input subsidies. Supply control, whether working directly through output or indirectly through control of land use, requires a degree of detailed regulation and information that puts a considerable burden on policy administrators. Information on market conditions needed for supply control may not itself be 'observable', and the agencies concerned are likely to come under criticism for the way they exercise their judgement. Policies that operate through manipulation of the conditions of international trade raise different questions. Import controls are administratively easy, and, like supply limitations, do not involve a direct budget cost. Export aids are generally less popular, mainly because of their financial consequences, and in addition run the risk of attracting countervailing measures in some import markets. Product promotion is considered a more positive alternative in principle, but in practice runs into the problem that food consumption volume is not notably responsive to advertising effort. Taxing non-farm substitutes has often been tried, but is not popular with urban-dominated legislatures. In spite of the problems, these revenue increasing measures often make up a large share of the expenditure of both money and effort on farm programmes.

(c) Farm income policies: influencing trends.

The simplest way to raise individual farm incomes over a period of years might seem to be to reduce the number of people in the industry. If those with below average productivity leave, then this process could be successful. The provision of pensions, the promotion of job mobility in rural areas, and the improvement of standards in rural education are an important adjunct to farm policies. But their administration and financing is often a part of general economic and social policies, and their impact is greatly influenced by macro-economic conditions. Few countries have made policies of this type central to their agricultural programmes, even though it is likely that there would be considerable political sympathy from non-farm interests. The short-term commodity price orientation of farm policies perpetuated by agricultural ministries has tended to pre-empt finances that could otherwise have been used to improve longer term income opportunities in rural areas.

(d) Farm income policies: direct payments.

The virtual absence of any major schemes for the direct income support of the farm sector unassociated with levels of output is an indication of the complexity of the motives behind farm policy. Direct income payments have often been suggested, in particular as temporary expedients when major falls in farm price levels are expected as a result of policy changes. But these are unpopular with farming interests, and seem to have attracted little political support. Social welfare policies are now more widely applicable to rural areas, and the need for special programmes may be in doubt. Nevertheless the main reason why direct income support is generally ruled out as an alternative to price policies is again related to the fact that success in farm programmes has been associated with the satisfactory regulation of product markets rather than with the direct welfare of rural families. Some countries do however run policies such as crop insurance, and various equalisation payments, which attempt to recompense farmers more or less directly for sudden changes in incomes.

(e) Farm price policies: raising demand.

Policies to raise farm demand include those already discussed under (b) above, since they also raise revenue for any given output level.

(f) Farm price policies: 'flattening' demand.

There is however another set of measures which act not so much to raise demand as to break the link between output and realised price. They act as price supports when market prices would otherwise fall, but the level of protection is reduced as market prices rise. Such policies are occasionally administered symmetrically, in that prices above the support level are also discouraged. These price guarantee policies make up much of the defensive armoury of agricultural programmes. They include the imposition of variable trade barriers, which maintain domestic prices by import levies or export subsidies designed to ensure that world price variations cannot upset domestic markets. In the same category are deficiency payment schemes which seek to make up the difference between guaranteed prices and the actual level of market returns where this latter falls short of the former. Another device for presenting producers with an 'open ended' market that is not weakened by overproduction is that of support buying. As with any buying policy, the analysis of such a measure must recognise also the ultimate selling of such goods as are bought. Often these floor price schemes dispose of unwanted products with the aid of a subsidy on overseas markets, but they can also perform a storage function and reintroduce the commodity onto the domestic market when conditions are more 'favourable'.

These policies generally go hand-in-hand with those that seek to raise demand. If an import levy fluctuates over time with changes in world prices then it has a stabilising element: if at the same time it is generally of a height that maintains domestic prices above those on the world market then it is also raising demand for the home-produced good. Support buying typically combines protection with stabilisation. It is basically the price level set for the stabilisation scheme which determines the extent to which it includes a protective element. Stabilisation in its pure form has wide non-farm support, and incurs little long-run cost: it is generally the protection effect of such policies which attracts criticism. In particular, the disposal onto overseas markets of products purchased domestically by support agencies is likely to attract adverse attention. The administration of variable trade barriers is relatively straightforward in concept, but may

lead to complications in practice. In particular, trade firms are often hampered by the unpredictable nature of the border tax or subsidy, and as a consequence governments tend to devise ways of pre-fixing such payments at the time when the commercial contract is drawn up. The unpredictable nature of programme costs is also a major source of discontent with such policies, and as a result has led to many attempts to limit expenses under deficiency payment and support buying schemes. One such mechanism is to limit the quantity of produce which attracts the full support or guaranteed price: another is to make the supported price itself reflect the holdings of surpluses accumulated under the programme. These price stability policies do not necessarily stabilise farm incomes. They remove the instability which might otherwise emanate from the world market, and they prevent domestic output variations from weakening the price level. But in doing so they expose farm incomes to the full impact of volume changes in domestic production.

(g) Farm price policies: stabilising supply.

Policies which control output to raise average prices discussed under (b) above can also be used to dampen potential output fluctuations. Additional policies to the same end include water control, where drainage and irrigation are required, farm storage, which prevents the unloading of annual crops onto the market after harvest, and contracting, whereby the amount of production is geared to market needs. All these policies receive general approval when their effect is to make patterns of supply more reliable.

