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STRUCTURAL ADJUSTMENT AND AGRICULTURE: A COMPARATIVE PERSPECTIVE ON PERFORMANCE IN AFRICA, ASIA, AND LATIN AMERICA

By
Uma Lele

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FOOD AND RESOURCE ECONOMICS DEPARTMENT
Institute of Food and Agricultural Sciences
University of Florida
Gainesville, Florida 32611

STRUCTURAL ADJUSTMENT AND AGRICULTURE: A COMPARATIVE PERSPECTIVE ON RESPONSE IN AFRICA, ASIA, AND LATIN AMERICA[1]

Uma Lele 2/,3/

1/Keynote address to the First Plenary Session of the European Association of Agricultural Economists' Seminar on Food and Agricultural Policies Under Structural Adjustment. September 21-25, 1992, Hohenheim, Germany.

2/Graduate Research Professor, Food and Resource Economics Department, and Director of International Studies and Programs, University of Florida, Gainesville, Florida, 32611, Tel. (904)392-3246 or 5068, Fax (904)392-5575 or 392-2395.

3/Support for the preparation of this paper was provided by the Rockefeller Foundation and the International Monetary Fund as part of a larger study of Structural Adjustment and Agriculture. For detailed empirical evidence in support of many of the arguments made in this paper see Uma Lele, Kofi Adu-Nyako, and Robert Emerson, "Structural Adjustment and Agriculture", forthcoming. I alone am responsible for the views expressed in this paper and the deficiencies that remain. They should not be attributed to the supporting institutions. I an grateful to Kofi Adu-Nyako for his comments on the earlier draft and to Dieudonne Mann and Rahul Jain for research assistance.

T A B L E OF C O N T E N T S

Structural Adjustment and Agriculture: A Comparative Perspective on Response in Africa, Asia, and Latin America,1/

Uma Lele2/,3/

INTRODUCTION

In this paper I argue that structural adjustment has diverted attention from the central issues in the development of smallholder agriculture. Yet increasing factor productivity in agriculture is crucial **for** resuming rapid economic growth, alleviating poverty, increasing women's participation, and saving the environment. These latter issues are currently at the forefront and agriculture **has** become their unexpected victim. This **is** an ironic outcome and certainly not the one which supporters of these various good

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things (myself included) would wish. After all, structural adjustment was and continues to be directed to (among other things) boosting exports, and agriculture is still an important, albeit declining, source of exports in many developing countries (Figure 1). Through devaluation and elimination of export taxes, structural adjustment is expected to raise internal terms of trade in favor of agriculture and such intersectoral redistribution of income, together with lowering of budget deficits and inflation rates as well as reducing the role of public interventions, is expected to provide a boost to food and agricultural production. Such positive impact of a stable macroeconomic environment on growth is well established.1/

Yet, whereas price adjustments are crucial, partial price adjustments can ham the process of broadbased agricultural growth. Moreover, price reforms are by no means sufficient. Long term supply response from agriculture calls for attention to nonprice factors as well. Levels and patterns of investments in irrigation, agricultural research, extension, transport, communications, and human capital are critical in increasing agricultural production. Investments in health, education, and village water supply, especially with a focus on women and children, determine the size and quality of the population and their ability to benefit from access to new technologies. Such investments in turn determine whether labor remains in agriculture or migrates to other sectors and are more important at an early stage of development because agriculture dominates in GNP, exports, employment, government revenues, food supply, and industrial raw materials, and it tends to be the major source of demand for

1/ See Mohsin Khan, "The Macroeconomic Effects of Fund-Supported Adjustment Programs," in IMF Staff Papers. Vol. 37, No. 2, June 1990 (pp. 195-231).

goods and services produced in the manufacturing sector. But non-price factors are by no means unimportant at later stages. The share of employment in agriculture dominates over that in manufacturing for a considerable period after structural transformation has commenced, for example in Indonesia and China. Consequently, a small percentage growth in agricultural employment tends to be equivalent to a large percentage growth In employment in the manufacturing sector. Besides, agricultural growth tends to have strong multiplier effects on the manufacturing and service sectors.

Such long run development considerations are increasingly being incorporated in the adjustment operations of the IMF and the World Bank.1/ Yet the focus of these two institutions is primarily on the short run. The intellectual effort they devote to the analysis is on middle income countries and sectors other than agriculture as can be seen from the number of recent publications on adjustment in Table 1. What little emphasis is given to agriculture focuses on Africa. The lessons from the successful middle income East Asian countries in industrial and financial liberalization are cited frequently, but the important historical experience in their agricultural development is rarely explored2/. The lessons of their experience are of interest not simply to the small open economies of Africa, but to the South Asian countries a« well as to the low end poverty groups in Latin America.

1/ The IMF, for instance, established the Structural Adjustment Facility (SAP) in 1986 and followed it up with the Extended Structural Adjustment Facility.

2/ To the four so-called Asian Tigers must now be added China, Indonesia and Thailand.

That experience stresses the nature of externalities and the importance of public investments in the rural sectors through an intelligent and enlightened role for the government. But as this paper will show, public investments are declining in developing countries and with then those in agriculture. Moreover, for understandable reasons governments have become discredited **as** parasites and predators. However, improvement in the the extensive failure in rural factor and product markets will not occur without government action. The limits of markets in achieving the many development tasks will not be recognized and acted upon.

To stress these contradictions the paper first provides the context to these arguments by summarizing the findings on agricultural supply response, then based on the evidence of 53 adjusting countries the paper outlines agriculture's performance in the three continents before and after adjustment, i.e., the changing patterns of international trade, growth in agricultural production, growth of agricultural exports and imports, and evaluates it again in the context of the recent specific literature on the response of agriculture to adjustment. The paper then documents the waning attention to agriculture, explores the reasons why, and identifies some of the issues pertinent to agriculture in the context of adjustment. It then summarizes and concludes the argument.

INSIGHTS FROM SUPPLY RESPONSE LITERATURE

Econometric evidence indicates that overall supply response in agriculture tends to be smaller than that of individual crops which (as Binswanger correctly observes) economists often mistakenly cite to illustrate the

likely impact of policy reforms on agriculture.1/ The export crop sector tends to show a greater long-run response than the food crop sector and annual cash crops tend to be more responsive than tree crops.2/ Long run aggregate responses are much greater than short term responses and nonprice factors tend to be more important in the long run response than price factors, although price factors are not unimportant. Recent research has shown, however, that the indirect effects of macroeconomic policies (exchange rate, trade, and tax policies) tend to be more significant than direct effects.3/ The literature also suggests Chat the countries with a weak representation of rural interests are more prone to tax agriculture heavily than those with a strong representation of rural interests.4/ It Is noteworthy from Table 2, however, that whereas taxation of agriculture has been the highest in Africa, it has by no means been insignificant in other countries, many of which have been good agricultural performers. Moreover, agricultural taxation has begun to diminish significantly since the adjustment process began in Africa. Indeed, the overall rate of agricultural taxation may now be comparable in Asia and Africa.

Subsidies on food, fertilizers, irrigation, and water amount to well over $1 billion annually each in as diverse a set of countries as

1/ See Hans P. Binswanger, "The Policy Response of Agriculture," in Proceedings of the World Bank Annual Conference on Development Economics. 1989 (Washington, DC: World Bank, 1989.

2/ See Raj Krishna, "Some Aspects of Agricultural Growth Price Policy and Equity in Developing Countries," in Food Research Institute Studies (U.S.), Vol. 18, No. 3, 1986 (pp.219-60).

3/ See Anne 0. Krueger, Maurice W. Schiff, and Alberto Valdez, The Political Economy of Agricultural Pricing Policy (Baltimore: The Johns Hopkins University Press for the World Bank, 1991).

4/ See Robert H. Bates, Markets and States in Tropical Africa: The Political Basis of Agricultural Policies (Berkeley: University of California Press, 1981).

India, Indonesia, Mexico, Brazil, and Nigeria. These subsidies constitute a large share of the overall budget deficits, and their reduction constitutes an important element of reforms under adjustment. Finally, it is not simply the quantity but the quality of government expenditures which has been a much more significant factor in the development of agriculture in Asia. Yet how fast, how much, and how should non-agriculture contribute to the development of agriculture as distinct from agriculture's contribution to the rest of the economy remains an inadequately understood issue. In this regard, Taiwan's experience in modernizing agriculture and agriculture's contribution to its industrialization provide some important insights to contemporary developing countries. Taiwan's average farm size of 1 ha or less is more in tune with low income countries' agriculture than the frequently cited example of Argentina which enjoys large scale agriculture and well developed factor and product markets.1/ Moreover, unlike South Korea (which is a favorite on industrial and financial liberalization) Taiwan did not protect its agriculture, nor was it a large recipient of external capital. On the contrary Taiwan exported capital to its nonagricultural sector, to Japan and more recently to the international capital markets. Taiwan has had neither a Ministry of Planning nor one for Agriculture, and until recently had an undemocratic government. How did Taiwan do it?

In an intersectoral analysis of growth accounting covering a 50 year period (1911 to 1960), T.H. Lee, now Taiwan's President, has shown that agriculture's significant contributions to industrialization was a result of

1/ See Yair Mundlak1, Domingo Carvallo, and R. Domenech, Agriculture and Economic Growth. Argentina 1913-84 (Washington, DC: International Food Policy Research Institute, 1988).

an intelligent public policy and public investments aimed at increasing farm productivity.1/ Moreover organizational and institutional reforms Involving active participation of the farm households in agricultural credit, extension, irrigation, water management, rural infrastructure, marketing, processing, and so on, **were** an integral part of public investment in agriculture. Labor and capital transfers occurred from agriculture, while the real wage remained near constant, throughout the period of industrialization.

But unlike Taiwan, government failure **is** rampant In most developing countries. Moreover at the international level they face major barriers to trade. International agricultural markets are thin, volatile, and highly protected. Whereas developing countries **have been** reducing protection of their agriculture OECD countries continue to subsidize theirs. Clearly continued liberalization in developing countries without access to international markets will not be feasible. The rapidly growing international trade in agriculture involving developing countries illustrates its growing importance.

There is an additional reason why response of agriculture to structural adjustment needs to be reviewed in a broader context. It is difficult to separate the effects of external shocks such as terms of trade changes or the weather from that of increased availability of foreign exchange, access to imported inputs or improved price incentives and the investment climate. Adjustment studies tend to compare "before" and "after" adjustment situations because of the difficulty of determining the "without

1/ See Teng-hui Lee, Intersectoral Capital Flows in the Economic Development of Taiwan. 1895-1960 (Ithaca and London: Cornell University Press, 1971).

adjustment" situation. For instance a decline in real incomes following adjustment may reduce the internal demand for food commodities and shift relative output prices in favor of export crops even in a situation of declining international prices of export commodities, as an exchange rate adjustment and reduction in export taxes might shift relative prices in favor of exports. Not only may the output prices of the large foodcrop sector be more cushioned from international markets, but the foodcrop sector may even be adversely affected by the various other price reforms (for example, increase in the prices of inputs due to devaluation, removal of subsidies, and increased internal transport costs) and thus it may not benefit much from output price increases (which notwithstanding a government monopoly In effect may be uncontrolled to begin with or may lose their price support). This is why we first review the broad patterns of international trade as it affects the agriculture of the three continents.

