

Food Import Growth in the Developing Countries

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Introduction*

The first section of this article focuses on trends in Third World food imports during the 1970s and early 1980s. The next section outlines two principal theories put forward to explain these trends. The third section reports on some empirical studies which examined the explanatory power of the two theories. The final section looks at the implications for future food trade.

One of the most interesting features of international agricultural trade in recent years has been the change in the developing countries' position from net exporter to net importer of crop and livestock products in the early 1980s. In 1981 for the first time in their history the developing countries were net agricultural importers, though in more recent years there has been a return to their more traditional status of net agricultural exporters.

Between 1972 and 1980 the volume of world agricultural imports rose by 34 per cent. Agricultural imports into the

*The author is very grateful to HEDCO (Higher Education for Development Co-operation - Ireland) for financial assistance generously provided for the research which motivated this article.

developed market economies rose by only 3 per cent, while imports into the developing countries rose by an astonishing 122 per cent.¹

To a large extent the decline in the relative importance of developing countries in world agricultural exports reflects a failure of agricultural production in Africa, although Latin America also lost market share.² However, the increase in agricultural imports was much more widely spread across developing country regions and was of concern to many developing countries because it meant that their food self-sufficiency levels were falling.

About 80 per cent of the increased import demand in the developing countries during the 1970s was met by the EC and the US. OECD figures indicate that 11 of the 24 OECD countries are net agricultural exporters to the developing countries and that 42 per cent of OECD agricultural exports go to the developing country economies.³ Unfortunately for the developed country exporters, the buoyant world markets of the 1970s did not continue into the 1980s. Although all agricultural markets declined in the early 1980s, developing country import demand fell most severely. Imports into the developed countries grew by a further 3 per cent, but the increase in imports into the developing countries slumped to 13 per cent compared to the triple figure growth of the 1970s. The slowdown in import growth in the developing countries in the 1980s was of concern to the developed countries because it indicated a declining market for their agricultural exports.

The import compression forced on the developing countries in the post-1981 period because of adverse trends in commodity export prices, growing protectionism against their exports of manufactures and crippling high levels of indebtedness played an important part in the stagnation of agricultural trade in the 1980s.⁴ This stagnation, in turn, contributed to the growing budgetary burden of agricultural support in the developed countries and led to the attempts to limit the amount of agricultural surpluses through more restrictive support policies now being debated under the auspices of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT).

Given the concerns of both the developed and developing countries, it is important that we have an understanding of what factors influenced food import growth in the past and what factors are likely to influence import growth in the future. The first section of this article focuses on trends in Third World food imports during the 1970s and early 1980s. The next section outlines theories put forward to explain these trends. There are

two basic explanations. The first explanation argues that developing countries' food imports rose during the 1970s because of a neglect of domestic food production for one reason or another, e.g. export cropping. Import growth fell back in the first half of the 1980s, it is argued, because of a reorientation of support towards domestic food production. Thus, this view maintains that there is a strong *import replacement effect* when domestic food production grows. The alternative view is that the developing countries' food import growth is more closely related to *income growth*. Strong income growth in the 1970s, it is argued, led to high levels of demand for food which eventually outpaced the growth in domestic food production and resulted in high levels of food imports. Lower income growth in the 1980s led to lower food import growth.

In the US, there has been much debate as to whether the US should continue to grant aid to agricultural production in the developing countries.⁵ Some argue that additional aid will reduce future export markets for US farmers. This would be the case if the import replacement effect was the dominant influence on food import demand in the Third World. Others argue that additional aid could actually increase future export market potential, which would be the case if the income growth effect dominates. On the other side of the Atlantic, EC farmers are concerned with whether more liberal access to European markets for Third World producers of agricultural products will reduce or increase EC export market potential. Therefore, the third section of the article reports on some empirical studies which examined the relative weight which should be attached to the import replacement effect and income growth effect. The final section looks at the implications for future food trade.

Trends in Third World food imports

Table 1 highlights the complementary structure of developed country and developing country agricultural trade. While temperate zone commodities such as cereals, meat and dairy products dominate the agricultural exports of the developed countries, the developing countries specialise in the export of tropical beverages, sugar, vegetable oils and raw materials. Therefore, this section will focus on the import of temperate zone commodities by the developing countries. For all the major Third World regions temperate zone commodity import growth in the 1970s was substantially stronger than the growth

experienced during the first half of the 1980s. In fact in the early 1980s, in a number of cases, import growth was negative.

