

NEPAD AND THE ENVIRONMENT: ENVISAGING
THE ECOLOGICAL CONSEQUENCES OF
OUTWARD-ORIENTED DEVELOPMENT IN AFRICA

BY ROLDAN MURADIAN; UNIVERSITAT AUTÒNOMA DE BARCELONA

Prepared for presentation at the African Forum for Envisioning Africa to be held in Nairobi, Kenya, 26 – 29 April 2002; by Roldan Muradian; Universitat Autònoma de Barcelona. Dpt. d'Economia i d'Història Econòmica.

08193 Bellaterra (Barcelona); Spain

e-mail: rolmu@yahoo.com)

Contents

	Executive summary.....	3
1.	Introduction.....	5
2.	Economic integration and the environment	5
3.	Economic specialization, development and the environment.....	7
4.	Commodity chains and transnational structures of production.....	11
5.	Policy options.....	15
6.	Conclusions.....	21
	Figures	22
	References.....	28

NEPAD AND THE ENVIRONMENT: ENVISAGING THE ECOLOGICAL CONSEQUENCES OF OUTWARD-ORIENTED DEVELOPMENT IN AFRICA

BY ROLDAN MURADIAN; UNIVERSITAT AUTÒNOMA DE BARCELONA

Executive summary

The NEPAD document states that the bulk of the needed capital for achieving the proposed economic growth and poverty-reduction goals will have to be obtained from outside the African continent. In this sense, it suggests an outward-oriented development path. Although the document recognizes the importance of diversifying production, it stresses as well the necessity to develop new industries, or upgrade existing ones, where African countries have comparative advantages. Since the continent is richly endowed with natural resources and capital is relatively scarce, we can expect that integration into the world economy will occur through the specialization in the primary sector. This means that, in the international allocation of production arising from the globalization process, Africa will likely play the role of natural resources provider. The present paper explores the possible economic and environmental repercussions of development policies based on primary-exports promotion. We argue that economic integration into the world economy through the exploitation of natural resources may cause poverty and environmental-degradation traps in the long term. Our thesis rests on the idea that the cyclical and downward trend of prices of commodities across time may force countries specializing in primary products to export increasing amounts of natural resources, in order to maintain revenues. Decreasing value/weight ratios of primary exports through time prevent the abatement of environmental impacts, and the compensation of affected communities due to pollution or land transformations. On the other hand, increasing outward physical flows enlarge environmental burdens and the probability of land-use (environmental) conflicts between local populations and exporters. Some historical empirical data for Africa and Latin America is presented to show that, despite the fact that primary to total exports (in monetary terms) have slightly decreased in the last three decades, the weight of exports have increased and the value/weight

ratio of primary exports have substantially shrunk in these regions. We point out that the economic and environmental benefits of economic specialization following comparative advantages are not automatic when countries have advantages in the production of primary products. However, since inward-oriented development strategies equally may create large economic inefficiencies, high environmental impacts and mounting international income inequalities, we do not plead for strengthening trade barriers. We rather claim for policies intending to increase prices of commodities, directed to finance exports diversification. We also plead for new transnational institutions in charge of governing globally integrated economies and implementing international distributional mechanisms. Compensation (mainly through education and health facilities) of bio-diversity-maintaining rural and extreme-poor urban populations is particularly enviable, with the aim of diminishing income inequalities at a national and international level, and assuring basic necessities fulfillment for those marginal to the benefits of globalization.

1. Introduction

The *New Partnership for Africa's Development* states that the bulk of the resources needed for achieving the proposed goals of economic growth and poverty reduction for the next 15 years will have to be obtained from outside the African continent. The document stresses the importance of three mechanisms for raising capital: debt reduction, foreign investment promotion and trade expansion. As regard investment and trade, African countries rely on their competitive advantages for attracting international capital and exporting goods to the rest of the world. Any region adopting an outward-oriented strategy of development — in the sense of dependency on foreign financial resources— necessarily has to assume its place in the international division of production, taking advantage of locally abundant factors of production. In the case of Africa, since the continent is well endowed with natural resources, and local capital as well technology are in relatively short supply, countries seem to have competitive advantages in the primary sector. Following this line of reasoning, the region should specialize in the extraction and processing of natural resources, in order to make the most efficient use of scarce resource and improve economic output. However, we argue here that, mainly due to structural conditions of the world trade system, specialization in the primary sector may induce poverty and environmental degradation traps in the long term. Section 1 discusses briefly the mainstream vision about the relationship between international economic integration, economic growth and environmental conditions. Section 3 deals with the dynamic effects of the specialization in the primary sector on the economy and the environment, which may lead African countries to be caught in poverty and environmental-degradation traps. Section 4 discusses the international distribution of trade's profits in a framework of large international production chains and mounting power of transnational corporations. Section 5 proposes some policy options in order to achieve a better distribution of profits arising from economic globalization and to prevent the specialization trap. The paper finishes with a brief conclusion section.

2. Economic integration and the environment

Based on empirical evidence, most economists perceive trade and global economic integration as engines of growth (Edwards, 1993). Economic growth is supposed to promote investment in cleaner technology, induce changes in the composition of production toward the

service sector and increase people demand for a good environment. Therefore, a positive relationship between economic integration, income and environmental conditions is expected (Grossman and Krueger, 1995). Even if countries specialize in the production of (environment-intensive) primary products, several analysts envision a win-win result, because the increasing exploitation and export of natural resources allows both (1) the use of resources that would remain idle in the absence of trade and (2) the establishment and enlargement of links between primary and other sectors of the economy. These processes are believed to induce higher rates of aggregate income growth and a progressive shift toward economic activities based on manufacturing and the provision of services (Xu, 2000). Classic examples of this kind of development based on natural resources exports include Australia, Scandinavia and Canada, as the “staple” theory of growth proclaimed long ago.

On the other hand, foreign direct investment (FDI) is also supposed to encourage both economic growth and environmental quality improvement. Transnational corporations (TNCs) should play an important role in the economic performance of developing economies by enhancing competition, injecting capital, providing technological advances, and promoting modern management practices. TNCs may help developing countries leapfrog stages in development, enabling them to shift from an economy oriented toward primary products to a service economy. This would release pressure on natural resources and improve the environmental performance of the economy. Even if foreign investments are directed to the primary sector, many analysts assume that environmental performance will improve because TNCs are more efficient and technologically advanced than outdated national enterprises (Zank, 1995). According to some authors, multinational firms are the single most important vehicle for the transfer of environmental information and technology to the developing world, and the initiatives they are taking in many cases exceed the requirements of the host country governments (Hadlock, 1994). Natural resources have no value unless they are discovered, extracted, processed, transported, and distributed to customers. The predominant idea is that TNCs may give value to these resources that would otherwise remain unused due to lack of capital, managerial skills, and technology in poor countries (Wilkins, 1998).

The above-described theoretical optimism is contested by some remarkable facts. On the one hand, not all countries have been able to integrate effectively into the world economy. In fact, the 50 least developed countries (mostly located in Africa) have been increasingly marginalized from the globalization process in terms of trade share and foreign direct investment (UNCTAD, 1996). The buck of North-South capital flows through FDI is very concentrated in about 10 countries situated in Asia and Latin America. Even though the African countries have implemented measures for attracting foreign capital, the region is still

unattractive to international investors. Most of the relatively minor FDI in Africa is concentrated in a small number of countries that are endowed with natural resources, particularly oil (Wangawe and Musonda, 1998). On the other hand, it seems that the relationship between economic integration and development is not straightforward. For example, in spite of structural reforms and increasing regional and international economic integration during the past two decades, Latin America has experienced recurrent economic crises, economic growth rates lower than expected, escalating environmental problems and rising number of people living in poverty. Certainly, the Latin America and African cases are considerably different from some Asian countries that witnessed a successful outward-oriented strategy of development based on manufactures exports.