PATTERNS OF INTERNATIONAL AGRICULTURAL TRADE BEFORE AND AFTER ADJUSTMENT

Following the severe drought of 1973, the share of developing countries in world cereal imports climbed at a rapid rate from 37 percent in 1970 to 44 percent in 1980 at a time, even though oil shocks had reduced their capacity to finance increased food imports. Rising food imports led Asian countries to undertake increased food production at home, a phenomenon which was facilitated by the Green Revolution. A robust agricultural performance in much of Asia made many importers and food aid recipients self-sufficient. The debt crisis affected the import capacity of countries in Latin America and Africa. Nevertheless, by 1990, the share of developing countries in world cereal imports had increased to 53 percent from the 37 percent in 1970, and for the first time developing country imports exceeded imports by

developed countries. The shares of both Asia and Africa increased significantly. In the case of Asia the proportion increased from a quarter to a third of global imports. In Africa the share doubled from a low 6 percent to a little over 12 percent. The behavior of Latin American countries was more erratic and less homogenous. The reasons for the increased cereal imports in Asia and Africa were however radically different. In East Asia (China, Taiwan, South Korea, Malaysia, Indonesia, Thailand) and to a lesser extent in South Asia (India, Pakistan, Sri Lanka), imports were the result of increased per capita income, in turn a result of decline in the rate of growth of population, increased agricultural productivity, and rapid industrialization. The high income elasticity of demand for livestock products, edible oils, fruits, and vegetables and derived demand for feedgrains stimulated growth of imports which the Asian countries were able to finance because of their increased export of labor intensive manufactured goods. Indeed as Figure 1 shows, the chare of agriculture in total exports declined more rapidly and consistently in Asia where broadbased development of agriculture received considerable priority, compared to Latin America or Africa where structural barriers (dualism within agriculture, dependence on a narrow set of commodities for exports and acute import substituting industrialization) weakened agriculture-industry linkages. Alleviating massive rural poverty is directly related to the performance of agriculture. The proportion of the poor in rural areas is highest in Sub-Saharan Africa (80-90 percent), followed by South and Southeast Asia (70-80 percent). The proportion is lower in Latin America, varying anywhere between 20 to 60 percent. Asia experienced a substantial decline in the proportion of population below poverty, whereas Africa experienced an increase. South Asia nevertheless has the highest incidence

of poverty in absolute terms -- some 300 million people as compared to about 120 million in East Asia, 180 million in Sub-Saharan Africa, and 50 million in Latin America and the Caribbean.1/

The doubling of the share of world food imports in Africa reflects the failure of domestic food production to keep pace with the accelerated rate of growth of population as well as a rapid shift in the consumption patterns away from traditional foods such as sorghum, millets and cassava to imported cereals such as rice, wheat, and maize. Declining world cereal prices aided by policies of developed countries, Africa's overvalued exchange rates, and urbanization were major contributors to this growth.2/

Africa's food aid dependence increased, nevertheless, due to a limited import capacity to meet the needed food imports. Food aid needs were estimated to be about 6 million tons in 1991-92 to maintain per capita food consumption at the 1986-1990 average, but 11.4 million tons if the UN minimum calorie requirements were to be met. The prevalence of severe and widespread malnutrition implied in USDA's estimates is also supported by the World Bank's various reviews of food security in a number of African countries. Both the 6 million and 11.4 million estimates were substantially higher than the 3.5 million tons of food aid actually supplied to Africa (or only about a third of the total food aid needs). This was a result of logistical problems (lack of port facilities, fuel, and trucks), economic constraints to the delivery and absorption of aid, acute needs arising from

1/ See World Development Report 1990 (Washington, DC: World Bank, 1990), p. 29.

2/ See William K. Jaeger, The Effects of Economic Policies on African Agriculture. World Bank Discussion Paper No. 147, Africa Technical Department Series (Washington, DC: World Bank, 1992).

uneven food needs within countries, and emergency food aid.1/ Since Africa has neither the financial nor the logistical capacity to manage food imports or food aid, but has vast natural resources and a growing population, the importance of increasing food production there simply cannot be overstated.

Tables 3, 4, 5, and 6 show the growth rates of food production in agriculture in 53 countries (22 in Africa, 10 in Asia, 7 in Eastern Europe and the Middle East, and 14 in Latin America) under adjustment for the period 1970 to 1990 as well as for the various sub-periods representing episodes with regard to external shocks, adjustment etc. Several features about these tables are of interest. First, rates of growth of agricultural production in the 1970 to 1990 period are the highest in Asia (3.42) followed by Latin America (2.25) and Africa (1.99). There are, of course, the usual expected country differences, for example, in Asia, the East Asian countries (with the exceptions of Korea and the Philippines) performed better than South Asia (with the exception of India). However, the differences among continents are larger when considered in per capita terms. They represent both lower rates of population growth in Asia and Latin America and higher labor productivity. These tables also show a clear improvement in the rate of growth of agricultural production in Africa and

1/ The actual requirements varied considerably among countries. For instance, whereas Sudan, Somalia, Ethiopia, Liberia, Angola, Mozambique, and Zaire needed food aid in part due to civil wars or significant political disruptions, Cote d'lvoire and Nigeria, neither of which were previously food aid recipients needed food aid and their requirements were estimated to be considerable (African Food Needs Assessment. USDA Economic Research Service, November 1991, Washington, D.C.). In Nigeria the ban on commercial food imports resulted in substitution of domestic sorghum, millets, and cassava for imported cereals for rice, wheat and maize. But the opposite was the case in a number of countries where food aid consisted of these cereals.

Latin America in the 1983 to 1990 period compared to the entire 1970 to 1990 period. But there is a significant decline in the growth rate of agricultural production in the 1983 to 1990 period in Asia as a whole.

This evidence is consistent with the results of other recent studies which suggest that structural adjustment has perhaps had a more favorable impact on the agricultural sector in Africa, and this Is because price distortions prior to adjustment were more acute in the African economies than in the Asian agriculture, but perhaps also because the reforms have been slower in Asia.1/ China is the notable exception in Asia where a major land reform, the shift to the so-called personal responsibility system, and the liberalization of the cereal market provided a major boost to agriculture. Yet China's agriculture remains more controlled today (with 20 percent of cereal production sold to the public sector at a fixed price and another 60 percent sold to the government at a negotiated price, compared to 10 percent in India and a similar percentage share in Tanzania at the peak of interventions). Clearly it is not simply the liberalization of the grain market, nor simply the land reform which explains China's better agricultural performance. A great deal of government behavior remains a puzzle, especially in terms of the lessons

1/ See Adjustment Lending: An Evaluation of Ten Years of Experience. Policy and Research Series No. 1, Country Economics Department (Washington, DC: World Bank, 1989); Adjustment Lending Policies for Sustainable Growth. Policy and Research Series No. 14, Country Economics Department (Washington, DC: World Bank, 1989; Africa's Adjustment and Growth in the 1980s, the World Bank and UNDP (Washington, DC: World Bank, 1989); and Riccardo Faini, "Infrastructure, Relative Prices, and Structural Adjustment," in Ian Goldin and L. Alan Winters eds. Open Economies: Structural Adjustment and Agriculture OECD Development Centre and the Centre for Economic Policy Research (Cambridge: Cambridge University Press, 1992).

developing countries can learn from China, and other well performing East Asian countries. Evidence also shows that the response of the overall economies to structural adjustment has been more impressive in the middle income countries than in Africa. It is to this puzzle that we now turn.

When the real growth rates of total agricultural exports (nominal **dollar** values of total agricultural exports deflated by the international MUV index) are considered, a majority of the 53 developing countries experienced a decline in their import capacity in the 1983 to 1990 period relative **to the** entire 1970 to 1990 period (Tables **7, 8, 9,** and 10). But the decline was greater for Africa than Asia or Latin America, perhaps reflecting greater terms of trade effects because of Africa's greater concentration in a few traditional agricultural exports with low income elasticities of demand. Latin America showed a slight gain in its real agricultural exports, perhaps because there has been greater shift to high value exports in Latin America than Asia. Africa nevertheless showed gains in import capacity (i.e. smaller negative values) in the 1983 to 1990 period compared to the 1978 to 1981 period of acute economic crisis, perhaps suggesting increased export volume effect following structural adjustment in the later period.

While still highly tentative, these results are of considerable interest in understanding the process of economic development In the three sets of countries. First, due to growth in factor productivity, there was greater per capita accumulation of surplus which was ploughed back by the public sector into agriculture in Asia leading to cumulative income growth compared to Africa. Second, due to a smaller share of agricultural exports in total exports and a greater diversity in those exports, Asia and Latin America suffered a lower overall loss in income from adverse international

terms of trade. However, importantly, when the external environment turned unfavorable in the 1980s Asian countries were more able to turn to the domestic market for a stimulus to their economies than was Africa.1/

Changing patterns of global fertilizer (nutrient) consumption also reflect important differences in the rates of agricultural intensification in the two continents, whereas Asia's share in global fertilizer consumption increased dramatically from 14 percent in 1970-71 to 36 percent in 1989-90, in Africa, the growth was a mere 2.4 percent to 2.7 percent. Thus, Africa's share in world fertilizer consumption declined significantly.

Through the flows of external finance industrial country policies determine the extent to which developing countries can supplement their domestic investment effort including import of critical agricultural inputs. This is more true of small, low-income open economies of Africa than the large economies of Asia or Latin America. African countries receive more official development assistance (in per capita terms, as share of government expenditures and GNP) relative to large Asian countries, although later we will show the effects of external finance on public investment in Asia as well. Donor financed imports of fertilizers on which much of Africa depends have shown great year to year variability due to its inevitable unpredictability. Adjustment loans which focus on liberalization of imports and of domestic markets in fertilizers have not focused adequately on the

1/ Based on Recent Economic Developments, various country reports prepared by the IMF.

effects of donor policies towards financing fertilizer imports in circumstances of scarce foreign exchange.1/

THE IMPACT OF ADJUSTMENT ON AGRICULTURE

Studies of adjustment show that after controlling for the effects of external shocks and external finance, adjusting countries have performed better than nonadjusting countries, and those early adjusting countries with three or more loans performed better than those with fewer loans.2/ Mot surprisingly countries with a dominant manufacturing sector which are mostly in Asia, North Africa, and the Middle East performed better than those with a dominant agricultural sector. Adjustment has been relatively less successful in highly indebted countries in Latin America and Africa.3/.4/

1/ See Uma Lele and Robert Christiansen, "Markets, Marketing Boards, and Cooperatives in the MADIA Countries: Issues in Adjustment Policy in Africa," MADIA Discussion Paper No. 11 (Washington, DC: World Bank, 1989); Uma Lele, ed. Aid to African Agriculture: Lessons from Two Decades of Donors' Experience. (Baltimore: Johns Hopkins University Press for the World Bank, 1992).

