

**Foreign Direct
Investment (FDI),
Technology Transfer,
and Poverty
Alleviation: Africa's
Hopes and Dilemma**

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5.1.1.3 Sectoral Composition of FDI in Africa	22
5.1.2 FDI and Technology Transfer	22
5.2 Determinants of FDI in Africa	24
5.2.1 The Determinants	24
5.2.2 Lessons from Asia	26
5.3 So, is Africa Realizing its Hopes?	26
6. What must Africa do?	27
7. A Research Agenda	30
REFERENCES	31

List of Abbreviations and Acronyms

BITs	Bilateral Investment Treaties
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ICC	International Chamber Of Commerce
IPRs	Intellectual Property Rights
LDCs	Least Developed Countries
MNCs	Multinational Corporations
NEPAD	New Partnership for Africa's Development
NICs	Newly Industrializing Countries
ODA	Overseas Development Agency
OECD	Organization For Economic Cooperaton And Development
R&D	Research and Development
SMEs	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development
US	United States Of America
WTO	World Trade Organization

List of Tables & Figures

Table1: Distribution of World FDI Inflows, 1986-2000 (percentatge)	19
Table2: Attractiveness to FDI of the top 20 African Countries in 2000-2003	21
Table3: Determinants of FDI in Africa, 2000-2003: Survey Findings	24
Figure 1: Transmission Mechanisms between FDI and Poverty Reduction	4
Figure 2: Relative Trends of FDI/GDP, 1970-1997	20

1. Introduction: Poverty, Hopes, Dilemma over FDI in Africa

Poverty reduction is Africa's overriding goal and also its most important challenge. Half of Africa's 800 million people live in extreme poverty; they make do with less than US\$ 1 a day. Within the continent's least developed countries (LDCs) the situation is worse; over the period 1995-1999, 87% of the population in these countries was surviving on less than US\$ 2 a day and 65% on less than US\$ 1 (UNCTAD, 2002a). This was much worse than the case for all LDCs, in which 81% and 50% of the population lived on less than US\$ 2 and 1 a day, respectively. Not only is the poverty situation in Africa grave, it is worsening. Thus, the proportion of the population in African LDCs living on less than US\$ 1 a day rose from about 56% in 1965-1969 to 65% by 1995-1999 (UNCTAD, 2002a). The incidence of extreme poverty is higher in non-oil commodity exporting LDCs than those that export services and manufactured products.

The continent is in a debilitating vicious circle of economic stagnation and poverty, in which poor economic performance fuels poverty, which in turn, leads to deteriorating economic performance. Rapid economic growth is thus absolutely necessary (albeit not sufficient) for poverty reduction and investment is a critical requirement for that growth. It is estimated, for example, that at least 1% out of the 3.4% difference in growth rates between East Asia and Africa can be accounted for by low investment¹ Sachs and Warner (1995). Not surprisingly, therefore, the New Partnership for Africa's Development (NEPAD) targets annual investment of US\$ 64 billion to achieve the economic growth rate of 7-8% per year required to reverse the continent's economic decline and arrest poverty. Considering the paucity of domestic resources, most of this investment is expected from external sources in the form of official development assistance (ODA) and foreign direct investment (FDI).

FDI can contribute in significant ways to breaking of the growth-poverty vicious circle, and therein lies Africa's hope. The continent hopes that FDI can make up for domestic capital shortfalls; provide technology, management and marketing skills; facilitate access to foreign markets; and generate both technological and efficiency spillovers to local firms. By providing access to external markets, transferring technology, and building capacity in the local firms generally, FDI is expected to improve the integration of the continent into the global economy, spur economic growth and alleviate poverty.

¹ It should be noted, however, that use of conventional methods of measuring savings and investment could lead to misleading results in Africa.