APPENDIX B: Quantification of policy effects

This appendix contains a set of tables illustrating the approximate magnitude of the impact of the major farm policy instruments used in Australia, the EEC, Canada and the U.S.A., on the income of farmers from the sale of wheat, barley, maize, sugar and milk. For each product and country the level of production and the average producer price are given (items 1 and 2) for the years 1968-1974. The addition of any direct payments (or subtraction of taxes) (item 3) not already included in the product price gives the total producer value. The policy transfers were calculated in the following way.

- (a) if the policy involved a per unit payment then the impact of the policy was applied over the relevant volume of output. Thus a per unit producer subsidy was multiplied by production and the total listed as a 'transfer' to producers. For a tariff or a levy, the per unit figure was applied to production to give the transfer to producers,
- (b) if the data was more conveniently recorded in terms of financial totals such as the cost of subsidies on a particular product, then this was allocated directly. Where the financial data related to trade taxes - i.e. levy receipts - then it was first converted to a per unit figure by relating to trade volume and applying the procedure as in (a) above,
- (c) if the policy involved price discrimination, such as the maintenance of higher domestic than export prices through marketing control, then the price difference was calculated. This was then multiplied by production in the high price market and allocated to producer transfer,
- (d) if the policy involved trade quotas, then resort was made to the difference between internal and external prices, and treated accordingly. This was the only case where 'world' prices were used explicitly in the calculations,
- (e) an input subsidy was allocated directly to producers, as in the case of a price subsidy.

The impact of the transfers was accumulated to give the total producer subsidy value (item 6). The producer subsidy equivalent can then be defined either as a proportion of actual sales revenue (item 7) or as a subsidy per unit of output (item 8).

The source of the tables is a study undertaken by the author for the FAO Secretariat. The full study is reported in a document presented to the 1975 FAO Conference (Agricultural Protection And Stabilisation Policies: A Framework Of Measurement In The Context Of Agricultural Adjustment. C75/LIM/2, FAO, Rome, October 1975) which includes some additional countries and commodities and also measures of consumer subsidy levels. The FAO should not be held responsible for the use of the tables in the present context.

AUSTRALIA - Wheat: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	7.5	14.8	10.5	7.9	8.5	6.4	11.9
2) Producer Price ¹	A\$ mt	54.07	45.46	43.85	46.30	48.50	49.86	101.00
	US\$ mt	60.56	50.92	49.11	51.86	56.99	64.82	148.98
3) Growers Contributions ² to Stabilisation Fund	A\$ mil	-	-	-	-	-	-	-48.0
	US\$ mil	-	-	-	-	-	-	-70.8
4) Total Producer Value	US\$ mil	454.2	753.5	515.7	409.7	484.4	414.8	1,702.0
5) Policy Transfers to Producers								
a) Guaranteed Export Price ²	A\$ mil	42.9	29.0	27.5	32.1	40.1	12.4	-48.0
b) Domestic Price Support ³	A\$ mil	30.1	34.5	23.6	26.7	31.5	22.3	-152.8
c) Devaluation Compensation	A\$ mil	18.1	10.5	-	-	-	-	-
d) Fertilizer Subsidy ⁴	A\$ mil	(10.9)	(12.5)	(11.2)	(7.7)	(8.0)	(8.9)	(11.8)
6) Total Producer Subsidy	A\$ mil	102.0	86.5	62.3	66.5	79.6	43.6	-141.0
	US\$ mil	114.2	96.9	69.8	74.5	93.5	56.7	-208.0
	%	25.1	13.1	13.5	18.2	19.3	13.7	-12.2
7) Proportional Subsidy	A\$.mt	13.60	5.84	5.93	8.42	9.36	6.81	-11.85
8) Subsidy per unit	US\$ mt	15.23	6.55	6.65	9.43	11.00	8.86	-17.48

¹ Producer Price = Average return to growers. 1971-1974 prices are Bureau of Agricultural Economics estimates subject to revision as the seasonal pools are finalised.

² Contributions of the Australian Government to the Stabilisation Fund in order to support the guaranteed price on export quota wheat. This is calculated on a rate of A\$ 5.51 per metric ton of exports - less farmers' contribution in 1974.

³ The difference between fixed home prices and average export returns. Thus in 1968, 1969 and 1974 there was one fixed price and the differential was multiplied by total domestic consumption in order to get the policy transfer amounts to producers and consumers. In 1970-1973 the fixed food use price differential was multiplied by food consumption and the non-food price differential multiplied by the consumption of wheat in non-food uses, thus giving the policy transfers to producers and consumers respectively.

⁴ Estimates based on a rate of A\$ 12.9 per metric ton of superphosphates used annually by the wheat industry.