2/ See Victorio Corbo, Stanley Fischer, and Steven B. Webb, Adjustment Lending Revisited: Policies to Restore Growth (Washington, DC: World Bank, 1992).

3/ Conclusions of the two reviews of adjustment lending carried out in the World Bank (Adjustment Lending: An Evaluation of Ten Years of Experience and Adjustment Lending Policies for Sustainable Growth) were that: the 30 countries that received adjustment lending before 1985 had higher rates of economic performance than the 63 that did not receive the loans. Performance of the 12 countries that received three or more loans and that were substantial exporters of manufactured goods was much better. Adjustment lending has been relatively less successful in highly indebted countries in Sub-Saharan Africa. The second review adjusted for the effects of initial conditions, external shocks, and the amount of external financing. It concluded that early intensive adjustment lending countries (EIAL) experienced larger increase in the average rate of growth of GNP than did other countries. Thus, Korea, Mauritius, Morocco, Ghana, and Thailand appeared to have stimulated growth more than the initial conditions, external shocks, and external financing would suggest. Exports as a share

(continued...)

According to Faini's econometric study of 30 countries, which specifically focuses on the impact of adjustment on agriculture, the agricultural sectors of adjusting countries responded positively.1/ Importantly, Faini also shows that while both price factors and the availability of infrastructure were significant, price factors were more significant than infrastructure in middle-income countries where manufacturing dominated and where presumably markets worked better. The effect of public infrastructure was stronger in countries where agricultural exports dominated, i.e., in low-income (African) countries where accumulated deterioration of physical capital is now acute and a serious constraint to the functioning of factor and product markets.

An important weakness of the econometric studies is that due to the unavailability of data they do not make a distinction between adjustment in the macro economy and in the agricultural sector. Thus, in these studies

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3/ (...continued)
of GDP in constant prices increased a lot in these countries. But the picture was less positive in Nigeria, the Philippines, Malawi, Cote D'lvoire, and Mexico (although the situation regarding Mexico has changed since the studies were done). The picture has been less positive in the case of EIAL countries. After adjusting for these same conditions both private and public investment fell in EIAL countries. The Bank's conclusions on the impact on the poor are more contrived, "---orderly adjustment supported by Bank lending seems to have been less costly for most of the poor and for the general populace than disorderly adjustment without Bank support was" (see Corbo, Fischer, Webb, eds. Adjustment Lending Revisited, p.14). The relationship of adjustment to social indicators is less clear, but government expenditures on social sectors declined in most countries, leading to a drop in primary school enrollment. Adjustment is taking longer than expected and most Bank documents are placing greater emphasis on a detailed analysis of the social impact, including reallocation of services to the poor, severance payments, and retraining of unemployed workers but most of these are geared to urban workers.

4/ Conclusions of the two review of adjustment lending carried out in the World Bank.

1/ See Riccardo Faini, "Infrastructure, Relative Prices, and Structural Adjustment," in Ian Goldin and L. Alan Winters eds. Open Economies.

producer prices of export crops are assumed to have increased automatically following devaluations. In reality, however, gains do not always accrue to producers. For example, Tanzania is Justly credited with a macroeconomic adjustment but wrongly considered a success in export performance. By 1992, only cotton production had increased.1/ But it faced major problems in transportation and processing. All other export crops had stagnated because gains from a large devaluation had been absorbed mainly by the financially strapped parastatals, who also received the lion's share of credit from the banking sector. Credit ceilings instituted to control inflation as part of IMF stabilization programs caused a major credit crunch in the informal sector. That in turn affected the functioning of agricultural markets.1/ In Malawi, for nearly 20 years the government has continued its discriminatory low prices to small farmers growing tobacco while favoring estates. Adjustment for nearly a decade had not changed that state of affair*. In Kenya, although prices of the two major exports tea and coffee never experienced much (implicit or explicit) taxation, agricultural adjustment had not changed the character of the price policy much by 1991. Maize marketing had been liberalized partially in Kenya and fully in Tanzania. This greatly increased the producers options as regards marketing channels and helped reduce parastatal losses, but did not necessarily increase producer price levels. Input prices, however, increased sharply in

1/ See Adjustment Lending: An Evaluation of Ten Years of Experience.

2/ See Uma Lele, "Can Technology Transfer and Macroeconomic Adjustment Sustain Africa's Agricultural Revolution Without an Agricultural Sector Strategy? The Case of Sasakawa Global 2000 Program in Tanzania," An impact evaluation report prepared for the Sasakawa Global 2000 program (University of Florida, Gainesville: International Studies and Programs Office, 1992).

all three countries. Declining international prices of both food and export crops in the 1980s, added to the squeeze on agriculture.

The problem of producer price incentives is more acute in CFA countries. In the World Bank sponsored study Managing Agricultural Development in Africa (MADIA) I had documented that the relative producer prices of export crops were already less favorable in Vest Africa In the 1970s vis a vis food crops especially compared to East Africa. Thus, at the height of the coffee boom in 1977 the ratio of the coffee price to the maize price was nearly 45 to 1 in Kenya, it was only 7 to 1 in Cameroon. This reflected both the higher explicit and implicit tax on coffee in Cameroon as well as the higher price of maize relative to Kenya (reflecting the higher level of urbanization aided by the effects of the oil boom). The relative disadvantage of export crops is even more pronounced in CFA countries since 1987 due to the increased overvaluation of the exchange rate and the decline in nominal producer prices of export crops required to balance the books of parastatals. The problem of CFA countries has been made more acute by the large devaluations in the neighboring countries. Clearly while the Franc zone has a number of advantages in terms of greater price stability and monetary discipline, its desirability from the viewpoint of competitiveness of agriculture needs reevaluation. We will later return to the other agricultural development policy issues faced in transition during adjustment which require empirical analysis based on the production conditions producers actually face.

DECLINING INVESTMENTS IN AGRICULTURE

For understandable reasons, the focus in adjustment programs has been more on price policies and short run macropolicy reforms than on investments,

institutions, human capital, or technology development. Apart from the central importance of macroeconomic stabilization, such focus may be explained by the relative ease in changing nominal prices than in reforming parastatals, strengthening agricultural research systems, building and maintaining a feeder road network, or changing investment patterns away from the urban sectors, tasks that earlier project lending addressed, albeit not always with great success. Second, the difficulty in monitoring non-price reforms adds to the temptation to focus on prices. Third, the greater location-specific knowledge of developing countries needed to recommend public investment reforms adds to the problem of donor advice, since most donor staff are located in the capital cities of donor countries. Fourth, prices are more easily amenable to analytical tools of neoclassical economic theory than government expenditures, institutional changes, or technologies. Finally, the importance of macroeconomics has increased in the course of structural adjustment with a concomitant decline in the role of sector economists and, even more important, other technical fields critical for the development of agriculture. This explains the bias in the composition of 198 recent publications on structural adjustment towards macro economic analysis, middle income countries, and poverty relative to agriculture. Furthermore, publications on poverty alleviation often have little treatment of agriculture. Africa has relatively more publications on agriculture than Asia, but the exclusive focus on Africa adds less new insights than would be possible from a more comparative effort to learn lessons from continents where agriculture has been more dynamic, but where governments have played an important role.

Equating increased investment with priority to agriculture (or industry) is, however, not justified. The rapid expansion of public

investments in the absence a conducive policy and institutional environment, in the 1970s is the consequence of such excesses. Nevertheless an important indicator of the decline in interest in agriculture is the reduced public sector investment in agriculture in many developing countries, although investment requirements of agriculture remain very large.1/ That decline seems to be a part of the general decline in the rates of investment even in adjusting countries that have access to external finance.2/ The decline in investment in non-adjusting countries must of course be greater. Table 11 shows that the decline In the rate* of public investment is greater In Africa than in Asia and Latin America. The declining share of external assistance to agriculture has reinforced the decline in public sector investments in agriculture, particularly in Africa where aid dependence is so high.

The World Bank's lending to agriculture is a significant barometer of the overall financing by donors since they typically follow similar patterns. Furthermore, co-financing with the Bank has increased after structural adjustment commenced. Figures 2, 3, 4, 5, and 6 show that the share of agriculture in the total World Bank lending declined from 31 percent in 1975 to less than 18 percent in 1990. Over the same period the share of adjustment lending increased from 9 percent to 15 percent. Increased adjustment lending of course helps the development of agriculture

1/ FAO has estimated total investment requirements of agriculture to be about $1500 billion by year 2000 or about 80 to 100 billion annually and the Bank's agricultural staff seem to accept these estimates. Changes in lending in only a handful of countries where lending to agriculture has traditionally been concentrated explains the decline in the Bank's lending. For detailed evidence supporting the arguments in the text, see Lele, Adu-Nyako, and Emerson, "Structural Adjustment and Agriculture," forthcoming.

2/ See Corbo, Fischer, and Webb. Adjustment Lending Revisited.

through the removal of macro price distortions as well as the increased availability of consumer goods, spare parts, agricultural inputs, and so on. World Bank reports are at pains to stress that many of the changes causing the decline in the share of lending are associated with a desire to improve the performance of the agricultural sector rather than a result of its neglect or abandon.

Furthermore, the World Bank reviews of adjustment lending have argued that since growth in adjusting countries has been higher than it would have otherwise been, even with reduced levels of investment, factor efficiency must have increased.1/ But such efficiency augmenting effect of price reforms tends to be a once and for all increase. Long term increases in output must come from increased investment in research, extension, education, health, transport, etc.

The decline in agriculture's share in World Bank lending has been greater in Asia and Africa where it reached its peak in the late 1970s than in the Middle East, North Africa, and the European region. Overall lending actually increased in Latin America in the 1980s after declining until 1978, although there are major country differences within regions. Moreover, only six countries (Brazil, China, India, Indonesia, Mexico, Pakistan, and Turkey) received nearly two thirds of total World Bank lending to agriculture. Therefore changes in assistance to them offer a number of insights into the overall lending pattern. Lending declined in countries where the World Bank had a substantial presence in agriculture in the 1970s, although the quality of the countries' overall agricultural performance or

1/ See Corbo, Fischer, and Webb, Adjustment Lending Revisited.

the quality of the Bank's lending portfolio was not necessarily poor in these countries.1/ In some countries, however, the World Bank's own portfolio selection did not reflect the best opportunities for investment, as, for example, in Kenya where the country's performance was much superior to that of the Bank's portfolio.2/

CAUSES OF REDUCED INVESTMENT IN AGRICULTURE

The waning interest in agriculture is a result of a complex set of interacting factors. The pressing foreign exchange needs of developing countries following the economic difficulties at the end of the 1970s contributed to the focus away from investment projects. Increased scrutiny of aid agencies by their constituencies in terms of the efficiency of staff resources and the consequent pressure to lend more funds with less staff has reinforced the support for balance of payments over investment projects.