The globalization of capital and the liberalization of trade barriers at a global level have been accompanied by an enlarging income gap between countries during the past three decades (UNDP, 1997; WRI, 1999; Sarkar, 2000). Hence the economic benefits of economic globalization seem to be very unevenly distributed among developing regions of the world. As stated before, while some countries have succeeded in attracting international capital and strengthening profitable exports, several others are being excluded from the flows of capital and goods, and some others are being integrated without experiencing significant economic improvements. The latter is probably the consequence of declining world prices of major exportable commodities in these regions (Weeks, 1999). We believe that the dynamic effects of economic specialization and the position countries adopt in international production chains are important factors explaining these dissimilar outputs. The next section goes further on this idea.

3. Economic specialization, development and the environment

The effects of the international division of labor and economic specialization in the primary sector were well discussed long ago by some “structuralist” development economists (Singer 1950; Prebisch, 1950). The structuralist school of development, led by the Economic Commission for Latin America and the Caribbean, argued that there is a trend toward a decline in the prices of primary commodities across time, as well as a long-run deterioration in the terms of trade of developing countries (this happens to be called the Singer-Prebisch hypothesis). It was argued that this fact could catch developing countries in a poverty trap and broaden the income gap at a global level. In order to prevent this outcome, the commission

proposed the import substitution industrialization, with the aim of supporting local infant industries through trade regulations. This strategy failed because the protection of national infant industries through subsidies, tariffs and quotas promoted inefficient monopolies. These monopolies harmed consumers, did not develop sufficient technological improvements to compete in the international market, and never became totally independent from foreign inputs.

Recent studies that test the Singer-Prebisch hypothesis arrive at mixed results, depending on data and the econometric model used (Athukorala, 2000; Bloch and Sapsford, 2000; Lutz, 1999; Muñoz and Sosvilla, 1993). Nonetheless, several authors (Sarkar and Singer, 1991; Maizels; 2000; Kaplinsky, 2001) argue that there is a tendency toward oversupply in the markets of primary commodities and low-technology manufactures (where developing countries have competitive advantages). This happens because many countries have acquired the capabilities to produce them, the rate of innovation has been low, and the demand for these products has not increased considerably. The combination of these three factors keep low prices and produce low value-added in the sectors where most developing specialize.

Declining value of exports and huge debt burdens force countries specializing in the primary sector to export swelling quantities of resources (in weight units). In the case of mining, expanding materials flow usually means rising environmental pressures and hazards, including pollution and habitat transformation. The extraction and processing of minerals (including oil) are typically among the most environment-intensive sectors in terms of emissions or abatement costs by unit of production (Mani and Wheeler, 1997; Tobey, 1990). Besides, the expansion of the agricultural frontier, particularly in tropical countries, may produce dramatic land use changes, involving the transformation of valuable and highly biodiverse habitats, which frequently are used for subsistence purposes by local populations. Prices decrease also may encourage a shift from diverse agricultural production systems to extensive mono-specific crops, which usually involve deforestation and biodiversity loss (Nestel, 1995). For this reason, land transformations associated with the exporting sector are regularly associated with environmental conflicts about alternative uses for resources between local dwellers and exporters. Hence increasing material outflows are likely linked with growing environmental burdens and social conflicts. If the value of exports decreases across time, there are fewer resources available for compensating those populations negatively affected by the exporting activity, as well for repairing environmental damages related to exports.

Figures 1 and 2 show that although primary exports to total exports have diminished in Latin America and Africa, both regions are still specializing in exporting natural resources. Figures 3 and 4 show that, contrary to the *monetary* trend, the weight of primary exports has increased in the past decades. The difference between Africa and Latin America in the percentage of change probably responds to a lack of data for many African countries and to a larger degree of economic integration in the case of Latin America. Specialization and concentration of exports are expected from the point of view of exploitation of comparative advantages. In a context of trade liberalization, countries are expected to increase their exports of products whose factors of production are relatively abundant in their territories. Indeed, Benavente et al. (1997) conclude that, in Latin America, the liberalization period and the integration into the world economy have been accompanied by (1) an expansion of natural resource use and raw material processing industries, and (2) a decay of manufacturing industries. Likewise, Noorbakhsh and Paloni (1999) point out that declining or negligible rates of growth in manufacturing have followed structural adjustments programs in most African countries. Moreover, export concentration (the share of the leading export item) has increased in the least developed countries after liberalizing measures in the 1990s (UNCTAD, 1999). Most of these export items belong to the primary sector. Exports concentration is remarkable in Africa. Of 47 African countries, 39 are dependent on a mere two primary commodities for over 50 per cent of export earnings (Morrissey and Filatotchev, 2000). This fact makes African economies extremely dependent on prices volatility.

When economic specialization occurs in not dynamic and environment-intensive sectors, the relationship between exports expansion and economic growth, production diversification, and environmental improvement are not straightforward. Figures 5 and 6 show that the ratio value/weight of primary exports has shrunk considerable in Latin America and Africa in the last three decades. This means that both regions are facing declining prices of exporting primary commodities, and are pressed to export increasing amount of resources in order to keep revenues. As was stated before, rising physical outflows is probably related to enlarging environmental burdens and conflicts.

It is argued that trade liberalization causes positive long-term dynamic economic effects derived from more competition and increasing returns to scale. That is, goods exchange favors technology transfers and competition stimulates investment in research and development (R&D), aiding in the generation of value-added. Moreover, firms can benefit — through economies of scale— from the emerging markets created by trade. However, countries specializing in the production of mineral or agricultural products may face serious problems in catching up these potential benefits from trade liberalization. Firstly, many

primary markets are highly competitive, because many developing countries have advantages in this sector. When competition is too high, profit margins tend to be low, which limits the capacity to invest, particularly in R&D (Dijkstra, 2000). Secondly, primary goods are typically not intensive in knowledge. Therefore, competitiveness in these sectors tends to be based on costs, instead of enhanced skills and technological progress (Reinhardt, 2000). In these cases, competitive advantages can be preserved by keeping low the price of resources or labor, instead by innovation. In order to promote exports, developing countries frequently choose to devalue national currency. This used to trigger large economic crises in the semi-periphery and periphery of the world economy. Moreover, since knowledge is not an important factor of production, resource-dependent economies tend to underinvest in the development of skills and other forms of human capital. This prevents economic diversification and leads to lose adaptability to new economic situations. Thirdly, primary processing tends to be less labor-intensive than manufacturing. Thus countries exporting processed primary products are likely to yield fewer of the distributional and social gains that East Asia reaped from massive expansion of manufacturing employment (Owens and Wood, 1997). Fourthly, increasing return to scale is common to happen in the manufacturing industry, but to a much less extent in the primary sector. Lastly, the income elasticity of demand for primary products is characteristically low, which is an important additional factor imposing downward pressures on prices in the long term.