AUSTRALIA - Barley: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	0.8	1.6	1.7	2.3	3.1	1.7	2.4
2) Producer Price ¹	A\$ mt	53.48	42.78	37.96	50.54	42.55	59.02	87.47
	US\$ mt	59.90	47.91	42.52	56.60	50.00	76.73	129.02
3) Direct Producer Receipts	US\$ mil	47.9	76.8	72.3	130.2	155.0	130.4	309.6
4) Total Producer Value	A\$ mil	9.0	13.7	11.2	11.9	12.4	-1.8	-18.9
5) Policy Transfers to Producers	A\$ mil	9.0	13.7	11.2	11.9	12.4	-1.8	-18.9
a) Domestic Price Support ²	US\$ mil	10.1	15.3	12.5	13.3	14.6	-2.3	-27.9
6) Total Producer Subsidy	%	21.1	19.9	17.3	10.2	9.4	-1.8	-9.0
7) Proportional Subsidy	A\$ mt	11.25	8.56	6.59	5.17	4.00	-1.06	-7.88
8) Subsidy per unit	US\$ mt	12.60	9.59	7.38	5.79	4.70	-1.38	-11.62

1 - The Producer Price per metric ton on all sales. These figures, applied to the whole country, are those of the Australian Barley Board, the largest of the grower controlled statutory authorities, controlling approximately 33% of the total output.

2 - These figures are also from the Australian Barley Board, and equal the average price per metric ton paid on Australian sales less the average export price. This multiplied by the amount consumed in Australia gives the subsidy to producers and the burden to consumers.

AUSTRALIA - Sugar: Producer Subsidy Equivalents and Values

Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production ¹	mmt	21.5	18.0	20.1	22.2	21.7	23.4
2) Producer Price ²	A\$ mt	80.75	80.80	98.18	100.72	108.61	130.37
	US\$ mt	90.44	90.50	109.96	112.81	127.62	153.35
3) Direct Producer Receipts	US\$ mil	253.2	199.2	274.9	315.9	357.3	538.4
4) Total Producer Value	A\$ mil	55.8	58.4	42.3	30.6	23.4	2.0
5) Policy Transfers to Producers	A\$ mil	5.9	5.6	5.4	3.4	-	-
a) Domestic Price Support ³	A\$ mil	(2.9)	(3.1)	(2.8)	(2.8)	(3.7)	(4.0)
b) Devaluation Compensation	A\$ mil	64.5	67.1	50.5	36.8	25.2	6.0
c) Fertilizer Subsidy ⁴	US\$ mil	72.2	75.2	56.6	41.2	29.6	8.9
6) Total Producer Subsidy	%	28.5	37.8	20.6	13.0	8.3	1.7
7) Proportional Subsidy	A\$ mt	23.03	30.50	20.20	13.14	9.00	2.14
8) Subsidy per unit ⁵	US\$ mt	25.80	34.16	22.62	14.72	10.58	3.16

¹ Production figures break down into

	1968	1969	1970	1971	1972	1973	1974
a) Sugar Cane	18.7	15.8	17.6	19.4	18.9	19.3	20.6
b) <u>Raw Sugar</u> (94%)	2.8	2.2	2.5	2.8	2.8	2.5	2.8

² These figures are A\$ per metric ton of raw sugar for crop years and are the average returns for both domestic sales and exports. The total producer value is the producer price multiplied by the raw sugar production.

³ This is the difference between the fixed domestic consumption price and the average export price, F.O.B. raw sugar, multiplied by the domestic consumption to get the subsidy to producers and the burden to consumers. (The figures are for crop years).

⁴ These figures are estimated. 28.5% of the amount spent by the government nitrogenous fertilizer subsidies has been attributed to sugar production, equal to the average percentage of other fertilizers used by sugar growers in this period. These figures are for fixed years.

⁵ Subsidy per metric ton of raw sugar.

AUSTRALIA - Milk: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	6.8	7.0	7.5	7.2	7.1	7.1	6.9
2) Producer Price ¹	A\$ mt	54.99	55.28	54.77	59.28	65.48	63.51	61.92
	US\$ mt	61.59	61.91	61.34	66.39	76.94	82.56	91.33
3) Direct Producer Receipts	US\$ mil	418.8	433.4	460.1	478.0	546.3	586.2	730.2
4) Total Producer Value	A\$ mil	(92.7)	94.7	97.5	104.7	114.6	118.3	125.3
5) Policy Transfers to Producers								
a) Support for Liquid Milk ²	A\$ mil	45.7	48.1	50.7	52.6	43.2	48.1	46.4
b) Domestic Price Support ³	A\$ mil	11.0	11.8	10.6	14.1	12.6	20.3	17.1
	(i) Butter							
	(ii) Cheese							
c) Government Bounties ⁴	A\$ mil	24.1	23.2	23.6	37.2	32.7	24.5	18.0
	(i) Butter ⁵	2.9	3.8	3.4	4.3	7.1	4.0	-
	(ii) Cheese	176.4	181.6	185.8	212.9	210.2	215.2	206.8
6) Total Producer Subsidy	A\$ mil	197.6	203.4	208.1	238.4	247.0	279.8	304.9
	US\$ mil	47.2	46.9	45.2	49.9	45.2	47.7	41.8
7) Proportional Subsidy	%	25.94	25.94	24.77	29.57	29.61	30.03	29.96
8) Subsidy per unit	US\$ mt	29.06	29.06	27.74	33.12	34.79	39.04	44.19

¹ Average Producer Price; milk used for all purposes (inclusive of bounty payments).