1/ For instance lending declined sharply in India, Indonesia, Mexico, and Nigeria (the only poor performing country) but increased sharply in China and Brazil (a country that failed to adjust). The trends were more mixed in Morocco and Turkey (both of whom were successful adjusters). There it increased in the mid 1980s after having declined before. Among the smaller borrowers lending also declined in Tanzania, Kenya, Malawi, Malaysia, Philippines, Korea, Bangladesh and Rumania, but increased in Sudan (a country devastated by civil war and other political problems) and Tunisia. Lending remained high cut declined slightly in Sri Lanka and Cameroon.

2/ It could justifiably be argued that donors should be willing to take risks and finance marginal investments unlikely to be funded by countries. But this would require greater explicit recognition of the lack of knowledge of precise local constraints, an experimental approach to addressing then, and flexibility in learning by doing, whereas these principles are simple enough and have been well recognized (see Uma Lele, The Design of Rural Development: Lessons from Africa. Baltimore: The Johns Hopkins University Press for the World Bank, 1975) donors have shown a tendency to finance large projects of inappropriate technology with little flexibility in changing course during implementation when problems occur. Yet this is not a problem specific to agriculture. See Uma Lele and L. Richard Meyers. "Growth and Structural Change in East Africa: Domestic Policies, Agricultural Performance, and World Bank Assistance," MADIA Discussion Paper 3 (Washington, DC: World Bank, 1989).

But there have also been other factors more specific to agriculture. First, hunger has been perceived to be the result of a lack of effective demand rather than inadequate supply.1/ Therefore emphasis has shifted from production to consumption. While this conclusion is justified at both the international and the national levels, it is an oversimplification of a complex problem in which employment opportunities in agriculture and related fields clearly determine the ability of the rural poor to earn income. Moreover, in Africa, the failure of the plethora of integrated rural development projects in the 1970s led to a shift out of agriculture.2/ If ex-post returns calculated in all sectors by the Operational Evaluation Department of the World Bank are taken at their face value ex-post returns in agriculture were lower relative to ex-ante returns than in other sectors.3/ Clearly too high a set of expectations by donors in the 1970s inadvertently contributed to turning attention away from agriculture. Within agriculture the World Bank's emphasis on national agricultural services in Africa effectively focuses on agricultural extension. But the challenge of intensifying agriculture requires investment in agricultural research, small-scale irrigation, feeder roads, fertilizer imports and distribution, agricultural finance, and a price policy, including, where appropriate, a selective application of subsidies. Recently concerns about the environment, poverty, and women's participation have taken precedence

1/ See Jean Dreze and Amartya K. Sen, Hunger and Public Action (Oxford: Clarendon Press, 1989).

2/ See Uma Lele, ed. Aid to African Agriculture: Lessons from Two Decades of Donors' Experience (The Johns Hopkins University Press, 1992).

3/ See Gerhard Pohl and Dubravko Mihaljek, "Project Evaluation and Uncertainty in Projects: A Statistical Analysis of Rate-of-Re turn Divergences of 1,015 World Bank Projects," in The World Bank Economic Review. Vol. 6, No. 2, May 1992 (pp.255-78).

over agriculture, rather than being treated through effective agricultural projects.

In Asia, decline in world cereal prices reduced economic justification for investment in irrigation. Increased salinity and displacement of traditional populations reduced donor enthusiasm for financing irrigation in the face of growing criticism of large-scale irrigation projects by environmentalists. Similarly, the lack of popular support in donor countries for the use of chemical inputs has reduced interest in projects involving fertilizers.

Donors also relied heavily on public sector enterprises as a major conduit for transfer of resources to agriculture. Indeed, elsewhere Lele and Christiansen have documented that tile rapid growth of public enterprises in many small developing countries would not have occurred without the level of external assistance (Lele and Christiansen). The loss of credibility of the public sector and the increased role assigned to the private and the nongovernmental sectors have made it difficult to channel substantial resources to the agricultural sector, although some resources are being provided to private traders to promote input and output marketing, and to the NGOs. There is a danger, however, that the capacity of local NGOs to utilize resources effectively is being outpaced by the number of donors and the volume of resources now available to assist them. Availability of a large amount of finance will be harmful to the sustainability of genuine local NGOs. The widespread growth of rural development funds being noted in many countries while agricultural investments decline may similarly turn out to be a flash in the pan which keeps the existing governments in power, but does little to improve the capacity of the line ministries to perform their legitimate development functions, unless of course local communities are

truly empowered. To illustrate the complex policy problems faced by the line ministries and agencies concerned with agricultural development, this paper ends by highlighting several sector policy issues faced in adjustment.

AGRICULTURAL SECTOR POLICY ISSUES IN ADJUSTMENT

The Fallacy of Composition Argument **(Again?)**

Low demand elasticities for tea, coffee and cocoa continue to pose a problem for its producers as a group, although individual countries that have **not** discriminated against the export crop sector have performed better than those that did.1/ The problem of fallacy of composition is more acute for African countries with a narrow base of exports and fewer options for diversification than their Asian and Latin American counterparts who have gained their shares. In a recent cross-sectional study, Evans, Goldin, and van der Mensbrugghe show that **an** across*-the-board **tax** cut by several small producers of export crops with limited demand will result in a substantial loss of GDP.2/ Panagariya and Schiff also show that optimal choice of taxes or quotas and the associated growth in the country's output can lead to a decline in the combined real income of the exporting countries. 3/ Whereas cross-sectional analysis and game theoretic approaches have their own limitations, they do reflect the donors' long-standing dilemma in

1/ See Uma Lele, "Agricultural Growth, Domestic Policies, the External Environment, and Assistance to Africa: Lessons of a Quarter Century," MADIA Discussion Paper No. 1 (Washington, DC: World Bank, 1989).

2/ See David Evans, Ian Goldin, and Dominique van der Mensbrugghe, "Trade Reform and the Small Country Assumption," in Ian Goldin and L. Alan Winters eds. Open Economies.

3/ See Arvind Panagariya and Maurice Schiff, "Taxes versus Quotas: The Case of Cocoa Exports," in Goldin and Winters, eds. Open Economies.

Africa. It is clear that Africa oust compete in the production of these crops, by bringing down the cost of its own production so as to make it unattractive for its competitors to remain in production. However, productivity growth has been more rapid in Malaysia than in Cameroon, Nigeria, or Cote d'Ivoire. Apart from price incentives, neglect of agricultural research, extension, credit, and inputs has been a particularly acute problem in African countries, with of course a few exceptions mentioned earlier, such as Kenya or Zimbabwe. Malaysia, which borrowed oil palm and cocoa technology from Nigeria, by contrast, has excelled in these respects. Despite higher nominal wages, it has had lower unit costs of production. Devaluations have improved Africa's competitiveness, but in the absence of technical progress, it has been mainly through a decline in real wages.

Donors have not helped in Africa's declining export crop sector. They advised African countries to limit their traditional exports in the 1970s. For example, based on an FAO study in 1973, the World Bank adopted e policy not to finance expansion of tea and coffee production--although when **it** did assist in processing in Kenya, it contributed much to Kenya's excellent tea industry. The EC's position has vacillated. The price policy advice the World Bank and other donors provide under adjustment lending is correctly **to** encourage producing countries to reduce the level of implicit and explicit taxation, although the Bank has not changed its policy towards financing investments in production.

On the whole donors have swung between export promotion and food security rather than providing sound advice and investment support for efficient production of both. Due to Africa's greater dependence on external advice and capital for financing investments relative to Asia or

Latin America, it was the loser in the world market shares which the latter two continents gained. Clearly donors will need to assist Africa to diversify out of its traditional exports without discriminating against them. Countries such as Malaysia can re-export much useful experience to Africa in terms of the organization of research, extension, agricultural finance, and rural infrastructure.

Price Stabilization

Virtually every country in the world attempt* to ctabilize prices both to cushion consumers, processors, and producers from the extreme vagaries of international price fluctuations as well as to stabilize prices across regions and seasons. Many governments have a monopoly on domestic procurement as well as on exports and imports, and use quantitative restrictions or tariffs. Most have domestic buffer stocks together with policies of domestic purchases and sales. Marketing boards are another mechanism for stabilization and variable tax is used in several countries.

Clearly the private sector does not indulge in these operations since they are not profitable. Thus some cost **to** the government to meet welfare, political, and economic objectives is unavoidable. The criticisms of these schemes have been that public sector operations are inefficient, benefit undeserving groups, have high monetary and fiscal consequences, misallocate factors of production, thwart the growth of private enterprise etc. Depending on whether the high operating costs and subsidies of marketing organizations are financed through the budget, or the expansion of credit by commercial banks (which is not repaid), the monetary and fiscal costs of these interventions can be very high indeed.

The World Bank's advice to governments, correctly, has been to: a) avoid getting involved in internal or external trade directly, rather than using trade based mechanisms, including in the case of tradable goods, by relying on a variable levy and market forces; b) to stabilize prices only partially by setting rather wide price bands as net costs to the government directly related to the extent of price stabilization; c) to the extent possible to relate prices to international prices; and d) to protect only the vulnerable groups.

While these principles are undisputable, the transition from a controlled to a partially controlled system poses many problems requiring empirical research. For instance, in the absence of capacity of governments to regulate the liberalized markets, the predatory behavior now attributed to public agencies may often be replaced by an oligopolistic private sector. Especially in the absence of competitive goods markets and a severe credit crunch, hurriedly instituted price policy reforms do not always achieve their intended effects. In Kenya, for example, "liberalization" of wheat imports (which were the monopoly of the much criticized maize board) resulted in the government allocating import licenses to a favored few. This shifted the profits of the maize board used previously to cross-subsidize maize operations (ostensibly for the benefit of urban consumers) to the already well-off, including some prominent Kenyan politicians. The same phenomenon has been noted in Senegal with regard to the allocation of import licenses for rice1/ and in Nigeria. Indeed, the government of President Babangida in Nigeria acquired considerable popularity by vowing to

1/ **See** John Waterbury, "Agricultural Policymaking and Stagnation in Senegal," MADIA Working Paper, Africa Technical Department, Agriculture Division (Washington, DC: World Bank, revised 1990).

ban rice imports, among other things, because of the public's recognition that a few army generals were the major beneficiaries of import licenses issued during the oil boom.1/ That led to a concern that import liberalization would once again transfer rents to them instead of the producers who would respond to higher prices by increased domestic production. By all accounts, import controls have shifted Nigerian food habits to their traditional foods such as plantains, cassava, etc. Raising food prices caused a considerable supply response, although high prices are detrimental to consumers. Nigeria is developing a capacity to diversify its exports out of oil so as to finance increased food imports.