Furthermore, natural resources extraction and processing for exports very often occur through enclave economies. The exporting primary sector may have few backward or forward linkages to the local economy, because inputs are imported and benefits centralized or repatriated. Fosu (1996) reports evidence showing that the growth of primary exports has little or no external impact on the non-export sector, which constitutes the bulk of the economy in most developing countries. As a consequence, exports revenues rise or fall in response to the world market but do not generate a long-term growth process within the larger domestic economy (Stokes and Jaffee, 1982). The enclave effect is particularly likely when a transnational corporation makes the extraction and processing of natural resources. Another significant factor affecting the dynamic of primary exports is price instability. Prices of primary commodities normally show a cyclical and downward behavior, characterized by pronounced boosts and busts through time. Naturally, these fluctuations affect negatively macroeconomic variables, create a climate of unpredictability, and fright investors. The above-mentioned impoverishing effects of primary specialization have been used for explaining poverty traps in developing countries, as well as in rural dependent on natural resources exploitation (Peluso, et al., 1994; Freudenburg and Gramling, 1998; Fisher, 2001).

4. Commodity chains and transnational structures of production

The current world trade system cannot be described correctly as commercial transactions among national economies. During recent decades, there have been a considerable amount of large mergers and acquisitions of transnational corporations in the most important economic sectors. Concomitantly, the market power of TNCs has increased considerably at a global scale, and a shift in power from manufacturers to distributors and retailers appears to be underway at a global scale (Gereffi, 1996). Moreover, although there are not good statistic sources, the global share of trade occurring within a relatively small number of large TNCs (intra-firm trade) has been estimated to be over 40% of total world trade (Panic, 1998). Data on this kind of trade are collected systematically only by the U.S. government for U.S. enterprises (Gilroy, 1989). In the United States, related-party trade (trade by U.S. companies with their subsidiaries abroad as well as trade by U.S. subsidiaries of foreign companies with their parent companies) accounted for 47 % of the total import value in 1998 (U.S. Bureau of the Census, 1999).

The growing power of TNCs and the existence of transnational structures of production have significant consequences for developing countries. In a large number of developing countries, exportable primary products are marketed by giant trading corporations based in industrialized countries such as Cargill, Louis Breyfus and Co., and so on (Bagchi, 2001). Economic surplus and the larger value-added tend to be concentrated in those nodes of international production chains where market power is the greatest, such as trading (Edgington and Hayter, 1997). Due to the worldwide wave of privatization, an important part of exporting industries in developing countries are being acquired by TNCs. Thus for many primary products the market is becoming less competitive and progressively more dominated by few and large enterprises. In such kind of vertically integrated international structures of production and distribution, internal managerial decisions allow allocating benefits through the different nodes of the chain, according to the enterprise's interest. Moreover, TNCs have demonstrated their power to control world prices of products through inter-TNCs negotiations for reducing competition and setting production quotas (Bonanno, et al., 2000). Oligopolistic practices may produce prices increase in the consumer, but not necessarily at the level of producer. For example, Bettendorf and Verboven report a weak transmission of bean prices to consumer prices in the Netherlands. Equally, Morriset (1998) provides evidence indicating that, in the past 25 years, declines in world commodity prices were not transferred to domestic consumer prices. In contrast, increases in world prices were transferred to domestic prices in

developed countries. Morriset points out that the intermediary role of TNCs was an important determinant of this phenomenon.

A major advantage of transnational structures of production, in relation to national ones, is their capacity to allocate internationally the costs of production, including environmental costs and their capacity to move assets, resources, and structures across national borders. In the context of South-North production-consumption chains, developing countries are chosen for holding TNCs activities mainly according to their ability to offer low production costs, including environmental costs. In environment-intensive sectors, the capability to distribute environmental burdens, hazards and costs at the global level is becoming increasingly important due to rising environmental concerns and regulations in industrialized countries. Since institutions tend to be weaker and environmental costs lower in developing countries, we could expect a North-to-South migration of environment-intensive sectors. This seems to be the case of the mining sector. Expenditures on exploration for nonferrous minerals doubled in Latin America, nearly tripled in the Pacific region, and more than tripled in Africa from 1994 to 1997, while leveling off in Australia, Canada and the United States (French, 1998). Economic and environmental difficulties experienced by mining and mineral processing industries in industrialized nations are likely to be important factors that encourage the migration of this sector toward the periphery of the world economy. Indeed, the US Department of Commerce (1999) states in a recent report that the US mining sector has experienced falling earnings since the late 1980's. This report also asserts that the most significant factors currently affecting the US mining industry are environmental regulations and the access to public lands for exploring mineral deposits.

According to some authors (Neumayer, 2001), the migration of environment-intensive industries toward developing countries does not necessarily imply economic inefficiencies in these countries. The "optimal" local level of environmental pressures and hazards rests on economic and environmental preferences. Preferences are expected to vary among countries and localities. Some regions may be willing to accept relatively high environmental hazards in exchange for income increase. However, this approach cast aside ethical and distributional issues, which cannot be addressed by economic efficiency considerations. It neither considers the quality of the decisional process about the location of new industries. In many cases, local populations are not consulted for building new facilities that would expose them to environmental risks. This is a major source of environmental conflicts between local people, the central state and foreign enterprises.

The distribution of benefits between the national economy and a transnational corporation depends on the share of economic surplus that is reinvested in the country, as well on the environmental performance and liability of the enterprise. The fact that an enterprise be national does not necessarily mean that an important share of economic benefits will be invested in the national territory, neither a good environmental performance. Nevertheless, TNCs are more prone to reallocate benefits in places closer to the headquarters and there is no international agreement on TNCs environmental liabilities. In fact, a number of court cases (against Texaco, FreeportMcMoRan, the Southern Peru Copper Corporation...) have tried without success in recent years to claim compensation for environmental damages caused by TNCs in developing countries. There have been attempts to control TNCs behaviour at the international level, one from the U.N. and another from the “group of 77” (the latter code was related specifically to environmental liability). However, both of them failed because of the opposition from the transnational corporations and the governments of U.S., U.K. and Japan (Goodland and Daly, 1993).

The incursion of TNCs in developing economies may produce long-term positive effects, especially if the inversion is directed toward the internal service sector. Nonetheless, despite the fact that Africa is a populous continent, it does not represent, in general, a considerable market for foreign enterprises due to its low income and economic growth. Hence, although it has a very high labor/capital ratio —what is supposed to be attractive to foreign capital—, it has few chances to compete effectively with other regions of the world in attracting international capital directed toward the internal market. Current FDI seems to be driven more by the availability of information technology than by labor costs. If this is the case, African countries could find themselves excluded from international competition for capital by the unavailability of such technology, regardless of how large a labor costs advantage they may enjoy (James, 2001). On the other hand, since the international markets of labor-intensive manufactures such as toys, shoes or textiles are already dominated by emerging Asian economies, many African countries only can play a role in the global “megacapitalism” either by providing cheap labor and natural resources for the production of low value-added primary commodities or through the tourism industry. Tourism is a fast growing global industry, which bears a high income elasticity of demand. It could be a profitable source of income for developing countries. However, being not intensive in labor, its expansion is not always concomitant with decreasing unemployment rates and may be related to polarization of income at the national level. Therefore, the promotion of this industry should be accompanied by strong distributional mechanisms. As regards agricultural products, TNCs tend to control those nodes in the international commodity chains where the value added is higher. That is, processing, trading, distribution and retailing. TNCs

domination over the most lucrative nodes in international production chains is particularly common for tropical products such as coffee and cocoa, in the production of which many African countries have competitive advantages. In relation to mining activities, as it was stated before, TNCs tend to dominate also the extraction process, but normally no many links are established with the national economy. Hence the long-term economic and environmental benefits of capital inflows are not automatic when foreign investment is directed to the primary sector.