² "Support for Liquid Milk" is in principle the differential between the price received by producers for milk used for manufacturing and that used as whole milk, multiplied by the volume of milk consumed in liquid form. Since historical series of producer prices for milk according to use are not available, this differential was derived by applying percentage differentials - 22 per cent for manufacturing milk and + 182 per cent for whole milk, to the series of producer prices for all milk.

³ Both butter and cheese supports represent the difference between the fixed higher domestic prices and estimated world prices, which multiplied by home consumption give the subsidy to producers and the cost to consumers.

⁴ Bounties have been paid by the Australian Government on the production of butter and cheese and distributed through factories to milk producers. They were phased out by 30 June 1975; likewise the bounty on processed milk products which has not been included here.

⁵ The 1974 figures apply to butter and cheese.

CANADA - Wheat: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	17.7	18.6	9.0	14.4	14.5	16.5	14.2
2) Producer Price ¹	C\$ bu	1.70	1.57	1.67	1.60	1.76	2.87	3.75
	US\$ mt	57.96	53.59	58.85	58.20	65.32	105.46	137.79
3) Direct Deductions ²	C\$ mil	-134.8	-141.9	-68.8	-109.8	-110.6	-128.5	-111.1
	US\$ mil	-125.1	-131.8	-66.0	-108.7	-111.7	-128.1	-112.4
4) Total Producer Value	US\$ mil	900.7	865.0	463.6	729.4	835.4	1,611.9	1,844.2
5) Policy Transfers to Producers								
a) Feed Freight Assistance	C\$ mil	2.1	5.1	6.6	5.5	(6.0)	(6.0)	(6.0)
b) Export Credit ³	C\$ mil	(6.0)	(8.7)	(8.6)	(8.9)	(8.0)	(5.0)	(2.0)
c) Wheat Reserves Act ⁴	C\$ mil	55.9	(71.3)	62.1	30.8	17.5	-	-
d) Domestic Food Price Maintenance	C\$ mil	16.8	(27.8)	20.7	103.9	91.2	28.8	25.0
6) Total Producer Subsidy	C\$ mil	80.8	112.9	98.0	149.1	122.7	39.8	33.0
	US\$ mil	75.1	104.9	94.0	147.6	123.9	39.8	33.4
7) Proportional Subsidy	%	8.3	12.1	20.3	20.2	14.8	2.4	1.8
8) Subsidy per unit	C\$ mt	4.56	6.07	10.89	10.35	8.46	2.41	2.32
	US\$ mt	4.24	5.64	10.44	10.25	8.55	2.41	2.35

¹ 1968-1973 are the total prices received for sales to the Canadian Wheat Board. The 1974 figure is the final price.

² 1968-1972. The deductions are at the rate of 20.75 cents per bushel comprising:
5 3/4 cents handling charges
15 cents transportation

1973-1974. The deductions are:
6 1/4 cents handling charges
15 cents transportation
= C\$ 7.81 per metric ton

³ Estimated figures.

⁴ Wheat Reserve Act was terminated in 1973-1974 season.

CANADA - Barley: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	7.1	8.2	9.0	13.1	11.3	10.2	8.6
2) Producer Price ¹	C\$ mt	11.98	10.77	15.98	14.68	19.35	22.43	103.34
	US\$ mt	11.12	10.00	15.32	14.53	19.54	22.41	104.60
3) Direct Producer Receipts	US\$ mil	78.9	82.4	138.8	190.4	220.6	229.1	899.7
4) Total Producer Value								
5) Policy Transfers to Producers								
a) Barley Pool Deficit	C\$ mil	-	-	57.0	(53.0)	-	-	-
b) Feed Freight Assistance	C\$ mil	6.2	8.6	6.8	6.1	(6.0)	(6.2)	(6.0)
c) Tariff ²	C\$ mil	24.2	28.1	30.9	44.7	38.5	34.9	29.3
6) Total Producer Subsidy	C\$ mil	30.4	36.7	94.7	103.8	44.5	41.1	35.3
	US\$ mil	28.0	34.1	90.8	102.8	44.9	41.1	35.7
7) Proportional Subsidy	%	35.5	41.4	65.4	54.0	20.4	17.9	4.0
8) Subsidy per unit	C\$ mt	4.25	4.48	10.52	7.92	3.94	4.03	4.10
	US\$ mt	3.94	4.16	10.09	7.84	3.98	4.03	4.16

¹ The Producer Price is derived by dividing the Producer Value, i.e. the total cash receipts to barley farmers, by the total production, except the 1974 figure which is the final payment to barley producers.

² The tariff level is C\$ 3.41 per metric ton.