The policy of phased liberalization of imports is one which East Asian countries have followed effectively. The needs of the export sectors were given priority over those which competed with domestic production and consumption. In that vein, Africa, which has become a major importer of canned foods, livestock, and dairy products, may benefit from some protection for its domestic food production, particularly in view of the continued subsidies in OECD countries which causes the dumping of these exports in Africa. Any protection should of course be for a limited period of time, and should be associated with effective government policy to increase competitiveness.

Domestic grain markets are similarly not competitive in many developing countries especially where governments have suppressed private activity over a long period, for example, in Russia as much as in Tanzania. The severe deterioration of physical infrastructure combined with a lack of

1/ See Henry Bienen, "Politics and Agricultural Policy in Nigeria," MADIA Working Paper, Africa Technical Department, Agriculture Division (Washington. DC: World Bank, revised 1990).

information, transport, credit, etc. compounds the problem of lack of competitiveness. Clearly, steps need to be taken to increase competition, including especially massive investments in rural feeder roads. But infrastructure development cannot occur overnight and certainly not in a situation of declining rates of public and donor investments cited above. Much of the initial increase in investments in physical infrastructure in Africa, where the need is the greatest, has focused on ports and trunk routes. It is not simply a result of a continued urban bias, but also reflects an extreme erosion of the local and regional governments, and a weak private contracting sector whereas the rehabilitation of urban infrastructure is handled by the multinationals. The problem of inadequate rural infrastructure confronts China, East Asia, and South Asia as well.1/

Even competitive markets, however, do not necessarily mean stable domestic prices in the presence of unstable production. Unavailability of foreign exchange or food aid to stabilize domestic supplies clearly constrains Africa much more than Asia or Latin America, and this should have some effect on the donors' advice to rely on imports for price stabilization.

Some price stability is essential to protect the consumption and income of the poor who spend a large share of their income on food. A slow recognition of this fact by the IMF and the World Bank is leading them to develop safety nets through more fine-tuned and targeted food subsidies and this is a development in the right direction. However, there are several

1/ See Uma Lele, "Can Technology Transfer and Macroeconomic Adjustment Sustain Africa's Agricultural Revolution Without An Agricultural Sector Strategy?"

ways in which this approach need to be strengthened. First, due to a lack of knowledge of rural areas, adjustment literature frequently ascertains that all rural households are net sellers of food and assumes that adjustment of exchange rates and high food prices will benefit them. The safety nets focus on the urban poor ignores the large numbers of the rural poor that have become market dependent throughout the world as the numbers on the incidence of rural poverty reported earlier indicate. Indeed the rural poor are even more vulnerable than their urban counterparts due to their dispersed nature and weak political voice. Second, the timing of liberalization often overlooks the government's capacity to sustain the liberalized market through release of adequate food supplies to dampen prices and avoid further speculation. In some cases, the timing of liberalization has been inopportune, as for example in the years of drought, with the lack of food aid or foreign exchange to import food as for instance in Malawi and Kenya. Third, the focus on consumer subsidies is leading donors to overlook the need for some assurance of minimum prices to producers (perhaps by linking them to a moving average of projected international prices to avoid much protection). Such absence of a producer orientation in price policy advice is a more serious problem in Africa with its poor infrastructure, weak private sector, large internal transportation costs and high price bands. With all their high fixed and monetary costs, public purchases in domestic markets greatly helped in integrating national markets. Due to their greater leverage (but a lack of practical experience or knowledge of public policy) donors have succeeded in dismantling government interventions to a greater extent in Africa than in Asia where governments still exercise considerable role in stabilizing supplies and prices within and across years, as seen from the contrasting examples of

China and Tanzania. China's major land reform after the communist takeover greatly improved rural land distribution and reduced the need for food distribution, but most other countries have not had such reduction of their asset inequalities. Is reducing public food distribution in rural areas where poverty and landlessness are acute the only solution, or is there some scope for increasing public sector efficiency and accountability? In discussing the maize price reforms in Zambia, Gulhati has stressed the complexity of the cereal price reform, the lack of information and expertise in donor agencies or governments, and the need for greater political and welfare sensitivity.1/

Fertilizer Subsidies

The issue of fertilizer subsidies is particularly pertinent in the context of food security. As in the case of price stabilization, fertilizer subsidies are justifiably being removed because the gains from low prices mainly accrue to middlemen and commercial farmers, administration of subsidies makes it difficult to open up the fertilizer trade to the private sector, and the budget constraint unnecessarily rations the supply and leads to shortages and black markets. These various effects are clearly contrary to those intended. Yet Lele, Christiansen, and Kadiresan have shown that issues related to fertilizer use in rainfed production involve complex and location-specific interactions of technical and economic factors in a situation of inadequate research, poor informational base, high risks, and

1/ See Ravi Gulhati, The Making of Economic Policy in Africa (Washington, DC: World Bank, Economic Development Institute, 1990).

uncertainty.1/ Fertilizer subsidies nay be essential for a limited period for: (a) households in marginal areas or where fertilizer response coefficients are low, transport costs are high, demand for fertilizer* is highly variable and unpredictable due to climatic factors, the private sector does not have the incentive to develop the market, and it is cheaper to provide a subsidy on transportation costs related to fertilizer distribution (thereby also ensuring scope for private sector sales at the regional level and below), than to distribute food to achieve food security of rural households consistently vulnerable to food shortages. A regular public presence in rural areas in various forms enables the successful use of administrative machinery in periods of droughts, as demonstrated on several occasions in India and Kenya.

Clearly, effective location-specific agricultural research that increases factor productivity will reduce the need for input subsidies in the long run. But agricultural research has typically been under funded despite consistent evidence of high rates of return. The allocation **of** funding to national agricultural research has taken a heavy toll since the adjustment process began, in part due to a weak constituency for agricultural research even under the best of circumstances. Moreover, the quality of management of the existing resources to research is declining with resources being devoted to rapidly declining real salaries, and few being allocated for operations and maintenance.

1/ See Uma Lele, Robert Christiansen, and Kundhavi Kadiresan, "Fertilizer Policy in Africa: Lessons from Development Programs and Adjustment Lending, 1970-87." MADIA Discussion Paper 5 (Washington, DC: World Bank, 1989).

Employment and Income Effects

Regional income and employment shifts of trade liberalization also pose short-run problems, although liberalization has a positive, long run affect. Despite large overall welfare gains, Levy and Vijnbergen argue for a gradual introduction of the North American free-trade agreement to allow the time for adjustment of labor markets involving peasant households1/ with their low level of formal education. Southern Mexican households may be unable to obtain employment in manufacturing and high value commercial agriculture in Northern Mexico that will be the primary beneficiary of trade liberalization. Levy and Wijnbergen acknowledge the lack of understanding of the functioning of labor markets and rural-urban migration.

Agricultural Credit

Asymmetries in the allocation of capital raise similar issues with regard to agricultural credit. The financing requirements of a dynamic agriculture can be very large in macroeconomic terms. Yet, the Philippines agriculture presents the general prototype noted in developing countries, with an average share of agriculture in GDP of 30 percent in the period 1966-1984, but agriculture accounting for only 8 percent of the share of formal credit.2/ In urban areas large commercial and industrial firms are the main beneficiaries of credit. Within agriculture, the size preference of lenders is again visible. The sectoral allocation of credit favors export

1/ See Santiago Levy and Sweder van Wijnbergen, "Agricultural Adjustment and the Mexico-USA Free Trade Agreement," in Ian Goldin and L. Alan Winters eds. Open Economies.

2/ See Sagrario L. Floro and Pan A. Yotopoulos, Informal Credit Markets and the New Institutional Economics: The Case of Philippine Agriculture (Boulder, CO: Westview Press, 1991).

and commercial crops. The government institutions tend to reach clients who easily meet the bankability criteria, whereas the informal market serves the clients whose risk in repayment is greater, and where the formal sector is not likely to venture.

In the context of adjustment, these patterns of credit allocation have been associated with urban bias, financial repression, and overt government acts such as regulation of financial intermediaries, control of interest rates, and government intervention in the credit market. While these are Justified concerns they result in an excessive emphasis on adjustment of interest rates, and overlook the large institutional and infrastructural gaps that cause fragmented credit markets.

Floro and Yotopolous demonstrate the fragmentation of credit markets in the Philippines dictated by the current nature of the economic environment and the existence of a great variety of interest rates, i.e., interest rates being lower **for** linked than unlinked loans, higher In marginal than developed areas, higher for poorer than richer farmers, etc.1/ Although rural traders/lenders try to avoid adverse selection risk, often farmers who lend to other poorer farmers invite it. They offer low interest rates in order to facilitate debt accumulation that triggers in collateral and enables eviction from land.

Based on the experience of the Southern Cone countries, Cho and Khatkhate also illustrate the problems of excessive increase in interest rates following liberalization which is unjustified by the fundamentals.2/

1/ See Floro and Yotopoulos, Informal Credit Markets.

2/ See Yoon-je Cho and Deena R. Khatkhate, Lessons of Financial Liberalization in Asia: A Comparative Study (Washington, DC: World Bank,1989).

They point out that high interest rates are as detrimental to investment as low interest rates are to resource mobilization.

Another major problem in the course of liberalization is that budget deficits and the losses of parastatals crowd out private (especially rural) demand for credit as shown by the examples of Tanzania and Ghana.1/

Yet donor reports on financial reforms have little to say about the extent to which demand for credit by the informal sector, particularly the private traders and farmers, is being met. As the government removes itself from rural finance. Input and output trade, there are various ways in which lack of credit at the microlevel can have a severe impact on agricultural output and income and asset distribution, for example by limiting access to modern inputs, forcing the sale of farm assets, reducing maintenance expenditures, leading to suboptimal use of inputs or forcing shift to a suboptimal crop-mix, and increasing land concentration through foreclosures of small faros. Broad availability of agricultural credit on affordable terms to small farmers has a considerable positive value for social welfare. Floro and Yotopoulos argue and I concur that financial markets require both government regulation and government assistance for improving their performance.

Land Policy

The discussion on credit indicates that unequal access to finance may inadvertently skew land distribution. On the other hand, redistribution of land rights has been at forefront of adjustment in many countries –

1/ See Uma Lele, "Can Technology Transfer and Macroeconomic Adjustment Sustain Africa's Agricultural Revolution Without an Agricultural Sector Strategy?"; and "The Sasakawa-Global 2000 Project in Ghana: An Evaluation," March 1991.

most notably In China, but also in Poland and the former Soviet Union. Evidence universally suggests that the short term impact of land redistribution on production can well be adverse, with considerable balance of payments implications, although in the medium and long term, assured land rights ensure incentives to invest in land. Information on the best practices during the transition from public to private ownership of land, however, is limited. Such information needs to be collected to be of assistance to countries in transition.