Table 1: Structure of developed and developing country agricultural exports, 1984

	Developed Countries %	Developing Countries %
Cereals	22	8
Meat	13	6
Oils and oilseeds	12	17
Milk and milk products	8	0
Mediterranean/tropical products	6	6
Raw materials	5	10
Sugar	3	10
Tropical beverages	1	21
Others (1)	30	22
	100	100

(1) "Others" includes commodities not individually named as part of other groups as well as processed products.

Source: FAO, *Commodity Review and Outlook 1985-86*

Cereals account for well over one-third of developing country food imports. Average annual cereal import growth during the 1970s was 8.6 per cent compared to 3.8 per cent during the first half of the 1980s. Thus cereal import growth in the 1970s was more than twice that of the 1980s (Table 2). Meat accounts for 7 per cent of developing country food imports. Meat import growth during the 1970s was 18.8 per cent per annum, but was only 5.2 per cent a year in the first half of the 1980s. Live animals account for 4 per cent of the food imports of the developing countries. Again, import growth in the 1970s was substantially stronger than during the first half of the 1980; sheep and goat imports grew by 7.7 per cent a year of the 1970s compared to 2.2 per cent a year during 1980-85, pig imports grew by 5.7 per cent a year in the 1970s but actually declined by 1.8 per cent a year in the first half of the 1980s, while bovine cattle imports grew by 2.4 per cent a year in the 1970s but declined by 6.3 per cent a year in the first half of the 1980s. Dried milk accounts for 5 per cent of the food imports of developing countries, while butter accounts for 2 per cent. At 8.7 per cent and 9.2 per cent per annum, annual import growth of dried milk and butter

during the 1970s was similar to cereal import growth. But the decline in import growth for dairy products in the first half of the 1980s was more substantial than the decline in cereal import growth; dried milk imports grew by 2.7 per cent a year during 1980-85 while butter imports grew by only 1 per cent a year.

Table 2: Developing market economies: average annual import growth rates

	1970-79 %	1980-85 %
Cereals	8.6	3.8
Meat	18.8	5.2
Live animals: sheep & goats	7.7	2.2
pigs	5.7	-1.8
cattle	2.4	-6.3
Dairy products: dried milk	8.7	2.7
butter	9.2	1.0

Source: FAO, *Trade Yearbooks*, various years

A second point to note is that the main Third World food importers changed quite significantly between the beginning of the 1970s and the mid-1980s. At the beginning of the 1970s the Near East accounted for a fifth of the developing country cereal imports, while by the mid-1980s it accounted for nearly one third. The reverse was true for the Far East; despite positive growth both in the 1970s and the first half of the 1980s, in 1984-86 the Far East accounted for a fifth of Third World cereal imports compared to a third at the beginning of the 1970s. Latin America's share also fell, from a quarter at the beginning of the 1970s to a fifth in the mid-1980s. Thus, over the fifteen year period (1970-85), the Near East and Africa's share of cereal imports increased at the expense of the Far East and Latin America; Africa's share went from approximately a fifth to a quarter.

The Near East was also the developing region with the strongest meat import growth over the fifteen year period, increasing its share of developing country imports from 16 per cent to more than 50 per cent. The Near East also features prominently in the import of live animals. In the mid-1980s, the Near East accounted for 90 per cent of sheep and goat imports,

compared to only 57 per cent at the beginning of the 1970s. The Far East accounts for the vast majority of pig imports (98-99 per cent). Africa accounts for nearly half of Third World cattle imports (mainly intra-continental trade); however, the Near East increased its share from 9 per cent at the beginning of the 1970s to 27 per cent in the mid-1980s. In contrast, Latin America's share of Third World cattle imports fell from 28 per cent at the beginning of the 1970s to only 9 per cent in the mid-1980s.

The import of dairy products by the Third World is more evenly spread across developing country regions. Latin America accounted for 30 per cent of dried milk imports in 1984-86, a fall of 7 per cent on its share at the beginning of the 1970s. The Far East's share also fell over the fifteen year period (1970-85) from 40 per cent at the beginning of the 1970s to 24 per cent in the mid-1980s. In contrast, the Near East and Africa more or less doubled their share to 20 per cent each in the mid-1980s. The Near East also doubled its share of butter imports over the fifteen years. In 1984-86 it accounted for approximately half of all Third World butter imports. Africa's share of butter imports fell from 24 to 20 per cent, Latin America's share fell from 32 to 16 per cent, and the Far East's share fell from 21 to 14 per cent.