CANADA - Maize: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	2.1	1.9	2.6	2.9	2.5	2.8	2.8
2) Producer Price ¹	C\$ mt	12.70	20.21	19.25	20.09	23.81	36.33	NA
	US\$ mt	11.79	18.78	18.46	19.89	24.05	36.29	NA
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	C\$ mil	24.3	35.0	47.4	58.6	60.8	101.8	NA
5) Policy Transfers to Producers								
a) Tariff ²	C\$ mil	6.4	5.8	8.0	9.2	7.9	8.7	8.1
b) Feed Freight Assistance	C\$ mil	0.6	0.2	0.1	-	-	-	-
6) Total Producer Subsidy	C\$ mil	7.0	6.0	8.1	9.2	7.9	8.7	8.1
	US\$ mil	6.5	5.6	7.8	9.1	8.0	8.7	8.2
7) Proportional Subsidy	%	26.7	16.0	16.5	15.5	13.2	8.5	(5.0)
8) Subsidy per unit	C\$ mt	3.34	3.16	3.12	3.12	3.16	3.10	2.89
	US\$ mt	3.10	2.93	2.99	3.14	3.19	3.10	2.93

¹ The Producer Price is derived from the Producer Value (i.e. the total cash receipts to maize farmers) divided by the total maize production.

² The tariff level is C\$ 3.12 per metric ton.

CANADA - Sugar: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production ¹	mmt	0.9	1.0	0.8	1.1	1.0	0.9	0.7
2) Producer Price ²	C\$ mt	17.60	17.60	18.10	16.80	21.50	24.70	NA
	US\$ mt	16.35	16.35	17.36	16.63	21.72	24.68	NA
3) Direct Producer Receipts	US\$ mil	14.7	16.4	13.9	18.3	21.7	22.2	NA
4) Total Producer Value	C\$ mil	5.7	2.7	1.0	-	-	-	-
5) Policy Transfers to Producers	C\$ mil	0.8	0.8	0.6	0.9	0.7	0.7	0.6
a) Deficiency Payments ³	C\$ mil	6.5	3.5	1.6	0.9	0.7	0.7	0.5
b) Tariff ⁴	US\$ mil	6.0	3.3	1.5	0.8	0.7	0.7	0.5
6) Total Producer Subsidy	%	40.8	20.1	10.8	4.4	3.2	3.2	(2.0)
7) Proportional Subsidy	C\$ mt	7.22	3.50	1.96	0.90	0.70	0.77	0.86
8) Subsidy per unit	US\$ mt	6.70	3.25	1.88	0.89	0.71	0.78	0.87

¹ Domestic production of sugar beet converted to the following raw sugar equivalent:
Canadian domestic production of raw sugar equivalent - million metric tons

	1968	1969	1970	1971	1972	1973	1974
	0.135	0.134	0.106	0.149	0.125	0.114	0.104

² 1968 and 1969 figures are guaranteed prices. As the market price of sugar moved above this guaranteed price after 1969, the 1970-1974 figures are calculated on the basis of total producer receipts.

³ Calculated on the differential between the guaranteed producer price plus an estimated refining margin and the New York Spot Price Fob Caribbean Ports raw sugar, multiplied by domestic production of raw sugar. These payments finished in 1970.

⁴ Tariff level of 28.7 Can. cents per cwt, multiplied by the domestic production and imports of raw sugar (taken as the difference between domestic consumption and domestic production assuming stable stock levels) to obtain the P.S.E. and C.S.E. respectively.

CANADA - Milk: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	8.3	8.5	8.3	8.1	8.0	7.7	7.6
2) Producer Price ¹	C\$ 100 lb.	3.84	3.95	4.05	4.42	4.76	5.46	6.63
	US\$ mt	78.56	80.90	85.63	96.47	105.99	120.25	147.92
3) Direct Producer Receipts	C\$ mil	110	87	67	100	101	131	NA
	US\$ mil	102.1	80.8	64.2	99.0	102.0	130.9	NA
4) Total Producer Value	US\$ mil	757.2	768.3	774.9	878.1	953.4	1,052.9	1,124.9
5) Policy Transfers to Producers								
a) Support								
Butter	C\$ mil	110	120	112	61	49	75	NA
Cheese	C\$ mil	82	91	94	127	130	140	NA
Skim Powder	C\$ mil	98.7	84.4	94	84	91.5	(54.0)	NA
Sub-Total	C\$ mil	290.7	295.4	300	272	270.5	269.0	(275)
b) Increment	C\$ mil	156	165	171	166	151	204	NA
c) Marketing Boards	C\$ mil	153	164	169	160	158	154	NA
d) Direct Payments	C\$ mil	110	87	67	100	101	131	NA
6) Total Producer Subsidy	C\$ mil	709.7	711.4	707.0	698	680.5	758	(767.1)
	US\$ mil	658.6	660.9	678.0	691.0	687.3	767.1	(72.9)
7) Proportional Subsidy	%	87.0	86.0	87.5	78.7	72.1	72.9	(72.9)
8) Subsidy per unit	C\$ mt	85.51	83.69	85.18	85.17	85.06	98.44	(98.44)
	US\$ mt	79.35	77.75	81.69	85.30	85.90	99.62	(99.62)

¹ 1974 figure is the average of 8 months.