SUMMARY AND CONCLUSIONS

Agriculture is important in a macroeconomic context. The transition of an economy from a predominantly agricultural to a manufacturing economy depends on the supply response of agriculture. That response depends on price as well as nonprice factors including especially public policy and investments In physical and human capital, improvements **In** regulatory and organizational capacity and an important regulatory and facilitating role for the government. Nonprice factors are more important than price factors for countries at an early stage of development and more important for a long run supply response.

With the growing concern about macroeconomic disequilibria since the early 1980s, attention to the complex problems of developing agriculture has diminished. Public investments in agriculture have declined. Analytical work has shifted to middle-income countries, industry, and finance and focuses more on price than nonprice factors. This **is** a serious problem in understanding the reform process, including in particular the best practices in agriculture of the more successful countries which have experienced rapid overall growth. Agriculture clearly played a major role

in East Asia and South Asia relative to Africa. Latin America and Asia performed better than Africa in per capita terms although problems of distribution remain acute in Latin America.

Future rates of growth may be adversely affected by the decline in the rates of agricultural investments, that appear to be part of a general decline in the rates of investment being noted in developing countries. It is clear that the capacity of countries to weather multiple external shocks is greater when agriculture is developed than when it is not, and that requires a substantial increase in investment. Experience of the 1970s has also shown that, in the absence of absorptive capacity in the agricultural sector, the investment of additional resources nay simply be wasted. But to improve the efficiency of needed investments require* a renewed focus on the performance of institutions. The timing, speed, and the extent of liberalization raise many specific issues with regard to the competitiveness of product and factor markets as well as their stability. They both appear not to have been addressed prior to the introduction of reforms. There is clearly a vast research agenda of a comparative nature to make the reform process both more efficient and more humane.

TABLE 1

Number of Publications on Adjustment - 1984 to 1992

	Africa	Non-Africa
Agriculture	11	5
Poverty	16	22
Macro	32	112

Total: 198

TABLE 2

Direct, Indirect, and Total Nominal Protection Rates for Agriculture
(Selected Countries, Selected Years)

Country and Period	Indirect	Degree of Over-valuation	Tax Caused by Tariff	Direct	Total of Direct/ Indirect
GROUP I					
Cote d'Ivoire (1960-82)	-23.3	-29.6	-23.2	-25.7	-49.0
Ghana (1958-76)	-32.6	-38.1	-32.4	-26.9	-59.6
Zambia (1966-76)	-29.9	-50.6	-21.4	-16.4	-46.3
Average for Group I	-28.6	-39.4	-25.7	-23.0	-51.6
GROUP II					
Argentina (1960-84)	-21.3	-17.7	-39.5	-17.8	-39.1
Colombia (1960-83)	-25.2	-18.8	-37.8	-4.8	-30.0
Domican Republic (1966-85)	-21.3	-19.8	-20.8	-18.6	-39.9
Egypt (1964-84)	-19.6	-17.4	-27.5	-24.8	-44.4
Morocco (1963-84)	-17.4	-21.0	-13.4	-15.0	-32.4
Pakistan (1960-86)	-33.1	-31.0	-44.9	-6.4	-39.5
Philippines (1960-86)	-23.3	-19.3	-33.0	-4.1	-27.4
Sri Lank (1960-85)	-31.1	-14.8	-40.1	-9.0	-40.1
Thailand (1962-84)	-15.0	-16.0	-13.9	-25.1	-40.1
Turkey (1961-83)	-37.1	-30.9	-57.4	5.3	-31.8
Average for Group II	-24.4	-20.7	-32.8	-12.0	-36.4
GROUP III					
Brazil (1969-83)	-18.4	-12.8	-21.4	10.1	-8.3
Chile (1960-83)	-20.4	-17.6	-37.4	-1.2	-21.6
Malaysia (1960-83)	-8.2	-7.3	-9.9	-9.4	-17.6
Average for Group III	-15.7	-12.6	-22.9	-0.2	-15.8
GROUP IV					
Republic of Korea	-25.8	-36.4	-26.7	39.0	13.2
Portugal	-1.3	-2.3	-1.0	9.0	7.7
Average for Group IV	-13.6	-19.3	-13.9	24.0	10.4
Average for all Groups	-22.5	-22.3	-27.9	-7.9	-30.3

Source: Krueger,Schiff and Valdez,"A Synthesis of the Political Economy in Developing Countries," p. 61.

T A B L E 3

Total Agricultural Production (Index) Growth Rates -- Africa

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Botswana	-0.09	6.62	2.23	3.81	2.11	
Cameroon	1.65	3.88	1.79	2.06	2.06	
Cote d'lvoire	3.64	2.45	4.78	6.83	4.16	4.25
Gambia	0.84	-2.58	-4.71	4.76	1.16	2.34
Ghana	1.98	0.00	.3.99	3.13	4.35	0.72
Kenya	3.30	4.36	4.82	-0.38	4.46	4.39
Madagascar	2.14	0.98	2.10	4.76	1.59	1.30
Malawi	2.30	12.64	2.79	0.02	1.70	1.38
Mauritania	1.59	-6.59	4.97	3.47	2.86	0.52
Mauritius	0.97	9.54	0.51	-4.81	1.66	0.76
Niger	1.99	-2.61	10.80	1.89	1.94	2.63
Nigeria	3.55	-1.48	3.98	4.16	6.28	6.24
Senegal	2.23	-5.58	-1.70	0.66	6.08	4.36
Sierra Leone	0.99	1.02	2.71	2.13	0.59	0.69
Sudan	1.19	1.49	1.45	6.29	-0.60	-0.43
Swaziland	3.40	8.01	2.61	5.89	1.96	
Tanzania	1.78	-0.98	1.65	0.79	2.39	2.47
Togo	2.21	-2.99	1.94	0.64	5.36	4.82
Uganda	1.15	0.00	-1.68	0.79	2.68	4.39
Zaire	1.99	0.99	1.66	2.50	2.24	1.32
Zambia	2.12	7.12	4.68	-1.51	4.46	3.52
Zimbabwe	2.78	19.06	5.55	4.86	5.20	2.74
Region	1.99	2.51	2.22	2.40	2.94	2.20

Source: FAO Production Yearbook

TABLE 4

Total Agricultural Production (Index) Growth Rates – Asia

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Bangladesh	2.35	-5.03	2.32	1.38	2.38	
China	4.16	1.46	1.99	3.19	3.18	
India	3.20	-1.50	4.05	1.68	3.29	
Indonesia	4.20	1.46	1.70	5.98	4.47	4.94
Korea	2.22	2.99	10.15	-5.70	-0.42	-0.42
Malaysia	5.30	4.40	4.07	5.56	7.08	
Pakistan	3.94	1.96	2.99	3.88	4.90	4.59
Philipines	2.72	0.00	7.56	2.92	1.68	0.88
Sri Lanka	2.24	-0.50	3.83	5.87	-1.11	
Thailand	3.85	0.50	4.83	1.22	1.78	1.78
Region	3.42	0.57	4.35	2.60	2.72	2.35

Source: FAO Production Yearbook

T A B L E 5

Total Agricultural Production (Index) Growth Rates -- Eastern Europe & Middle East

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Algeria	2.04	0.99	0.06	4.86	2.24	
Egypt	2.70	2.00	0.39	2.22	3.86	
Hungary	2.05	11.43	1.89	2.32	-0.04	-1.46
Morocco	3.49	4.58	-1.43	-2.50	6.91	4.54
Poland	0.55	1.94	-0.46	-5.41	1.34	
Romania	2.51	18.32	8.53	0.09	-1.65	
Tunisia	2.57	11.34	3.28	3.36	1.71	0.01
Turkey	2.83	4.93	6.76	2.61	2.17	1.94
Yugoslavia	1.47	3.18	4.12	2.04	-1.25	-1.73
Region	2.25	6.52	2.57	1.06	1.70	.66

Source:FAO Production Yearbook

T A B L E 6

Total Agricultural Production (Index) Growth Rates -- Latin America

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Argentina	2.00	-4.00	4.24	1.13	1.03	2.17
Bolivia	2.71	6.77	1.78	3.24	6.07	3.88
Brazil	3.68	5.46	4.97	6.86	3.29	3.04
Chile	2.23	-3.92	5.35	5.21	4.79	5.87
Colombia	3.09	2.47	5.33	2.07	3.84	4.62
Costa Rica	2.52	4.49	4.25	0.98	3.07	3.69
Dominican Rep.	1.99	4.40	1.94	0.31	0.16	
Ecuador	2.83	-1.48	4.15	3.73	5.93	0.09
Honduras	2.53	6.01	0.57	4.15	3.91	
Jamaica	0.10	4.98	1.84	-8.52	-0.71	0.82
Mexico	2.62	3.92	2.75	2.97	1.29	1.34
Panama	2.01	4.17	3.74	1.43	0.17	-0.07
Peru	1.26	0.00	0.38	1.49	1.95	
Venezuela	2.96	0.00	3.27	1.63	2.58	
Region	2.32	2.38	3.18	1.91	2.67	2.55

Source: FAO Production Yearbook

TABLE 7

Total Agricultural Export Growth Rates -- Africa

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Botswana	0.93	1.55	1.76	10.58	-3.86	
Cameroon	-0.75	-11.07	7.01	-13.14	-2.45	
Cote d'lvoire	2.15	-6.18	19.83	-7.05	-5.32	-3.02
Gambia	-9.73	-1.52	9.10	-20.44	-17.84	7.48
Ghana	-5.38	-18.33	6.12	-20.85	-1.88	-6.45
Kenya	0.17	4.32	15.89	-9.79	-5.64	-2.42
Madagascar	-4.38	1.13	4.19	-14.12	-10.67	-14.63
Malawi	1.49	11.76	9.28	4.82	-2.37	-1.39
Mauritania	-3.30	1.72	-0.80	1.97	-7.04	-1.02
Mauritius	-0.27	15.88	0.04	-10.17	2.14	1.71
Niger	-5.25	-6.31	1.71	9.01	-9.93	-5.65
Nigeria	-8.76	-22.43	-0.78	-27.01	-11.40	-10.62
Senegal	-5.26	9.45	25.62	-32.45	-2.58	-3.56
Sierra Leone	-5.38	0.42	3.41	-19.96	-14.26	-26.74
Sudan	-4.65	1.69	1.37	-7.64	-3.29	-3.35
Tanzania	-5.86	3.06	3.32	-1.73	-7.36	-7.56
Togo	-0.56	-19.38	10.75	-16.52	-0.45	-5.05
Uganda	-6.26	-3.81	6.67	-18.24	-15.79	-18.61
Zaire	-4.84	0.34	6.08	-14.76	-11.00	-9.53
Zambia	-3.26	0.70	-17.19	-16.86	6.72	-3.52
Zimbabwe	0.05	19.36	0.89	6.61	0.20	0.15
Region				-10.37	-5.91	