The analysis of commodity chains through world-system theory (Hopkins and Wallerstein, 1986) can be a useful tool for understanding the international distribution of economic and environmental costs and benefits arising from globalization. World-systems analysis intends to explain how and why some countries have been able to grow in power and wealth while others remain trapped in apparent stagnation. Among its central postulates are the following. First, that a defining feature of the current world economy is the three-part international stratification system of core, semiperiphery and periphery through which countries can move, but which itself has not changed. Second, that the ability of countries to move upward in the stratification is constrained by their structural location within the hierarchy (Roberts and Grimes, 2002). We could add that the structural location — the country's position in the world system— plays an important role in shaping environmental burdens associated with national production. At a global scale, it is possible to conceptualize the core-periphery relations not only with economic and technological considerations, but also in “environmental” terms (Lovejoy and Krannich, 1982). In this latter sense, the periphery provides natural resources and bears the bulk of the environmental burdens and risks that result from material consumption by the core. This ecological component also includes the disproportionate “environmental space” occupied by developed countries due to greenhouse gases emissions. The displacement of environmental burden to the periphery may jeopardize the periphery's development opportunities due to pollution-induced health problems and the degradation of natural habitats that often provide the mean of subsistence for local rural populations (Gram et. al., 2001). Alteration of these habitats may also imply the loss of useful and unknown genetic resources as well as attractive landscapes, both of which may constitute the basis for alternative paths of development. Since most of the world's remaining biodiversity is located in tropical developing countries, the “peripheralisation” of environmental burdens may entail significant costs to future generations, due to the loss of genetic resources.

Within the framework of a global trade system increasingly characterized by transnational structures of production and dominated by few large enterprises, the economic

and environmental benefits and costs a developing country would experience from economic integration into the world economy will depend basically on its position in relation to international production chains. Within this context of “megacapitalism”, the role a developing country would play in the world economy depend importantly on the kind of economic activities and the degree of production upgrading TNCs undertake within its territory (Gibbon, 2001). From this perspective, competitive advantages refer to the ability of national economies to induce transnational corporations to carry out particular economic activities within its political frontiers. The possibility to catch up economic benefits would rely basically upon three related factors: a) the national institutional structure for distributing profits between the TNCs and the state; b) the degree of upgrading (and the associated economic surplus) of the nodes developed within the territory. Namely, the position the country has along transnational production structures; and c) the bargaining power of the state, which will depend on how feasible would be the reallocation of TNCs activities to other countries. African states are feeble in relation to these three points. As it was pointed out before, the sectors where African countries have competitive advantages tend to suffer persistent low value-added. Moreover, in principle, this kind of activities can be located in many regions of the world. Consequently, states of countries specializing in these sectors lose bargaining power *vis-a-vis* transnational corporations.

5. Policy options

In the previous sections, it has been argued that economic integration of African economies into the world economy may cause undesirable long-term developmental and environmental effects. Nonetheless, we do not plead here for autarky or inward-oriented development. Imports substitution pathways of development have failed in the past, because local enterprises in developing countries were unable to overcome the technological gap at a global level. Nowadays, the income and technological gap is even greater than three decades ago and the possibility of African enterprises to develop independent technology are even lower. Additionally, the monopolies arising from trade barriers usually harm consumers. African economies lack the necessary capital to break the poverty trap where countries are currently caught. Consequently, we agree with the NEPAD document in the necessity to encourage net inflows of capital toward the continent. Nevertheless, although the NEPAD recognizes the urgent need of a strategy of economic diversification based on inter-sectoral linkages, we think that it does not stress sufficiently the required national and international institutional frameworks and economic policies in order to prevent in the long term the

negative economic and environmental effects of outward-oriented development based on primary exports.

We think that traditional market measures can aid in alleviating poverty levels and improving environmental conditions. However, they are not sufficient. Some wealth-distribution mechanisms and the intervention of long-term-vision institutions are needed. Otherwise, the emergence of income polarization processes and poverty-environmental-degradation traps is very likely. The following are mutually complementary policy options that may be taken with the aim of assuring an affective and sustainable integration of African countries into the world economy.

5.1 Increase of primary commodity prices

The economic success of any strategy of development based on exports expansion depends highly on the value-added associated with the production and processing of the exporting products. Besides, in the case of the primary sector, the environmental impacts of exporting activities are related to the scale and quality of physical outflows. Thus, for countries specializing in the production of natural resources, it is desirable a policy intending simultaneously both prices increase and weight decrease of exports. The reduction of physical flows is particularly advantageous when countries export exhaustible resources. We believe that prices increase of exporting primary commodities is key for achieving economic diversification. Unless there be economic surplus, investment in alternative and more profitable activities is very constrained. Moreover, economic surplus allows spending on environmental abatement and the acquisition of cleaner technologies, as well as the compensation of environmental externalities.

Environmental considerations are a possible source of prices rise in the primary sector. One possibility is to take advantage of the emerging eco-markets. Market segmentation and eco-labelling have demonstrated to give new opportunities to small-scale primary producers around the world, increasing considerably the price of their products. However, producers may face serious difficulties in adopting this kind of practices. Eco-certification is often a very expensive process, which cannot be afforded easily by peasant in developing countries. In addition, poor peasants usually lack access to information about the functioning of international networks of fair trade, and therefore transactions costs tend to be high for them. Equally, transportation of products can entail significant costs for producers in remote areas of developing countries. Therefore, the effective implementation of alternative

trade systems based on ecological and equity concerns needs the financial support of international organizations in order to reduce transaction and commercialization costs to producers (Gobbi, 2000). Hitherto, international networks of fair and ecological trade have been managed mainly by NGOs. However, new multilateral institutions could be created in order to consolidate these networks through financial and technical support.

Another possibility, particularly in the case of non-renewable resources, is the creation of international eco-cartels. Based on long-term sustainability considerations, well thought-out organizations of developing countries specializing in natural resources exports may accomplish a coordinated increase in price and a diminution in physical exports in order to a) abate environmental impacts; b) update technology; c) compensate affected communities; d) maintain environmental services and d) invest in more value-added and less environment-intensive sectors. This can be considered as the implementation of an international natural capital depletion tax, intending the compensation of southern producers by northern consumers for the environmental costs associated with primary exports and the depletion of exhaustible resources.

In spite of their remarkable possible benefits, eco-cartels do not seem so much politically feasible. Traditional cartels in primary products, such as the International Coffee Organization or the International Cocoa Organization, have failed due to free riding from member countries. On the other hand, such kind of organizations requires some degree of state control on the production of the tradable product. If transnational corporations dominate the market, there is not so much place for states actions for reducing production or increasing prices. Nonetheless, international initiatives from developing countries, such as the NEPAD, create a good opportunity for encouraging collaboration and discussing the viability of transnational organizations for regulating international markets of key products for the countries involved.