E. E. C. (The Six) - Wheat: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	30.0	28.5	26.5	30.5	32.2	32.2	34.9
2) Producer Price ¹	ua mt	96.16	93.91	98.53	98.54	101.66	110.68	119.70
	US\$ mt	96.16	93.91	98.53	98.79	110.37	131.91	143.64
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	2,883.3	2,678.6	2,615.8	3,013.2	3,554.0	4,247.5	5,013.0
5) Policy Transfers to Producers								
a) CAP ²	ua mil	989.4	1,104.7	1,021.8	1,249.3	796.3	-1,512.4	(-1,223.9)
6) Total Producer Subsidy	ua mil	989.4	1,104.7	1,021.8	1,249.3	796.3	-1,512.4	(-1,223.9)
	US\$ mil	989.4	1,104.7	1,021.8	1,252.5	864.6	-1,802.5	(-1,468.7)
7) Proportional Subsidy	%	34.3	41.2	39.0	41.6	24.3	-42.1	(-29.3)
8) Subsidy per unit	ua mt	32.98	38.76	38.56	40.96	24.73	-46.97	(-35.07)
	US\$ mt	32.98	38.76	38.56	41.06	26.85	-55.98	(-42.08)

¹ Producer Price = Market Price which is the average of two German prices, two French prices and one for each of Belgium, Italy, Luxembourg and the Netherlands. The 1974 price is the average of six months between August 1974 and January 1975.

² The CAP is calculated as the difference between the Netherlands market price and c.i.f. import price of U.S. No. 2 Hard Winter ordinary, in units of account per metric ton. (P.S.E. = C.A.P. x Production and C.S.E. = C.A.P. + denaturing premium x consumption).

E. E. C. (The Six) - Maize: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	9.7	10.6	12.8	14.1	13.6	16.3	14.4
2) Producer Price ¹	ua mt	85.90	87.28	86.62	85.46	89.61	101.55	126.60
	US\$ mt	85.90	87.28	86.62	85.68	97.29	121.03	151.92
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	833.2	925.2	1,108.7	1,208.1	1,323.2	1,972.8	2,187.6
5) Policy Transfers to Producers								
a) CAP ²	ua mil	431.1	400.7	360.2	586.4	432.9	85.4	12.1
6) Total Producer Subsidy	ua mil	431.1	400.7	360.2	586.4	432.9	85.4	12.1
	US\$ mil	431.1	400.7	360.2	587.9	470.0	101.8	14.5
7) Proportional Subsidy	%	52.0	43.1	32.3	48.7	35.4	5.2	0.7
8) Subsidy per unit	ua mt	44.44	37.80	28.14	41.59	31.83	5.21	0.84
	US\$ mt	44.44	37.80	28.14	41.70	34.56	6.24	1.01

¹ Producer Price = Market Price which is the average of six prices, one for each of the six countries. The 1974 figure is the average of six months - August 1974 to January 1975.

² The C.A.P. is calculated as the difference between the Netherlands market price and the c.i.f. import price of U.S.A. Yellow Corn III, in units of account per metric ton. (P.S.E. = C.A.P. x Production; C.S.E. = C.A.P. x consumption).

E. E. C. (The Six) - Barley: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	15.4	15.9	14.1	16.1	17.9	18.9	18.6
2) Producer Price ¹	ua mt	84.45	83.45	89.04	87.71	92.75	99.98	117.50
	US\$ mt	84.45	83.45	89.04	87.94	100.70	111.90	141.00
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	1,299.1	1,324.6	1,255.5	1,413.4	1,801.0	2,112.2	2,629.2
5) Policy Transfers to Producers								
a) CAP ²	ua mil	509.7	705.6	406.5	710.8	433.3	-24.9	(-257.9)
c) Total Producer Subsidy	ua mil	509.7	705.6	406.5	710.8	433.3	-24.9	(-257.9)
	US\$ mil	509.7	705.6	406.5	712.6	470.4	-29.7	-309.5
7) Proportional Subsidy	%	39.2	53.3	32.4	50.4	26.1	-1.3	-11.8
8) Subsidy per unit	ua mt	33.13	44.45	28.83	44.23	24.23	-1.3	-13.83
	US\$ mt	33.13	44.45	28.83	44.34	26.30	-1.57	-16.59

¹ The Market Price is the average of two German prices and one from each of the other five countries. The 1974 price is the average of six months (August 1974 to January 1975) in the same way as in previous years.

² The C.A.P. is calculated as the difference between the Netherlands market price of Barley and the C.I.F. import price of U.S. Barley III, in units of account per metric ton. This figure multiplied by the production and consumption equals the P.S.E. and C.S.E. respectively.

E. E. C. (The Six) - Sugar: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production ¹	mmt	51.9	50.7	49.0	53.0	54.4	58.7	55.5
2) Producer Price ²	ua mt	17.40	16.80	16.80	18.00	18.50	19.30	18.80
	US\$ mt	17.40	16.80	16.80	18.05	20.09	23.00	22.56
3) Direct Producer Receipts								
4) Total Producer Value	US\$ mil	903.1	851.8	823.2	956.5	1092.7	1350.2	1252.1
5) Policy Transfers to Producers								
a) CAP ³	ua mil	1510.7	1342.4	1265.7	1392.1	1133.4	1110.9	-1878.8
6) Total Producer Subsidy	ua mil	1510.7	1342.4	1265.7	1392.1	1133.4	1110.9	-1878.8
	US\$ mil	1510.7	1342.4	1265.7	1395.7	1230.5	1324.0	-2254.6
7) Proportional Subsidy	%	167.3	157.6	153.8	145.9	112.6	98.1	-180.1
8) Subsidy per unit	ua mt	29.11	26.48	25.83	26.27	20.83	18.93	-33.85
	US\$ mt	29.11	26.48	25.83	26.33	22.62	22.56	-40.62

¹ Level of sugar beet production in the Six.