Source: FAO Trade Yearbook

T A B L E 8

Total Agricultural Export Growth Rates -- Asia

Country	1970-90	1970-72	1978-81	1983-90	Post Adjustment
India	-0.27	0.91	6.66	-2.83	
Indonesia	2.77	-7.26	-5.49	-1.43	-10.35
Korea	4.41	17.96	-0.39	6.81	6.81
Malaysia	2.41	-9.79	-0.31	-4.02	
Pakistan	2.42	10.92	30.00	1.21	-1.57
Philipines	-3.42	-1.69	2.09	-8.61	-8.61
Sri Lanka	-2.49	-9.13	-8.73	-7.03	
Thailand	4.51	10.79	10.72	2.07	2.07
Region			4.32	-1.73	

Source: FAO Trade Yearbook

T A B L E 9

Total Agricultural Export Growth Rates – Eastern Europe & Middle East

Country	1970-90	1970-72	1978-81	1983-90	Post Adjustment
Algeria	-15.21	-26.08	-11.52	-7.51	
Egypt	-6.97	-6.73	-3.07	-11.93	
Hungary	-0.88	10.85	-1.09	-3.97	2.53
Morocco	-3.44	6.82	-5.13	3.09	2.77
Poland	-2.40	14.18	-20.06	5.80	
Romania	-6.61	21.66	-5.36	-17.99	
Tunisia	-3.25	46.51	-4.64	4.03	4.91
Turkey	2.26	12.38	8.67	-1.81	-2.12
Yugoslavia	-0.17	1.43	11.69	-5.79	5.07
Region			-4.79	-4.00	

Source: FAO Trade Yearbook

T A B L E 1 0

Total Agricultural Export Growth Rates -- Latin America

Country	1970-90	1970-72	1973-77	1978-81	1983-90	Post Adjustment
Argentina	0.14	-6.49	0.90	3.36	-6.04	14.58
Bolivia	-1.51	41.23	5.15	-17.56	21.62	10.23
Brazil	0.45	10.59	4.88	6.65	-6.41	-7.45
Chile	12.21	-10.21	45.36	10.90	12.04	8.99
Colombia	1.00	-4.26	11.95	-9.54	-5.49	-11.93
Costa Rica	0.84	2.24	11.66	-6.79	-0.56	-2.23
Dominican Rep.	-4.58	11.24	1.97	9.35	-10.98	
Ecuador	-0.47	2.91	10.76	-16.90	1.18	-2.76
Honduras	2.61	0.27	13.88	-0.69	-1.95	
Jamaica	-2.94	0.94	-1.84	-11.16	-0.62	1.32
Mexico	-0.40	4.01	0.34	-8.18	3.60	-0.23
Panama	-2.37	-1.99	-2.09	4.24	-5.69	-5.36
Peru	-5.11	-3.44	-1.18	-19.65	-2.58	
Venezuela	0.05	6.36	5.02	-14.52	6.45	
Region	**0.01**	3.81	**7.63**	-5.04	0.33	**0.52**

Source: FAO Trade Yearbook

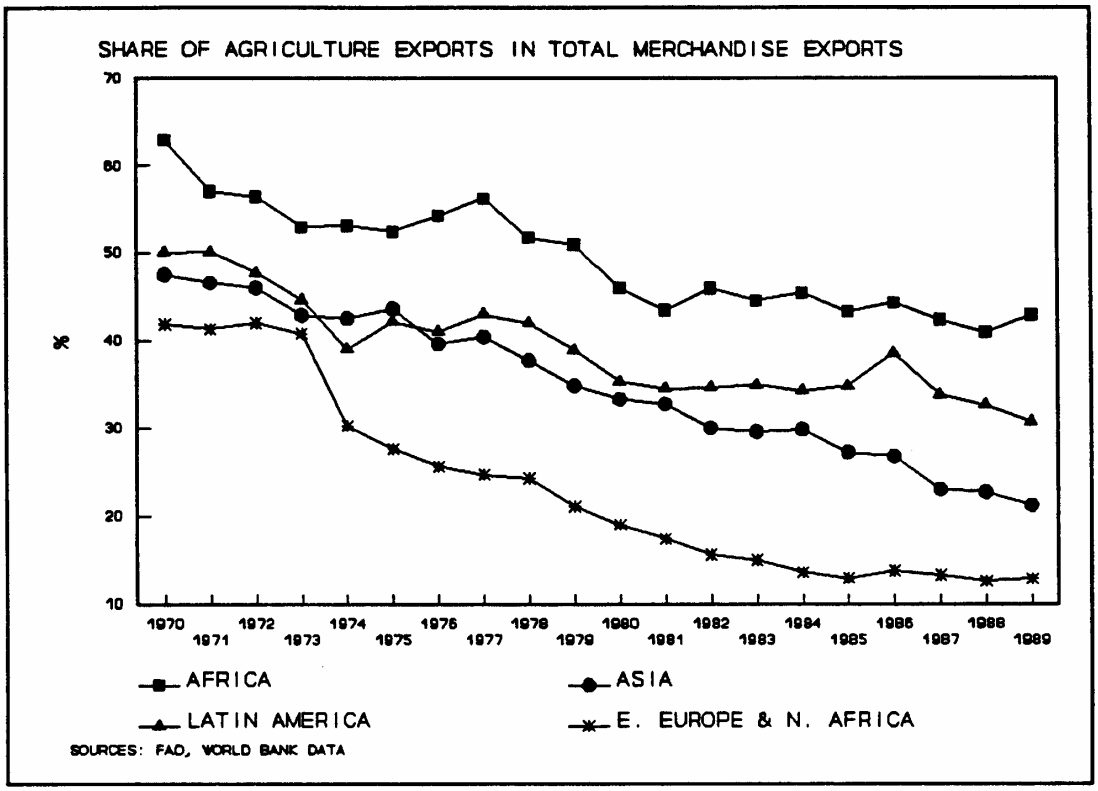
T A B L E 1 1

Developing Countries: Public Sector Investment as % of GDP

	Countries Undertaking Fiscal Adjustment		Countries Not Undertaking Fiscal Adjustment	
	1985-87	1988-90	1985-87	1988-90
All Countries	**8.6**	**7.9**	**8.7**	**8.2**
By Region:				
Africa	**8.8**	**8.1**	**7.9**	**7.3**
Asia	**9.0**	**8.6**	**9.8**	**9.6**
Middle East	**9.6**	**7.7**	**8.5**	**7.4**
Western Hemisphere	**7.8**	**7.3**	**8.1**	**7.8**

Source: World Economic Outlook, International Monetary Fund, May 1992.

F I G U R E 1


SHARE OF AGRICULTURE EXPORTS IN TOTAL MERCHANDISE EXPORTS
%
70
60
50
40
30
20
10
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
AFRICA
ASIA
LATIN AMERICA
E. EUROPE & N. AFRICA
SOURCES: FAO, WORLD BANK DATA

F I G U R E 2

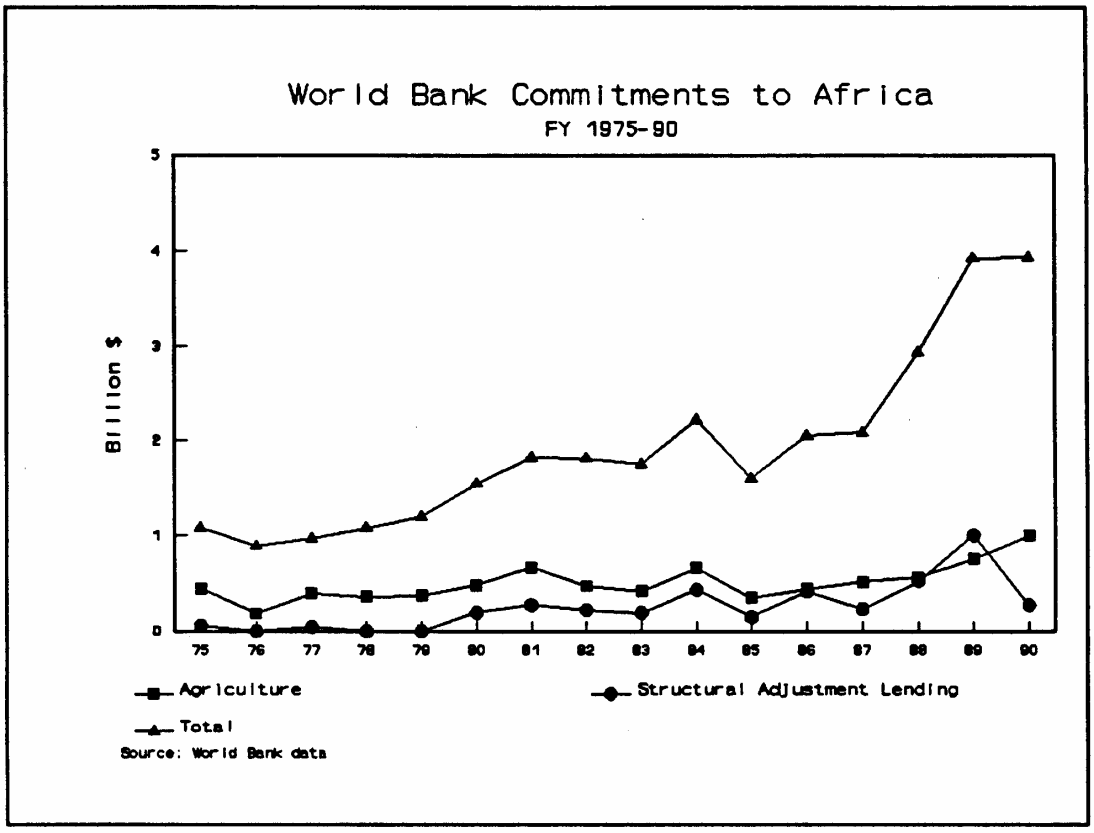
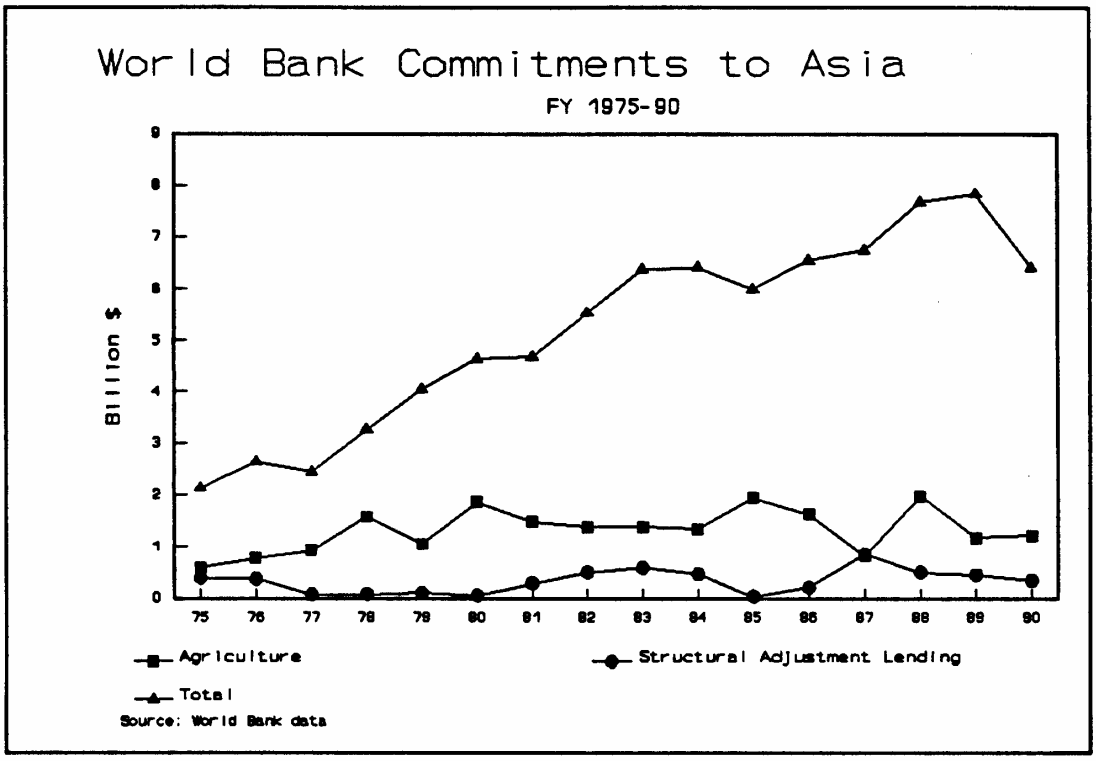