Consequently, FDI has become very important, with countries competing aggressively for it. FDI has been growing faster than world trade and output. Between 1980 and 1996-1997, for instance, global FDI outflows grew at an annual average rate of 13% compared with 7% for world exports of goods and non-factor services and world gross domestic product (GDP) at current prices, Mallampally and Sauvart (1999). From 54,000 in 1999, there are now about 65,000 multinational corporations (MNCs) worldwide, with more than 850,000 foreign affiliates and employing 54 million people, Mallampally and Sauvart (1999); UNCTAD (2002b). These MNCs account for about one-tenth of global GDP and about one-third of global export trade.

Many developing countries, including those in Africa, have improved their investment environments and now offer numerous incentives to attract FDI, often at great cost. Indeed, there is a real risk of 'racing to the bottom' among developing countries as they compete for FDI. Developing countries now account for 24% of world FDI inflows and 30% of global inward stock. This, however, is concentrated in about 10 developing countries, mainly in Asian newly industrializing countries (NICs) and Latin America. Sub-Saharan Africa's (SSA's) share is still low, at about 3% of total FDI going to developing countries, and is falling. In 2000, Africa accounted for only 0.6% of global FDI inflows, down from 1.2% the previous year. Because of the relatively smaller economies, however, FDI flows are more important in Africa than in Asia and Latin America, accounting for about 10% of SSA's gross fixed capital formation.

Besides losing out in the competition for FDI, it is not clear whether FDI coming to Africa generates the expected benefits. It is not known, moreover, whether FDI flows are helping the continent in its prime challenge; that of poverty alleviation. In other words, it is not clear whether FDI is being attracted into the industries and sectors that have relative advantage or potential in poverty alleviation. The dilemma facing the continent therefore is whether to use the scarce resources available for poverty reduction as meager as they are, or to use them for attracting FDI, whose contribution to poverty reduction is not certain.

This paper looks at Africa's hopes and dilemma with respect to FDI. In the next section, transmission mechanisms between FDI and economic growth/poverty reduction are explored. Because of its relative importance, the link between FDI and technology transfer is discussed in detail in section 3. In section 4, the motivation for and determinants of FDI globally are discussed. This is followed, in section 5, by an account of Africa's experience with FDI and whether this has led to technology transfer and economic growth/poverty reduction. The options available for resolving Africa's dilemma and realizing the hopes are then discussed in section 6. Section 7 then proposes a research agenda to shed more light on FDI, technology transfer and poverty reduction in the continent.

2. FDI and Poverty Reduction: Transmission Mechanisms

This section explores the channels through which FDI contributes to economic growth and therefore poverty reduction, from theory and empirical evidence.

2.1 What is FDI?

FDI is defined as long-term investment reflecting a lasting interest and control, by a foreign direct investor (or parent enterprise), of an enterprise entity resident in an economy other than that of the foreign investor, IMF (1993). Mallampally and Sauvart (1999) agree. They define FDI as investment by multinational corporations in foreign countries in order to control assets and manage production activities in those countries. FDI is widely thought to bring with it, into the host country, a bundle of productive assets, including long-term foreign capital, entrepreneurship, technology, skills, innovative capacity, and managerial, organizational and export marketing know-how. Compared to foreign bank loans and portfolio investment, the capital flow associated with FDI is more stable, has no fixed interest payments or repayments, is invested directly into productive capacity, and is largely motivated by prospects of long-term profitability, Eglin (2001; Mallampally and Sauvart (1999).

The theory of internationalization of firms views exporting and overseas production (by either FDI or arm's length licensing) as alternative means of doing business abroad for a firm. Two decisions, therefore, confront firms seeking to serve foreign markets: first, whether it is more profitable to produce in the home country and export or to produce in the targeted markets; and second, if overseas production is chosen, how to transfer technology to its overseas affiliate (Saggi, undated).

Empirical evidence, however, suggests that exports and FDI could be complementary (Lipse and Weiss, 1984; Saggi, undated). Using elaborate product level data, Blonigen (1999) found that exports of intermediate goods by the parent company and sales of final goods by affiliates are complements whereas exports of final goods by the parent firm and affiliate sales of the same goods are substitutes. Initial exports may yield learning and information and help the firm to decide over FDI. Horstmann and Markusen (1996) and Nicholas et al. (1994) find that foreign firms first license local agents or export to a country as a way of information acquisition before investing locally to avoid agency fees.