² Intervention Price for beet in the Six member countries for 1968-1972. 1973 and 1974 figures are for the Nine members and 1974 figure is the Minimum Price.

³ C. A. P. is calculated on the basis of the intervention price (calculated on a raw sugar basis and including the crushing margins given below) less the U. K. c. i. f. import price. The differential multiplied by the production and consumption of raw sugar (given below) equals the subsidy to producers and the burden to consumers respectively. Where the intervention price plus crushing margin is below that of the c. i. f. import price for the U. K., this is taken as a loss to producers and a consumer subsidy.

Crushing Margins u. a. per metric ton.

	1968	1969	1970	1971	1972	1973	1974
	138.5	144.6	155.8	167.7	180.7	198.7	200.8

E. E. C. (The Six) - Milk: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	76.0	75.7	72.5	72.0	74.8	75.2	76.7
2) Producer Price (excluding VAT)	ua mt	96.0	96.5	98.9	106.3	116.0	121.0	124.2
	US\$ mt	96.0	96.5	98.9	106.6	125.9	144.2	149.0
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	7296.0	7305.5	7170.3	7673.3	9420.5	10844.5	11431.4
5) Policy Transfers to Producers								
a) Support								
Butter	ua mil	1517	1617	1447	745	1321	1596	NA
Cheese	ua mil	644	747	578	457	-134	-45	NA
Skim	ua mil	(349)	328	(314)	-76	106	237	NA
Sub-total	ua mil	2610	2748	2339	1126	1293	1878	NA
b) Increment	ua mil	2292	2374	1895	1078	977	1205	NA
6) Total Producer Subsidy	ua mil	4902	5122	4234	2204	2270	3003	NA
	US\$ mil	4902	5122	4234	2210	2465	3579	(3579)
7) Proportional Subsidy	%	67.2	70.1	59.0	28.7	26.2	33.0	(33.0)
8) Subsidy per unit	ua mt	64.5	67.7	58.4	30.6	30.3	39.9	NA
	US\$ mt	64.5	67.7	58.4	30.7	33.0	47.6	NA

UNITED STATES - Barley: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	9.2	9.2	8.9	10.1	9.2	9.2	6.7
2) Producer Price	US\$ bu	0.92	0.88	0.97	0.99	1.18	2.19	2.64
	US\$ mt	42.26	40.42	44.55	45.47	54.20	100.59	121.26
3) Direct Producer Receipts	US\$ mil	-	46.0	44.8	-	107.2	77.7	-
4) Total Producer Value	US\$ mil	388.8	417.9	441.3	459.3	605.8	1003.1	812.4
5) Policy Transfers to Producers								
a) Diversion	US\$ mil	-	22.1	18.3	-	-	-	-
b) Price Support	US\$ mil	-	23.9	26.5	-	107.2	77.7	-
c) Reseal Loan Storage ¹ / ₂	US\$ mil	3.1	6.0	8.3	8.2	6.8	-	-
6) Total Producer Subsidy	US\$ mil	3.1	52.0	53.1	8.2	114.0	77.7	-
7) Proportional Subsidy	%	0.8	12.4	12.0	1.4	18.8	7.7	-
8) Subsidy per unit	US\$ mt	0.34	5.65	5.97	0.81	12.39	8.45	-

¹/₂ Reseal Loan Storage payments are allocated in proportion to the annual barley production.

UNITED STATES - Wheat: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	42.9	39.7	37.3	44.0	42.0	46.4	48.9
2) Producer Price	US\$ mt	45.56	45.56	49.24	48.87	57.69	147.34	164.61
3) Direct Producer Receipts	US\$ mil	746.0	855.9	871.0	885.7	858.7	478.3	-
4) Total Producer Value	US\$ mil	2700.5	2664.5	2707.5	3036.0	3281.6	7315.0	8094.4
5) Policy Transfers to Producers								
a) Diversion	US\$ mil	-	71.6	62.5	-	132.2	103.1	-
b) Marketing Certificates ¹	US\$ mil	746.0	784.3	808.5	885.7	726.5	375.2	-
c) Export Subsidy ²	US\$ mil	5.1	188.2	276.8	177.8	591.4	-	-
d) Reseal Loan Storage ³	US\$ mil	38.0	48.9	39.4	27.0	28.3	16.3	9.2
6) Total Producer Subsidy	US\$ mil	789.1	1093.0	1187.2	1090.5	1478.4	494.6	9.2
7) Proportional Subsidy	%	29.2	41.0	43.8	35.9	45.0	6.8	0.1
8) Subsidy per unit	US\$ mt	18.39	27.53	31.83	24.78	35.20	10.66	0.19

¹ In 1974 the set aside requirements and the domestic certificates were abandoned in favour of a new programme.

² The total value of export payments (made by the Commodity Credit Corporation) divided by the total export volume = average subsidy per metric ton. This multiplied by the total production and total consumption equals the P. S. E. and C. S. E. respectively. This was reduced to zero in September 1972 and revoked in 1974.

³ Allocated in proportion to annual wheat production.