5.2 Investment diversification

In order to assure sustainable revenues and less environmental pressures across time, the additional revenues coming from prices increase should be invested in more value-added and less environment-intensive sectors. Investment in human resources and human-made capital should be made at any economic level. Investment in education can be promoted at the level of small-scale producers through institutional cooperation and strengthening, as well as by technical advisory and assessment of local development projects conciliating high

productivity and good environmental performance (Perz, 2001). At the macro level, public expenditure on health and education should be expanded or at least not reduced, as was the case in most countries after structural adjustments were implemented. Unless the revenues be reinvested in other sources of economic income, prices rise can even deepen dependency on natural resource and push further countries into a specialization trap. In the case of non-renewable resources exports, part of the revenues should be considered capital depletion instead of economic surplus. Therefore, a fraction of the economic profits arising from trade should be directed to substitute the natural capital that is being depleted by human-made and more sustainable income sources. Since governments are supposed to have a large time perspective, they should encourage preferentially foreign investment in other sectors than the primary, even when countries have competitive advantages in the production of natural resources. Fiscal incentives can be used for this aim. From this perspective, taxation on TNCs in emerging countries should be inversely proportional to the degree of upgrading of the production process.

5.3 New models of international distribution of Wealth

The strategy to canalize North-South capital flows through macro-loans to developing states adopted by Northern-dominated donors organisms during the 1980s and 1990s have failed loudly. Most developing countries were unable to deal with the rise of interest rates during the periods of economic recession in industrialized countries. Moreover, growth rates were below expected value in many regions of the developing world, in part due to a decline of primary commodity prices (Maizels, 1987). The result has been impossible-to-pay debt burdens in the bulk of developing countries. Since the largest part of foreign direct investment is restricted to few countries, the macro-credits strategy failed, and public aid for development has decreased considerably in recent decades, it is imperative to revise the macro models of wealth distribution at a global level. A new paradigm of international wealth distribution has to arise in order to avoid increasing world income inequality. Debt relief is an essential part of this new model of international relations and cooperation.

Another key component of a new paradigm of international cooperation should be innovative instruments for international allocation of capital destined to development projects. Micro-credits to small scale economic agents is an alternative North-to-South mechanism of resources transfer, which can be very effective in alleviating poverty in rural and urban regions of developing countries. There are many examples of successful micro-credits programs in developing countries. The Grameen or “village” bank in Bangladesh is

commonly cited as a positive example of small-scale, rural, and highly decentralized lending program that is self-sustaining and poverty-alleviating. This bank provides loans to cooperative workers (specially women), carefully selects borrowers, and rigorously supervises and monitors the projects; these policies have resulted in a repayment rate of 97 % (UNEP, 1995). A good example of an alternative financial project involving North-South cooperation is provided by the TRIODOS bank. This bank finances projects run by small enterprises in Belgium and the Netherlands, particularly those focusing on environmental issues, health care, handicraft, and art. This institution dedicates 4 % of its credits to small-scale development and fair trade projects in developing countries.

Micro-credits can be very helpful in providing resources for fulfilling basic needs to the poor and extreme poor in both urban and rural areas. They can be very useful for supporting those groups (mainly in the traditional and informal sectors) that are not direct beneficiaries of international economic integration. Rural economic agents in the traditional sector commonly provide vital environmental services, such as biodiversity conservation, soil preservation, water generation, etc. Therefore, micro-credits can be designed with the aim of creating markets for compensating the provision of environmental services. Additionally, micro-credits may prevent rural-urban migration, which is an important source of extreme poverty and hard living conditions in urban regions in developing countries. However, micro-credits can be unable to promote large and highly profitable enterprises. Consequently, they should be complemented with economic incentives to more value-added sectors of the economy. International macro-credits to the construction of large infrastructure and the promotion of the service sector should be given to private enterprises in order to avoid heavy state indebtedness. Environmental and long-term sustainability considerations should be important factors to take into account in project evaluation for credit approval.

This change of paradigm needs a radical shift of approach in current multilateral financial organizations (World Bank, IMF, etc.) or the creation of new organizations with different perspectives and methods. The NEPAD initiative is a good step for generating pressure from developing countries to encourage a move of paradigm in international financial organizations. Globalization has created governance gaps (Görg and Hirsch, 1998), which need to be filled with new multi-stakeholders and transnational forms of organization and cooperation, involving the participation of importing and exporting countries, civil society and the private sector. This new “global public policy networks” are needed to finance the public goods, such as biodiversity conservation and sustainable rural livelihoods, that market approaches cannot deliver (Najam and Robins, 2001).

5.4 Regulate the behavior of TNCs

In spite of the increasing importance and power of TNCs, the United Nations Centre on Transnational Corporations (UNCTC) was surprisingly closed in 1993. Hitherto, only some codes of conduct unilaterally adopted by TNCs give a framework for their behavior. Due to international competition for attracting foreign capital, national states from developing countries face serious difficulties in regulating the performance of transnational corporations. For example, due their relative lack of power, states from developing countries usually are unable to execute anti-trust legislation or to enforce the adoption of particular environmental liabilities by TNCs. A major challenge for developing states is the elaboration and internationally-coordinated execution of measures intending a more fair distribution of profits between producers, traders, distributors and retailers in international commodity chains. This requires, among others, to regulate the percentage of economic surplus reinvested in the host country, the environmental standards of production, labor conditions, human rights, and environmental liability. As stated before, regulations over TNCs behavior have to be internationally agreed, in order to prevent TNCs flee to free-riding countries offering weaker control systems. The NEPAD is a stimulating forum for discussing the relevance and feasibility of such kind of agreements among African countries. We believe that new, equally global, governance institutions should accompany the globalization of capital in order to achieve a fair international distribution of benefits arising from economic integration.

5.5 Making more fair trade agreements

Notwithstanding many rounds of negotiations in the framework of GATT and the WTO, developing countries have been powerless for enforcing in industrialized countries an extensive dismantling of trade barriers and subsidies on key trading sectors for the South, such as agriculture and textiles. On the contrary, developing markets have been open to those sectors where industrialized countries have competitive advantages. Furthermore, industrialized countries have been able to bring into the agenda important issues for TNCs, such as intellectual property rights and the liberalization of services. This uneven distribution of concessions is the result of inequalities in economic and political power at a global level, disparities in the capacity and size of negotiator staffs and the lack of more democratic mechanisms for decision-making in international trade agreements.

Trade liberalization should be considered as a possible mechanism for achieving economic development, environmental improvement and poverty alleviation, instead of a goal in itself. Equally, institutions regulating trade should be assessed primarily on the basis of

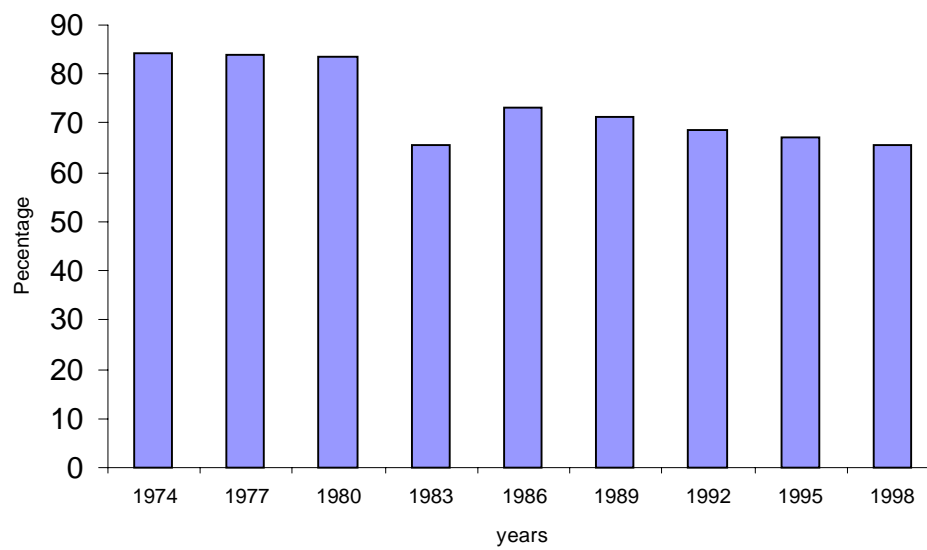
their achievements toward poverty reduction and sustainable human development (Helleiner, 2001). Unless the benefits of trade liberalization accrue for the poverty-stricken masses in developing countries, trade agreements would be merely a way for increasing the power of TNCs and enlarging markets for exports from industrialized countries. Moreover, designing more development-oriented trade agreements, as well as more participatory, transparent and fair trade negotiations, the WTO can lessen opposition from civil society and developing countries, which has become a significant factor affecting the success of trade negotiations.