To summarise, by the end of the 1970s all regions of the Third World were *net* importers of food. This involved a shift from the position of net exporter to the position of net importer of food for both Latin America and Sub-Saharan Africa. However, the major Third World net food importers by the late 1970s were the North African/Middle Eastern countries. As a group they accounted for half the net food imports of the developing countries. In Asia, despite the fact that it ranked second to Latin America as a Third World food exporter, its food imports were nearly double its food exports in the late 1970s. China's experience was rather different to the rest of Asia and because of its size it dominates figures for the region as a whole. In China during the 1970s food exports fell while food imports nearly tripled; in the rest of Asia food exports nearly doubled while food imports only grew by 1.1 per cent a year.⁶

Explanations for developing countries' food import growth

Various explanations have been put forward for agricultural trade trends in the Third World during the 1970s and early 1980s. The

most common explanation is that they were production driven. Falling food self-sufficiency in the 1970s is ascribed to discrimination against the domestic food production sector, and the recovery in food self-sufficiency in the first half of the 1980s is attributed to a reversal of this discrimination. This is the import replacement effect discussed in the introduction. There are three variations to this discrimination argument:

(i) The *urban bias explanation* maintains that farmers bear an undue proportion of the sacrifices necessary for accelerated growth. Policy-makers often see the urban-industrial sector as the main engine for growth. The preoccupation with the development of the industrial sector leads to urban bias in policy-making and discrimination against agriculture, reflected in low producer prices for farmers and heavy taxation of the agricultural sector. This negative protection for agriculture leads to low levels of food production and, consequently, to high levels of food imports to bridge the gap which develops between food demand and food production.

Byerlee⁷ suggests that not all agricultural products received negative protection. He found that wheat consumption and imports were more encouraged by consumer subsidies than by producer taxation. However, Lutz and Saadat,⁸ in a study of agricultural pricing policies, found that in 1983 four of the seven developing countries they studied still directly discriminated against agriculture. Thus, the 'urban bias' explanation may still be applicable albeit not in all circumstances.

(ii) The *protectionism theory* argues that low world market prices for agricultural products, which result from protectionist agricultural policies, act as a disincentive to food production in the developing countries. The main culprits in this regard are the developed countries who have spent vast quantities of revenue in recent decades on protecting the incomes of their farmers, mainly through price support. This support led to huge stocks of food building up and low world market prices for agricultural commodities. It is argued that these low world market prices act as a disincentive to food production and encourage the import of food into the developing countries.

Tyers and Anderson⁹ indicate that the developing countries would indeed face higher prices on world food markets if the developed industrial countries liberalised their agricultural policies, e.g. by removing high levels of price support. Higher prices for agricultural commodities on world markets would lead to the developing countries importing less and exporting more. The Tyers and Anderson study is based on temperate zone products. Since Third World imports of temperate zone products

exceed exports, the simulated higher prices from liberalisation by the developed countries yield a net loss of \$11.8 billion to developing countries' consumers and producers. However, if tropical products had been included in the study one would expect substantial gains to offset these losses. Furthermore, under free trade some developing countries might in the long run become significant exporters of temperate zone products. This suggests that for some developing countries at least, net trade in food could improve significantly under a less restricted trading environment; i.e. the 'protectionism' theory applies in these cases.

(iii) The *export or cash crop explanation* attributes rising (gross) imports of food to the fact that more and more land and other resources are being devoted to export crop production. Export crop production is increasingly controlled by large agribusiness companies, which are both financially stronger and politically more influential than those involved in domestic food production. Furthermore, governments tend to favour export crop production in a continuous effort to keep up with increasing foreign currency needs as a result of rising import bills. Supporters of this explanation advocate a reorientation of developing country agriculture towards food production for domestic needs. The lower food import growth rate in the 1980s is ascribed to improvements in agricultural performance due to policy reforms which redressed the balance of discrimination.

However, while examples can be found of how competition can arise between the production of food crops and export crops, one can equally identify ways in which the two forms of production may be complementary. Studies in this area tend to support the complementarity argument — Storey's analysis¹⁰ of sub-Saharan African countries suggests a relatively weak level of association between the two types of production, though it remains generally positive. Storey argues that while there is insufficient evidence to warrant a strong conclusion in favour of one or the other argument, the competition argument of an inevitable conflict between export crops and food crop production is the one with the least empirical support. This result casts doubt on the validity of the thesis, at least in the context of Sub-Saharan Africa, that export crop production crowds out domestic food production and consequently, has led to high levels of food imports.