2.2 Role of FDI in Poverty Reduction

FDI is thought to contribute to economic development (and therefore poverty reduction) through initial macroeconomic stimulus and by raising total factor productivity and efficiency of resource use in the recipient economy by:

- transferring more advanced technology and organizational forms directly to MNC affiliates in the host country
- triggering technological and other spillovers to domestically owned enterprises
- assisting human capital formation
- contributing to international trade integration
- helping to create a more competitive business environment
- enhancing enterprise development
- improving environmental and social conditions (OECD, 2002; Blomström et al., 2000)

These transmission mechanisms are illustrated in Fig. 1. They all lead to higher economic growth, which is the most potent tool for poverty reduction in developing countries (UNCTAD, 2002a; OECD, 2002). Although growth is not a sufficient condition for poverty alleviation, there is evidence that higher incomes in developing countries benefit the poor segments of the population proportionately (OECD, 2002). For Africa to halve its poverty by 2015 UNCTAD estimates that its economies need to grow by 7-8% annually in real terms, which is a major challenge considering that these economies grew by only 2% annually between 1991 and 1997. Achievement of this growth is estimated to require the continent to raise its investment level from 16% of GDP to 22-25%.

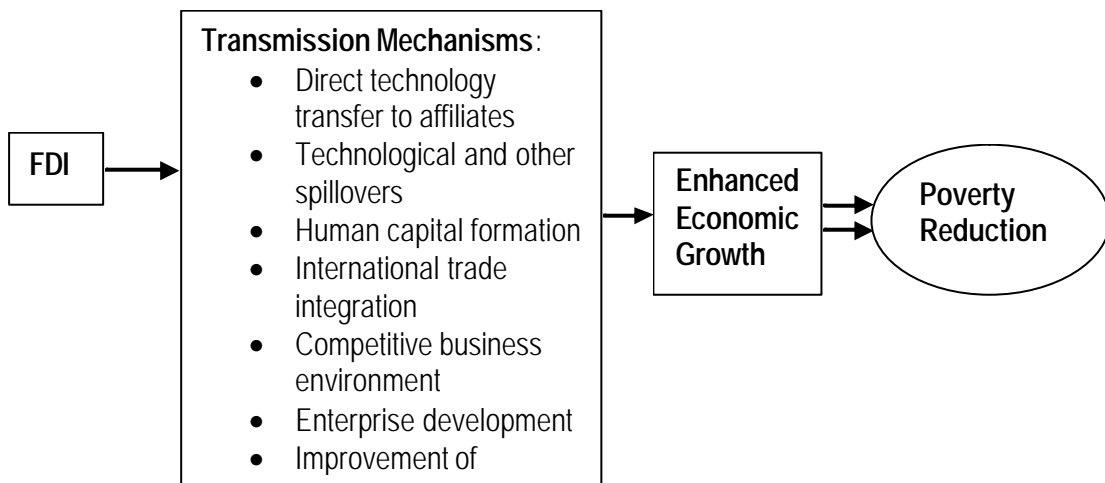


Fig. 1: Transmission mechanisms between FDI and poverty reduction

FDI is associated with many potential shortcomings including (Wells Jr., 1993; OECD, 2002):

- Importation of capital intensive and outdated technology
- Exploitation of local labour
- Increase in local wage cost through payment of high wages by MNC affiliates
- Contribution to economic leakage (and deterioration of balance of payments) through preference of imported inputs to local ones
- Lack of linkages with local communities, that is, development of 'enclaves'
- Adverse effects on competition in the national market
- Use of transfer prices² to escape local taxes and to cheat local partners on returns
- Encouragement of corruption
- Pollution of the environment, especially in extractive and heavy industries
- Social disruptions associated with accelerated commercialization and creation of tastes for expensive foreign consumer goods
- Political dependency on FDI source countries and, therefore, loss of sovereignty

In the remainder of this section, empirical evidence of the benefits and costs of FDI, and of the transmission mechanisms depicted in Fig. 1 are discussed.