6. Conclusions

The NEPAD points out that the African continent relies on foreign resources for achieving a high development pace, and proposes an outward-oriented way of development based on exports promotion and foreign investment attraction. Since most African countries have competitive advantages in the production of natural resources, economic integration into the world economy is expected to occur through the expansion of exports in the primary sector. We argue here that countries specializing in the production of natural resources may be caught in poverty and environmental-degradation traps unless some policy measures be taken. Besides, it was pointed out that transnational corporations play a significant role in the international distribution of benefits arising from economic integration. We do not plead for economic isolation, but instead for creating new governance institutions and models of international relations in order to regulate economic integration and distribute its benefits. Our main point is that market mechanisms are not sufficient for reaching a successful outward-oriented path of development. We have stressed the importance of increasing the price of primary commodities, diversifying investment, creating new models of wealth distribution, regulating the performance of TNCs, and dismantling trade barriers in industrialized countries, in order to attain a fair international distribution of trade's benefits, weaken the negative economic effects of primary specialization and prevent a worsening of environmental conditions in peripheral countries.

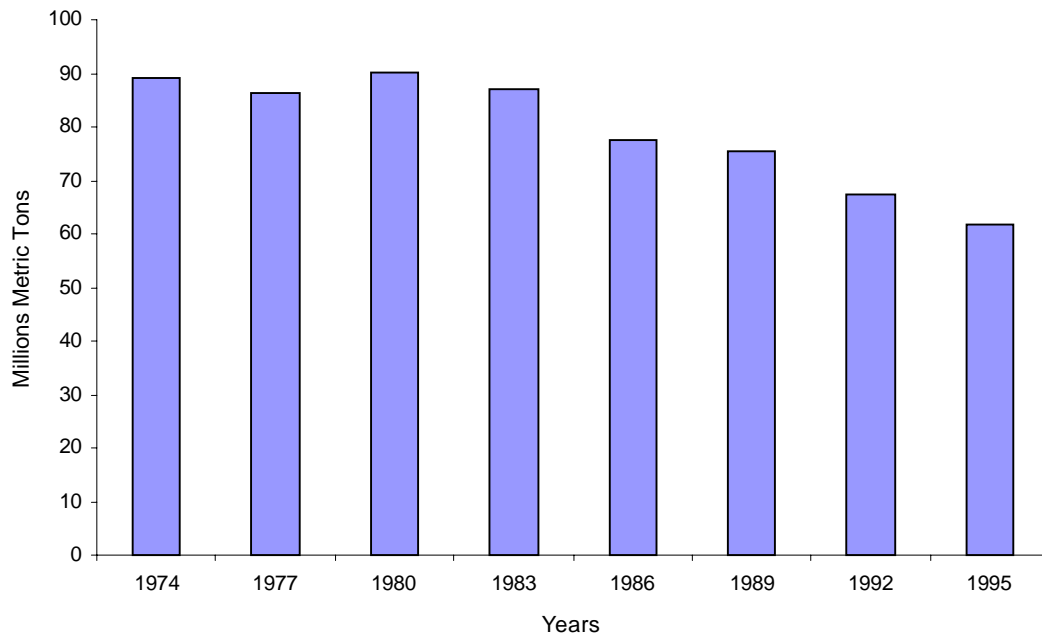
Figures

Figure 1. South American Primary Exports to Total Exports



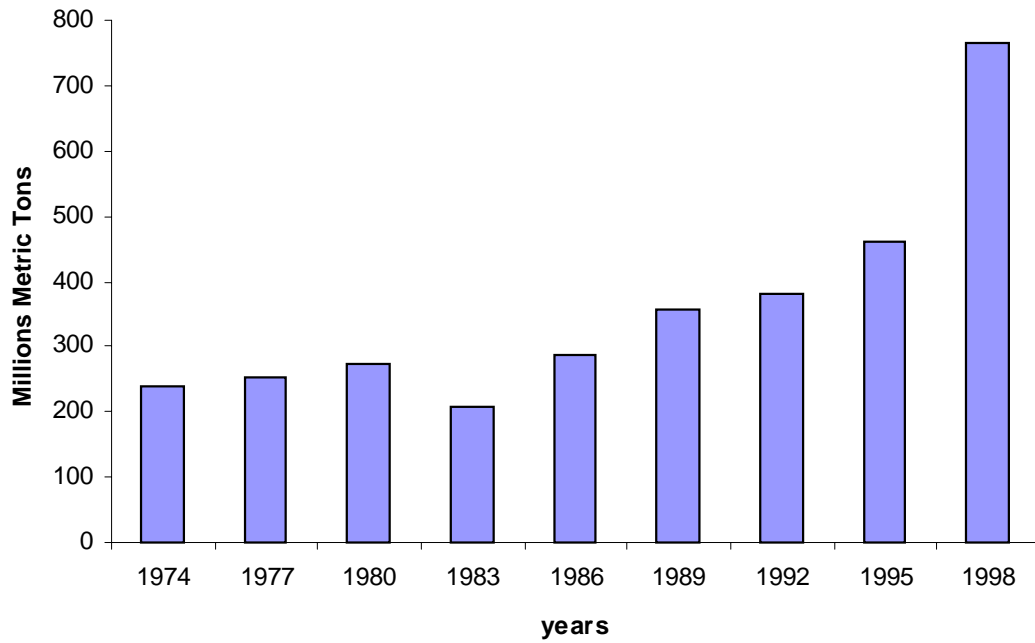
Source: Authors calculations based on the International Trade Statistics (U.N.), various issues. South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela.