There is certainly some validity in the argument that trade trends are production-driven and consequently some validity in the three theories referred to above. Agricultural production in the developing countries has been heavily discriminated against in

the past and there have been impressive increases in production in some countries in recent years; e.g. China, where production growth was 5.2 per cent per annum in the 1980-86 period. But a production turnaround explanation cannot be the complete story. Production trends in the developing countries have been remarkably constant over the past twenty-five years. Annual production growth (excluding China) averaged 2.8 per cent in the 1960s,¹¹ 2.9 per cent in the 1970s and 2.8 per cent in the 1980-86 period.¹²

A fourth explanation, *demand determined food import growth*, argues that changes in the growth rate of income and consequently food demand in the developing countries were the reasons behind the rapid growth in food imports in the 1970s and the subsequent fall off in the first half of the 1980s. This is the income growth effect discussed in the introduction. The most obvious evidence for the effect is the emergence of the oil exporting developing countries as major export markets for agricultural products. Between 1970 and 1981 agricultural imports by Near Eastern countries rose by nearly 14 per cent a year, in constant value terms, compared with 9 per cent for the developing countries as a whole.¹³ Obviously the fall in oil prices since 1979 curtailed food import demand in these countries. However, even apart from the oil-exporting countries, developing countries' effective demand for food exceeded their production during the 1970s due to rapid economic growth. Since agriculture is the largest sector in most developing countries, this sector must be growing if developing countries are to achieve high overall growth rates. Furthermore, since most people in the agricultural sector have low levels of income they also have high marginal propensities to consume food. For this reason agricultural incomes and food imports usually rise together in developing countries.

This rather counter-intuitive result can be briefly explained as follows. Rising agricultural productivity increases the income of farmers and rural labourers. These people spend their increased income on goods and services produced off the farm which has the effect of increasing employment and income in urban areas. Thus, the rising incomes of the poor in both rural and urban areas creates food demand that eventually outpaces growth in agricultural production as diets improve and diversify.¹⁴ This, it is argued, was one of the main reasons why developing countries became more dependent on imports of food in the 1970s.

Thus, supporters of this fourth explanation would argue that with the possible exceptions of China and India, which engaged in agricultural growth-promoting policies, the lower levels of

Third World food imports in the first half of the 1980s were not as a result of a production turnaround but due to declining real incomes because conditions in the larger global economy moved against the developing countries. For the majority of the developing countries the early 1980s were characterised by: (i) declining per capita incomes and employment levels; (ii) increasingly difficult debt servicing problems; (iii) foreign exchange shortages; and (iv) high or rising domestic price inflation. Any one of these factors on its own would probably have dampened effective demand for food but together they had a dramatically negative impact on food demand and consequently food imports.

External factors affected the vulnerable developing economies in two main ways: through finance and through trade. The developing countries most profoundly affected by the 1980-83 recession were those which had built up high per capita levels of external debt, had large fiscal deficits and high inflation. A rapid rise in world market nominal interest rates due to a shift towards anti-inflationary macroeconomic policies in the industrial countries increased debt servicing costs substantially for the developing countries. These problems were exacerbated by the fact that export earnings and the positive trade environment peaked for the developing countries in 1980. During the early 1980s the purchasing power of their agricultural exports stagnated or deteriorated. The developing countries' problems were not made any easier by the fact that many of their export markets were restricted and distorted by the protectionist policies of the developed countries. However, the industrial countries cannot take all the blame in terms of policy: many of the developing countries had policies which were slow to respond to the changed lending and market situations.

Empirical studies on the determinants of food import demand

Most studies of the relationships between import growth and income and production growth in the developing countries have looked at total agricultural import growth. Kellog, Kodl and Garcia¹⁵ found that per capita agricultural imports in the developing countries were positively and substantially related to per capita income and that the separate effect of per capita

agricultural production on per capita agricultural imports was slight. However, one should exercise caution in regard to their findings in that they dealt solely with the effect of agricultural production on total agricultural product imports. The effect of increasing the production of specific commodities on the import of those commodities may be quite different. Likewise there may also be significant differences between countries.

Ivory¹⁶ investigated the relationships between income growth, production growth and import growth on a more specific commodity basis than the Kellogg *et al* study. Two commodities were chosen, cereals and meat, and analysis was carried out for two time periods, 1965-80 and 1980-85, for all developing countries. The 1965-80 period represented the period of rapid growth in the developing countries' imports of agricultural commodities, and the 1980-85 period represented the period of import growth deceleration.