2.2.1 FDI and Economic Growth

According to neoclassical theory, FDI influences income growth by increasing the amount of capital per person. It does not influence long-run economic growth, however, because of diminishing returns to capital. Recent endogenous growth theorists (e.g., Romer, 1986 and Lucas, 1988), however, argue that FDI spurs long-run growth through such variables as research and development (R&D) and human capital. They suggest that, through technology transfer to their affiliates and technological spillovers to unaffiliated firms in the host economy, MNCs can speed up the development of new intermediate product varieties, raise product quality, facilitate international collaboration on R&D, and introduce new forms of human capital.

Many empirical studies, especially those using firm-level data, find no evidence that FDI causes economic growth³ and that FDI is no more productive than domestic investments (Kumar, 1996). A recent macro study, Carkovic and Levine (2002), which controls for simultaneity bias, country-specific effects, and proper use of lagged dependent variables in growth regressions, concurs. The studies show marginal macroeconomic impacts, with FDI actually crowding out local investments and other types of foreign flows in some countries, and adversely affecting their current accounts. The

² These are internal prices set by MNCs for the supply of components from one subsidiary to another. These often deviate from the market prices for the purpose of minimizing tariff costs and/or shifting profits from high-taxation to low-taxation countries.

³ Instead, the studies find that it is economic growth that leads to FDI inflow.

majority of studies (e.g., Balasubramanyam et al., 1996; Keller, 1996; and OECD, 2002), however, conclude that FDI contributes to total factor productivity and income growth in host economies, over and above what domestic investment would trigger. The studies find, further, that policies that promote indigenous technological capability, such as education, technical training, and R&D, increase the aggregate rate of technology transfer from FDI and that export promoting trade regimes are also important prerequisites for positive FDI impact.

On shortcomings, empirical evidence suggests that:

- Domestic market oriented foreign firms employ more capital intensive technology than local firms
- There are no pervasive differences in wage rates strictly attributable to foreign ownership
- FDI contributes to transfer pricing and has a negative effect on the balance of payments
- The indirect costs related to restrictive clauses often included in technology transfer contracts are much higher than the direct costs, Kumar (1996). Some of the costs could be ameliorated by such general policies as environmental regulations, competition policies, and good governance but FDI incentives reduce the welfare benefits, Kumar (1996).

Empirical evidence, therefore, tilts in favour of positive net FDI benefits even though these are not automatic, Wells Jr. (1993); OECD (2002). Even without technology spillovers the total welfare effect of FDI on the local economy may be positive because the very act of curtailing spillovers by MNCs may create positive externalities to local agents, for example, higher wages, Saggi (undated).

Empirical evidence on the magnitude of the economic growth impact is scant. FDI tends to have a smaller effect on growth in least developed countries (LDCs), however, due to 'threshold externalities' OECD (2002). For FDI to contribute to economic growth, the host country must have achieved a minimum threshold level of development in education, technology, infrastructure, financial markets, and health.

2.2.2 FDI and International Trade Integration

There is emerging consensus that trade and investment are mutually reinforcing channels of cross-border activities and that FDI contributes, in the long term, to the integration of the host economy more closely into the global economy, OECD (2002). In the short and medium terms, however, interactions of MNC affiliates and their parent enterprises could impact adversely on the host economy's foreign exchange reserves.

Evidence is not categorical whether FDI leads to export expansion in host economies, Kumar (1996). Some studies, such as Fairchild and Sosin (1986) and Kumar (1990), do not find a positive relationship while others, such as Willmore (1992), find it. Examples where FDI has unambiguously increased exports are to be found in cases where a host country lacks resources to exploit its resource endowment (such as minerals) or its location advantage, OECD (2002).