Figure 2. African Primary Exports to Total Exports



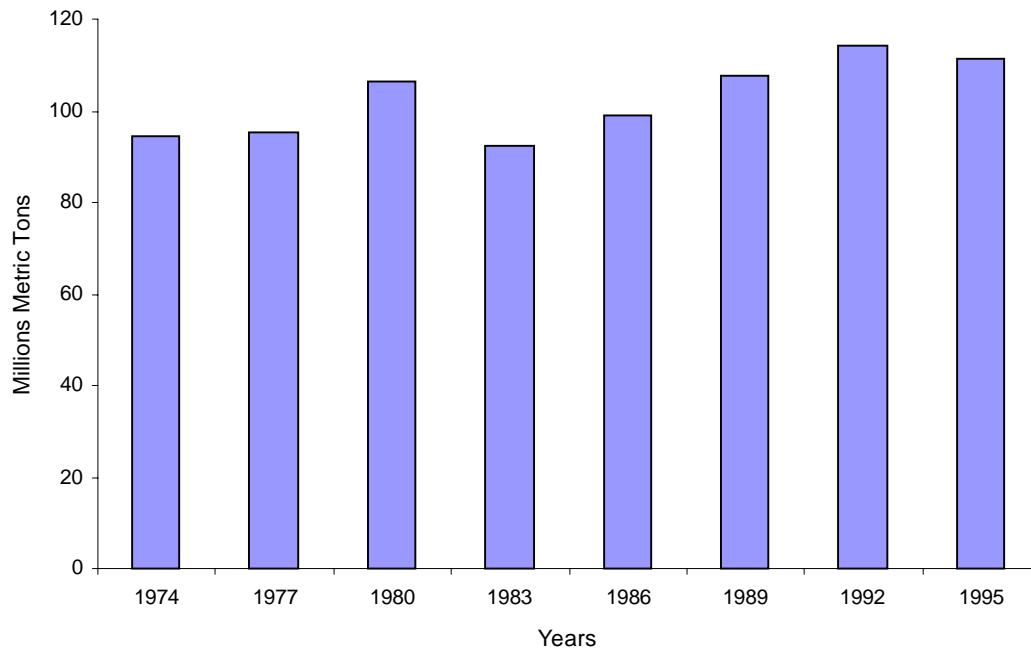
Source: Authors calculations based on the International Trade Statistics (U.N.), various issues. Africa: Algeria, Congo, Egypt, Ethiopia, Kenya, Madagascar, Malawi, Morocco, Senegal, Togo, Tunisia (only these countries are considered due to data limitations)

Figure 3. South American Exports in the Primary Sector



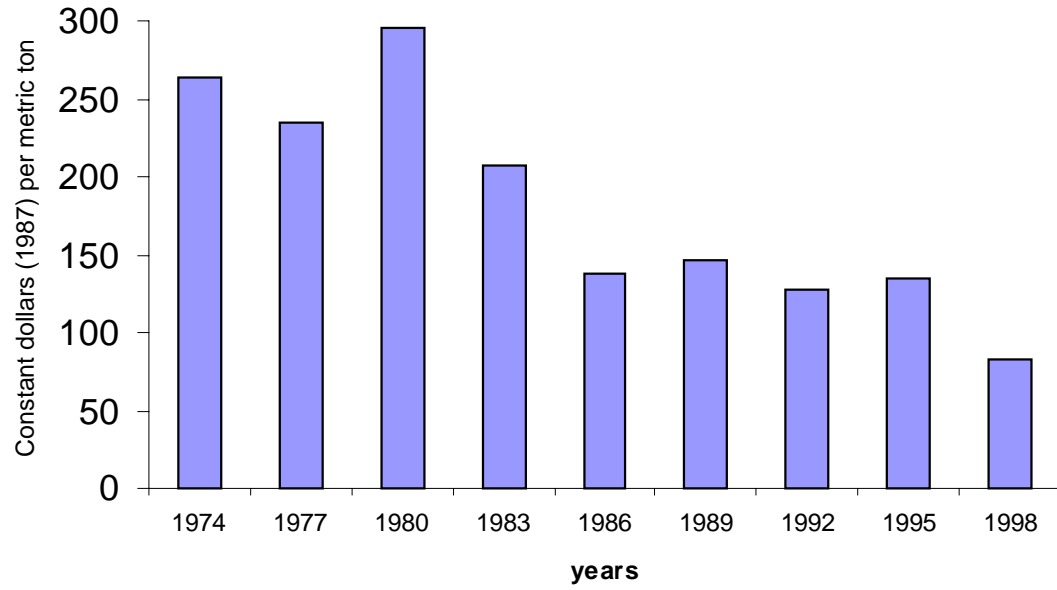
Source and countries: *idem* Figure 1

Figure 4. African Exports in the Primary sector



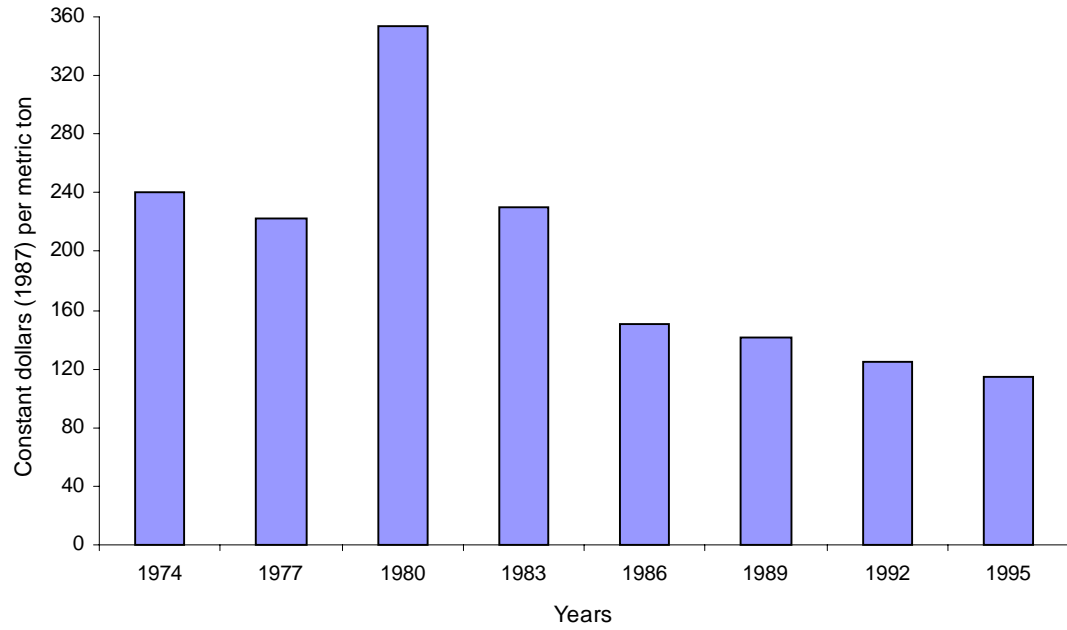
Source and countries: *idem* Figure 2

Figure 5. South America. Value/ Weight
Primary Exports



Source and countries: *idem* Figure 1

Figure 6. Africa. Value/Weight
Primary Exports



Source and countries: *idem* Figure 2

References

- Athukorala, P. 2000. Manufactured exports and terms of trade of developing countries: evidence from Sri Lanka. *Journal of Development Studies* 36 (5): 89-104.
- Bagchi, A. 2001. Fluctuations and turbulence of the world-economy. *Review* 24(2): 253-299.
- Benavente, J.M., Crespi, G., Katz, J. and G. Stumpo. 1997. New problems and opportunities for industrial development in Latin America. *Oxford Development Studies* 25 (3): 261-277.
- Bettendorf, L. and F. Verboven. Incomplete transmission of coffee bean prices: evidence from the Netherlands. *European Review of Agricultural Economics* 27(1): 1-16.
- Bloch, H., Sapsford, D. 2000. Whither the terms of trade? An elaboration of the Prebisch-Singer hypothesis. *Cambridge Journal of Economics* 24: 461-481.
- Bonnano, A., Constance, D. and H. Lorenz. 2000. Powers and limits of transnational corporations: the case of ADM. *Rural Sociology* 65(3): 440-460.
- Dijkstra, A. G. 2000. Trade liberalization and industrial development in Latin America. *World Development* 28(9): 1567-1582.
- Edginton, D and R. Hayter. 1997. International trade, production chains and corporate strategies: Japan's timber trade with British Columbia. *Regional Studies* 31(2): 151-166.
- Edwards, S. 1993. Openness, trade liberalization, and growth in developing countries. *Journal of Economic Literature* 31: 1358-1393.
- Fisher, D. 2001. Resources dependency and rural poverty: rural areas in the United States and Japan. *Rural Sociology* 66(2): 181-202.