The results of the analysis indicated that the relationship between cereal import growth and income growth and cereal production growth was stronger in the middle-income developing countries than in the low-income countries. Income growth had a significant positive impact on cereal import growth in the middle-income countries between 1965 and 1980, while cereal production growth had a significantly negative effect on imports in both the 1965-80 and the 1980-85 periods.

More specifically, in the 1965-80 period, income growth's positive impact and cereal production growth's negative impact on cereal imports were more significant in the *lower* middle-income developing countries than in either the upper middle-income or low-income countries. There was also a closer relationship between income growth and cereal production growth in the lower middle-income countries.

Neither income growth nor meat production growth was found to be significantly related to the level of meat imports in the developing countries during the 1965-80 period. For the period of import growth slowdown (1980-85) the results were quite different for the income growth variable. In the 1980-85 period, income growth had a greater positive impact on meat imports than it did on cereal imports. Furthermore, this suggestion of a stronger relationship between meat import growth and income growth in the 1980-85 period was supported when countries were divided into groups on basis of production experience (i.e. between those which recorded meat production growth and those which recorded meat production decline during the period). The implications of these results are discussed in the next section.

Conclusion: implications for future food trade

Projections to the end of the century indicate that the potential for increasing exports of food to the developing countries will be quite restricted in the near future.¹⁷ It is likely that the middle-income developing countries will provide greater food-export market potential than the low-income countries, due to the continuation of diet diversification towards higher value commodities. Many middle-income countries are firmly moving towards increasing consumption of livestock products. This in turn increases significantly their import demand for feed grains, even if their own cereal sectors are growing reasonably rapidly.

Ivory¹⁸ indicates that there was a significant relationship between meat imports and income growth in the developing countries, particularly the middle-income countries, between 1980 and 1985 whereas meat production growth had little, if any, effect on the import of meat into the Third World. For these countries, and for these products, the income growth effect appears dominant. This suggests that the meat import scene of the near future may depend substantially on the developing countries', and particularly the middle-income countries', ability to maintain, and improve, overall economic growth rates.

The situation in relation to cereal imports would seem to be more complex. In countries with rapidly rising incomes the demand for livestock products is strong and imports of feed grain also grow rapidly. But, in many developing countries the growth in cereal imports would seem to have been related to slow growth in their cereals production rather than to rapid growth in their consumption of cereals (for both food and feed use) as a result of income growth. The important point to note here is that in these countries there would seem to be a strong cereal import replacement effect when cereal production growth improves.

There are major cereal importers in both types of country i.e. those where the *income growth* effect dominates and those where the *import replacement* effect dominates. Given the less favourable income growth prospects in many middle-income countries and increasing foreign exchange constraints it would seem reasonable to assume that acceleration and diversification of consumption resulting in rapid growth of imports will be less of a factor in the future than it was in the past. Therefore the cereal import scene may be determined more by the extent to which importing countries are successful in maintaining or improving their production performance than by income growth.

Finally, one of the most interesting findings of Ivory¹⁹ is that neither income nor production growth can explain import growth as fully as some might suggest. This indicates that factors other than income growth or production growth, such as foreign exchange availability, may have been important determinants of import growth. Further research to examine some of these possibilities would be interesting.

Footnotes

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3. FAO, (1985), op. cit.
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5. R. L. Paarlberg, (1987), "US agriculture and the developing world: partners or competitors?" in *US Agriculture and Third World Development: The Critical Linkage*, edited by R.B. Purcell and E. Morrison, Boulder & London, Lynne Rienner.
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11. World Bank, (1986) *World Development Report*
12. FAO, (1986) *The State of Food and Agriculture*, Rome
13. FAO, (1985), op. cit.
14. Cf. J.W. Mellor, (1966), *The Economics of Agricultural Development*, Ithaca, Cornell University Press. It should be noted that the income growth effect will only work in this way if the agricultural growth is reasonably widely spread across the rural population. If the growth is confined to a few farmers, perhaps engaged in cash crop production, then much less of the additional demand generated will be devoted to food products.
15. E. Kellogg, R. Kodl and P. Garcia, (1986), "The effects of agricultural growth on agricultural imports in developing countries", *American Jnl of Agricultural Economics*, December, 1346-52.
16. P.R. Ivory, (1989), *Food Import Growth in the Developing Countries*, Research Thesis, Library, Trinity College, Dublin.
17. FAO, (1987), *Agriculture: Toward 2000*, Rome
18. P. R. Ivory, (1989), op.cit.
19. Ibid