2.2.3 FDI and Competition in the Host Market

FDI is thought to spur economic growth by increasing domestic competition, thereby raising productivity, lowering costs, and improving efficiency of resource allocation. It is feared, on the other hand, that FDI could lead to higher concentration in the host economy as uncompetitive domestic firms collapse.

Empirically, FDI is found to affect host country market structure directly, through its tendency to operate at larger scales than other firms, and indirectly through its tendency to compete through non-price rivalry (including advertising and product differentiation), thereby raising barriers to entry of other firms, Kumar (1996). In addition, MNC affiliates have an advantage over local firms especially in knowledge and brand name sensitive industries because of their global technological strength, international reputation, and brand name, Kumar (1996). Evidence that FDI raises productivity is weaker in developing countries and the risk of concentration is higher in the same countries, OECD (2002). Where productivity spillovers exist, their magnitude and dispersion of their effects are positively related to the prevailing levels of competition, OECD (2002). Generally, the more competitive the host environment is, the greater the likelihood of FDI developing linkages to the local economy, committing state-of-the-art technology and know-how, disseminating the new technology within the host economy, and focusing on the export rather than domestic market, and the lesser the ability of FDI to extract abnormal profits from the host economy and to crowd-out domestic investment, Eglin (2001).

2.2.4 FDI and Enterprise Development

By exploiting synergies, improving efficiency, reducing costs, developing new activities, and restructuring enterprises, FDI is thought to contribute to enterprise development. Empirical evidence suggests that significant improvement occurs in the firms acquired by MNCs, especially in industries with economies of scale, OECD (2002).

2.2.5 FDI and Environmental/Social Concerns

There is empirical evidence of both positive and negative environmental impacts of FDI. Particularly where host-country environmental regulations are adequate, the technologies transferred through FDI tend to be more modern and cleaner and positive environmental spillovers (through local imitation, labour movement, and supply-chain requirements) occur in some cases OECD (2002).

On social concerns, there is evidence that FDI contributes to poverty reduction and improves social conditions through higher incomes, with this contribution being stronger when FDI is used as a tool to develop labour-intensive sectors of the host economy; and adherence by MNCs to national labour law and to internationally accepted labour standards is strictly required, OECD (2002). Empirical evidence, further, shows a positive relationship between FDI and workers' rights.

3. FDI, Technology Transfer and Economic Growth

The greatest contribution of FDI to economic growth and, therefore, poverty reduction occurs through technology transfer. Technology is defined as any tangible or intangible resource that can generate economic rent for host country firms by, for example, improving total factor productivity, Blomström et al. (1999). It includes managerial skill, know-how, production techniques, machinery, information, and other intangible forms of capital. Many empirical studies e.g. Temple (1999) demonstrate that technical change and technological learning are important determinants of economic growth.

Technology is generated by R&D, most of which is conducted in industrialized countries, making technology transfer very important for economic prosperity of countries with weak R&D and innovation capacities. In the 16th and 17th centuries, for instance, deliberate technology transfer policies of King Henry VIII made Britain a leading manufacturing nation, Chang (2001).

3.1 FDI and Technology Transfer

FDI is one of the channels of technology transfer. Other channels include:

- importation of machinery and intermediate inputs (or trade in general) international movement of labour, for example reverse brain drain and movement of consultants; "arms length" transactions or technology licensing
- government efforts such as education provision and investment on high-tech projects
- contract manufacturing for developed country markets
- expert-guided tours of factories apprenticeship
- illegitimate means such as industrial espionage Sjöholm (1999); Mathews (2000); Chang, (2001). The FDI channel, the focus of this paper, is the most important

Over 80% of global royalty payments for international technology transfer in 1995, for instance, were by MNC subsidiaries to their parent firms, UNCTAD (1997). MNCs are the main transmitters of technology, with each mode of foreign involvement (FDI, joint ventures, and international subcontracting) being a potential channel for technology transfer.