- Fosu, A. 1996. Primary exports and economic growth in Developing countries'. *World Economy* 19: 465-475.
- French, H. 1998. Making private capital flows to developing countries environmentally sustainable: the policy challenge. *Natural Resources Forum* 22 (2): 77-85.
- Gereffi, G. 1996. Global commodity chains: new forms of coordination and control among nations and firms in international industries. *Competition and Change* 4: 427-439.
- Gibbon, P. 2001. Upgrading primary production: a global commodity chain approach. *World Development* 29(2): 345-363.
- Gilroy, B.M. 1989. Intra-firm trade. *Journal of Economic Surveys* 3 (4): 325-343.
- Gobbi, J. Is biodiversity-friendly coffee financially viable? An analysis of five different coffee production systems in Western El Salvador. *Ecological Economics* 33: 267-281.
- Goodland, R. and H. Daly. 1993. Why northern income growth is not the solution to southern poverty. *Ecological Economics* 8: 85-101.
- Görg, C. and J. Hirsch. 1998. Is international democracy possible?. *Review of International Political Economy* 5(4): 585-615.
- Gram, S., Kuist, L., Cáseres, A. 2001. The economic importance of products extracted from Amazonian flood plain forests. *Ambio* 6: 365-368.
- Grossman, G. and A. Krueger. 1995. Economic growth and the environment. *Quarterly Journal of Economics* 110: 353-377.
- Hadlock, C. 1994. Multinational corporations and the transfer of environmental technology to developing countries. *International environmental affairs* 6(2): 149-174.
- Helleiner, G. 2001. Markets, politics, and globalization: can the global economy be civilized?. *Global Governance* 7: 243-263.

Hopkins, T. and I. Wallerstein. 1986. Commodity chains in the world-economy prior to 1800. *Review* 10(1): 157-170.

James, J. 2001. Information technology, cumulative causation and patterns of globalization in the third world. *Review of International Political Economy* 8(1): 147-162.

Kaplinsky, R. 2001. Is globalization all it is cracked up to be?'. *Review of International Political Economy* 8(1): 45-65.

Lovejoy, S. and R. Krannich. 1982. Rural industrial development and domestic dependency relations: toward an integrated perspective. *Rural Sociology* 47(3): 475-495.

Lutz, M. 1999. A general test of the Prebisch-Singer hypothesis. *Review of Development Economics* 3(1): 44-57.

Maizels, A. 1987. Commodities in crisis: an overview of the main issues. *World Development* 15(5): 537-549.

Maizels, A. 2000. The manufactures terms of trade of developing countries with the United States, 1981-97. Queen Elizabeth House working paper No 36.

Mani, M. and D. Wheeler. 1997. In search of pollution havens? Dirty industry in the world economy 1960-1995. World Bank Working Paper. Washington.

Morisset, J. 1998. Unfair trade? The increasing gap between world and domestic prices in commodity markets during the past 25 years. *World Bank Economic Review* 12 (3): 503-26.

Morrissey, O. and I. Filatotchev. 2000. Globalization and trade: the implications for exports from marginalised economies. *Journal of Development Studies* 37(2): 1-12.

Muñoz, C. and S. Sosvilla. 1993. La polémica sobre la evolución de la relación real de intercambio de los países subdesarrollados. *Revista de Economía Aplicada* 1 (1): 165-186.

Najam, A. and N. Robins. 2001. Seizing the future: the South, sustainable development and international trade. *International Affairs* 77(1): 49-68.

Nestel, D. 1995. Coffee in Mexico: international market, agricultural landscape and ecology. *Ecological Economics* 15: 165-178.

Neumayer, E. 2001. *Greening Trade and Investment: Environmental Protection Without Protectionism*. Earthscan. London.

Noorbarkhsh, F. and A. Paloni. 1999. Structural adjustment programs and industry in Sub-Saharan Africa: restructuring or de-Industrialization?. *Journal of Developing Areas* 33: 549-580.

Owens, T. and A. Wood. 1997. Export-oriented industrialization through primary processing?. *World Development* 25(9): 1453-1470.

Panic, M. 1998. Transnational Corporations and the Nation State. In: Kozul-Wright, R. and R. Rowthorn (eds). *Transnational Corporations and the Global Economy*. MacMillan Press. U.K.

Peluso, N., Humphrey, C., Fortmann, L. 1994. The rock, the beach, and the tidal pool: people and poverty in natural resource-dependent areas. *Society and Natural Resources* 7: 23-38.

Perz, S. 2001. From sustainable development to "productive conservation": forest conservation options and agricultural income and assets in the Brazilian Amazon. *Rural Sociology* 66(1): 93-112.

Prebisch, R. 1950. *The Economic Development of Latin America and its Principal Problems*. UNCLA. New York.

Reinhardt, N. 2000. Back to basics in Malaysia and Thailand: the role of resource-based exports in their export-led growth. *World Development* 28(1): 57-77.

Roberts, J.T. and P. Grimes. 2002. *World-System Theory and the Environment: Toward a New Synthesis*. In: Riley, D., Buttel, F., Dickens, P. and A. Gijswijt (Eds). *Sociological Theory and the Environment: Classical Foundations, Contemporary Insights*. Rowan and Littlefield Publishers Inc. New York.

- Sarkar, P. 2000. North-South uneven development: what the data show. *Review* 23(4): 439-57.
- Sarkar, P. and H.W. Singer. 1991. Manufactures exports of developing countries and their terms of trade since 1965. *World Development* 19(4): 333-340.
- Singer, H. W. 1950. The distribution of gains between investing and borrowing countries. *American Economic Review* 40 (2): 473-85.
- Stokes, D. and D. Jaffee. 1982. Another look at the export of raw materials and economic growth. *American Sociological Review* 47: 402-407.
- Tobey, J.A. 1990. The effects of domestic environmental policies on patterns of world trade: an empirical test. *Kyklos*. 43 (2): 191-209.
- UNCTAD. 1996. *The Least Developed Countries 1996 report*. Geneva.
- UNCTAD. 1999. *The Least Developed Countries 1999 Report*. Geneva.
- UNDP. 1997. *Human Development Report*. New York: Oxford University Press.
- UNEP. 1995. *Poverty and the Environment*, Nairobi.
- US Bureau of the Census. 1999. *US goods trade: imports and exports by related party* 1998. www.census.gov/foreign-trade.
- US Department of Commerce. 1999. *US Industry & Trade Outlook'99*. McGraw-Hill. US.
- Wangabe, S. and F. Musonda. 1998. *The Impact of Globalization on Africa*. In: Bhalla, A. (ed). *Globalization, Growth and Marginalization*. McMillan Press. London.
- Weeks, J. 1999. Trade liberalization, market deregulation and agricultural performance in Central America. *Journal of Development Studies* 35(5): 48-75.

Wilkins, M. 1998. Multinational Corporations: A Historical Account. In: Kozul-Wright, R. and R. Rowthorn (Eds.). Transnational Corporations and the Global Economy. MacMillan Press. U.K.

World Resources Institute. 1999. World Resources 1998-1999. Washington.

Xu, Z. 2000. Effects of primary exports on industrial exports and GDP: empirical evidence'. *Review of Development Economics* 4(3): 307-325.

Zank, N. 1995. Privatizing the minerals sector. *Natural Resources Forum* 19 (1): 215-221.