UNITED STATES - Maize: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	111.6	116.4	104.1	143.3	141.6	143.4	118.1
2) Producer Price	US\$ bu	1.08	1.15	1.33	1.08	1.29	2.62	2.92
	US\$ mt	42.52	45.27	52.36	42.52	50.78	103.14	114.95
3) Direct Producer Receipts	US\$ mil	1165.7	1365.2	1228.1	893.1	1468.9	909.7	-
4) Total Producer Value	US\$ mil	5910.6	6635.0	6678.7	6985.8	8660.0	15700.6	13576.1
5) Policy Transfers to Producers								
a) Diversion	US\$ mil	651.3	780.3	654.0	-	-	-	-
b) Price Support	US\$ mil	514.4	584.9	583.1	893.1	1468.9	909.7	-
c) Reseal Loan Storage ¹	US\$ mil	57.8	53.5	35.9	26.2	58.9	(65.6)	(76.5)
6) Total Producer Subsidy	US\$ mil	1223.5	1418.7	1273.0	919.3	1527.8	975.3	76.5
7) Proportional Subsidy	%	20.7	21.4	19.1	13.2	17.6	6.2	0.6
8) Subsidy per unit	US\$ mt	10.96	12.19	12.23	6.42	10.79	6.80	0.65

¹ Allocated in proportion to animal maize production.

Figures in brackets are estimates based on previous years average proportions of total production used for animal consumption, multiplied by the Commodity Credit Corporation loan rates. These were:

1973 U. S. \$1.00 per bushel.

1974 U. S. \$1.10 per bushel.

UNITED STATES - Milk: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production	mmt	53.2	52.8	53.8	53.8	54.6	53.0	52.3
2) Producer Price ¹	US\$100 lb.	5.24	5.49	5.71	5.87	6.07	7.19	8.29
	US\$ mt	115.52	121.03	125.88	129.41	133.82	158.51	182.76
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	6145.7	6390.4	6709.4	6962.3	7306.6	8401.0	9558.3
5) Policy Transfers to Producers								
a) Support of								
Butter	US\$ mil	409	400	412	243	156	239	196
Cheese	US\$ mil	766	965	1029	917	610	963	1637
Skim Milk	US\$ mil	173.0	182.9	205.5	175.7	113.6	388.7	-9.1
b) Increment	US\$ mil	1910	2271	2370	1797	1159	2009	3380
6) Total Producer Subsidy	US\$ mil	3258.0	3818.9	4016.5	3132.7	2038.6	3599.7	5203.9
7) Proportional Subsidy	%	53.0	59.8	59.9	45.0	27.9	42.8	54.4
8) Subsidy per unit	US\$ mt	61.24	72.33	76.73	58.23	37.34	67.92	99.50

¹ 1974 Producer and Consumer Price is the average of ten months.

UNITED STATES - Sugar: Producer Subsidy Equivalents and Values

	Unit	1968	1969	1970	1971	1972	1973	1974
1) Level of Production ¹	mmt	44.8	45.7	45.6	46.5	51.5	47.3	43.6
2) Producer Price,								
Beet	US\$ mt	15.95	14.94	17.17	17.68	18.39	20.44	NA
Cane	US\$ mt	10.62	11.30	11.86	12.43	12.93	16.13	NA
Average Price ²	US\$ mt	14.50	14.42	15.85	16.50	16.98	19.07	NA
3) Direct Producer Receipts		-	-	-	-	-	-	-
4) Total Producer Value	US\$ mil	649.4	659.1	722.7	767.1	874.3	902.0	NA
5) Policy Transfers to Producers								
a) Sugar Act Payment ³	US\$ mil	92.0	90.4	82.6	86.2	89.8	86.5	NA
b) Tariff ⁴	US\$ mil	74.1	69.8	70.3	74.8	79.5	71.6	72.6
c) Sugar Quotas ⁵	US\$ mil	524.1	362.9	359.9	341.2	75.0	-55.1	-237.2
6) Total Producer Subsidy	US\$ mil	690.2	523.1	512.8	502.2	244.3	103.0	-164.6
7) Proportional Subsidy	%	106.3	79.4	71.0	65.5	27.9	11.4	(10.0)
8) Subsidy per unit of beet	US\$ mt	15.41	11.45	11.25	10.80	4.74	2.18	-3.78
a) Average subsidy per unit of beet and cane	US\$ mt	127.81	102.57	100.55	93.00	42.12	19.81	-31.06

¹ Total domestic production of beet and cane.

² Average producer price equals total receipts to cane and beet producers divided by the total domestic production of beet and cane.

³ The Sugar Act broke down in 1974 and figures are not available for this year.

⁴ Calculated on the basis of 0.625 cents per lb. at raw value (US\$ 13.77 per metric ton).

⁵ The effect of the Sugar Quota system in maintaining domestic price levels was measured by deriving the subsidy per lb. of raw sugar, i.e. the differential between the New York No. 10 Domestic Contract (c.i.f. New York) price and the New York No. 11 Foreign Contract (Job Caribbean Ports) plus an estimated stripping cost of 5 cents per lb. and multiplying by domestic production and consumption to get the subsidy to producers and the burden to consumers respectively.

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