World Bank Commitments to Africa
FY 1975-90
Billion $
0
1
2
3
4
5
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
Agriculture
Structural Adjustment Lending
Total
Source: World Bank data

FIGURE 3


World Bank Commitments to Asia
FY 1975-90
Billion $
0
1
2
3
4
5
6
7
8
9
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
Agriculture
Structural Adjustment Lending
Total
Source: World Bank data

F I G U R E 4

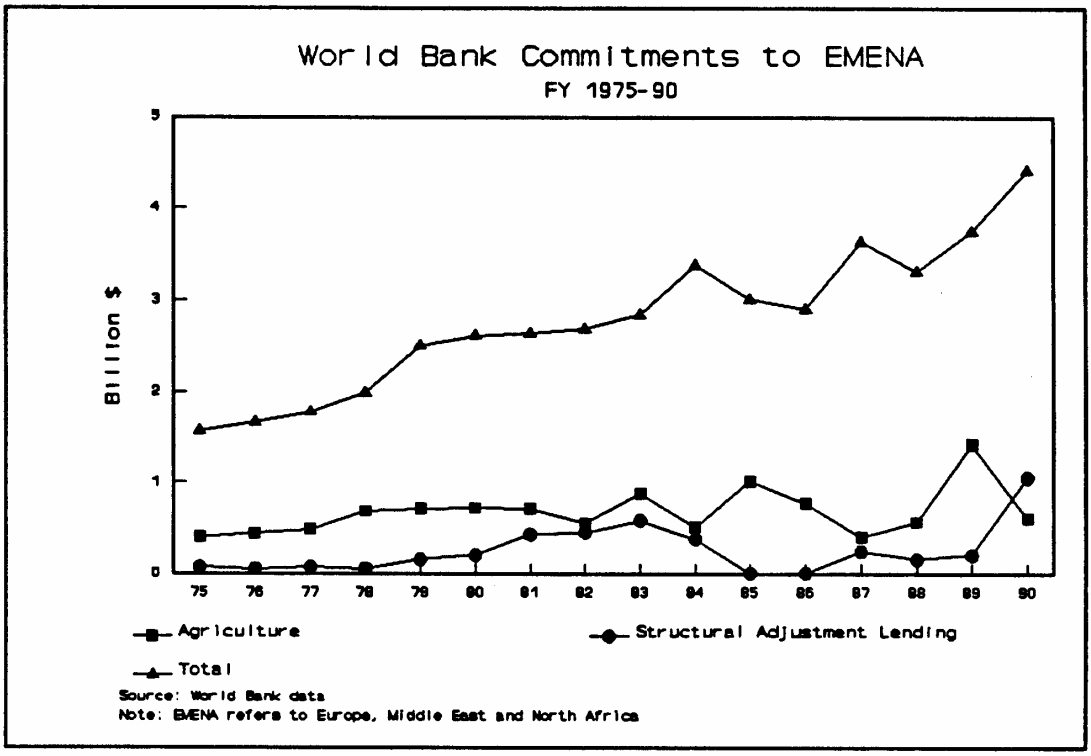
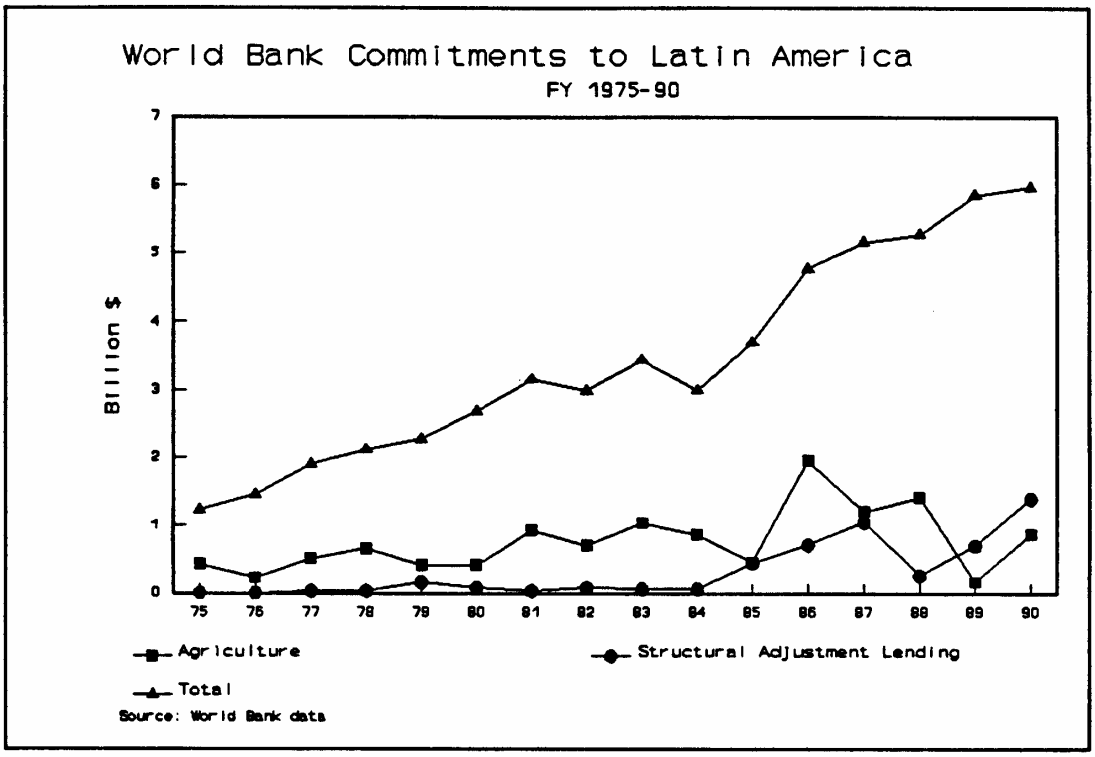
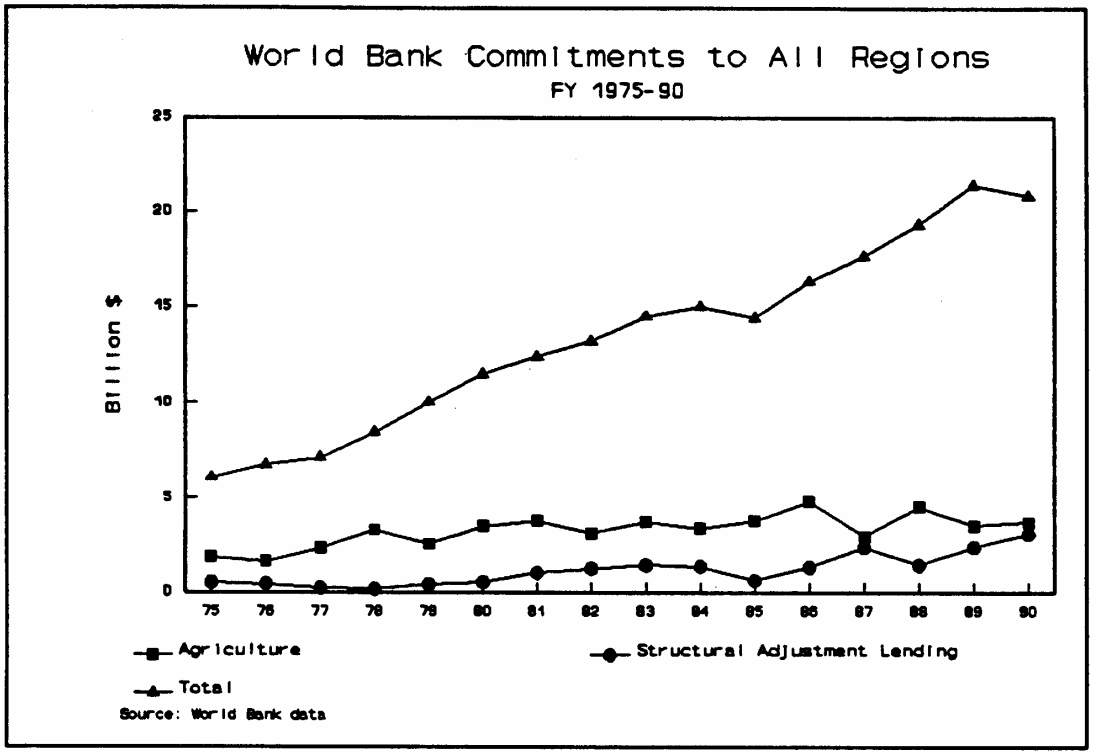

World Bank Commitments to EMENA
FY 1975-90
Billion $
0
1
2
3
4
5
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
Agriculture
Structural Adjustment Lending
Total
Source: World Bank data
Note: EMENA refers to Europe, Middle East and North Africa

FIGURE 5


World Bank Commitments to Latin America
FY 1975-90
Billion $
0
1
2
3
4
5
6
7
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
Agriculture
Structural Adjustment Lending
Total
Source: World Bank data

F I G U R E 6


World Bank Commitments to All Regions
FY 1975-90
Billion $
25
20
15
10
5
0
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
Agriculture
Structural Adjustment Lending
Total
Source: World Bank data