Technology transfer can occur directly to local firms involved in joint venture with the MNC or indirectly, as a spillover benefit to unaffiliated local firms. There are four interrelated channels through which spillovers occur: vertical linkages between affiliates and their suppliers and customers in the

host country, horizontal linkages between the affiliates and domestic firms in the same industry, labour turnover from the affiliates to domestic firms, and internationalization of R&D.

3.1.1 Theory

The Knowledge-Capital Model, Markusen and Maskus (1999) argues that multinational firms choose to internalize technology transfer (through FDI) over market-based alternatives such as technology licensing because knowledge capital has a public good property. According to this theory, MNC affiliates are able to compete successfully with local competitors, which have better understanding of the local market and other conditions, because of their superior technologies, management, and marketing know-how. If licensees of this technology or local partners in a joint venture gain access to the MNC's proprietary knowledge, the value of such knowledge can be dissipated. Dissipation can occur either because of increased competition, Ethier and Markusen (1991); Saggi (1999); and Blomström et al., (1999) or because the local partner has inadequate incentive to protect the MNC's reputation, Horstmann and Markusen (1987). The fear of dissipation may prevent the firm from investing or it may bring less advanced (older) technologies to the affiliates, Blomström and Sjöholm (1999).

The foreign firm may, however, allow local firms to appropriate its technology if this guarantees it access into some of the benefits available in the host country such as access to valuable local technology and possibility of receiving commercial advantages. Other reasons why a foreign firm may allow appropriation of its technology include avoiding the cost of preventing technology transfer and increased efficiency within the MNC global network through development of manuals that allow quicker technology transfer among MNC affiliates, Blomström et al. (1999).

Foreign technology made available to domestic firms is thus partly endogenously determined by foreign investors. The investors can expend resources⁴ to prevent technology transfer if it is not consistent with their profit-maximizing strategy and if the cost of preventing the transfer is low Blomström et al. (1999). The externality of limiting diffusion of their technology also affects their ability to limit it. For example, the cost of litigation to secure protection of intellectual property rights (IPRs) may be incident only on the MNC initiating it while the result (better protection of IPRs) benefits all MNCs. Thus, some rivalry between MNCs in a developing country increases the probability of some technology transfer in that country.

Local firms expend resources to adopt the technology made available, including the cost of making the technology complementary to existing production structure, reverse engineering, hiring of MNC personnel, licensing and management fees paid to the MNC, and getting around intellectual property restrictions, Blomström et al. (1999). The degree of technology adoption (and therefore the value of

⁴ For example, they can pay 'efficiency wages' to managers to keep secrets or employ expatriate managers.

spillovers) is negatively influenced by the ratio of adoption cost to value of underlying technology. Other factors influencing demand and supply of technology adoption include host country characteristics, host government policies, and size of technological gap between foreign and domestic firms (Blomström et al., 1999; Findlay, 1978). Host country characteristics include size and average real income of host country markets, market structure, degree of competition, technology competence of host country firms, and location advantages such as presence of relatively cheap factors of production. While highly competitive markets force host country firms to demand and seek appropriate technology, stiff competition in the presence of high costs of protecting technology against appropriation may reduce supply of technology. The presence of technological centers-of-excellence in host countries creates potential for MNCs to benefit from reverse technology flows. Important host government policies include restrictions on the extent and nature of foreign ownership and policies to build capabilities to absorb technologies, and degree of protection of IPRs.

Findlay (1978) hypothesizes that the wider the technological gap between foreign and local firms, the larger is the potential for technological imitation. Lapan and Bardhan (1973), however, argue that large technological gaps may hinder spillovers, as technologies developed in industrialized countries may be unsuitable for developing country conditions.

Access to developed country technology by developing countries is constrained by:

- Lack of basic technological capabilities and policies, such as teaching and research institutions, institutions to raise awareness regarding advanced technologies such as museums and model demonstration factories, and incentives to encourage use of advanced technologies. Technology transfer in the absence of technological capabilities cannot lead to technological and industrial development (Lall, 2000; Lall et al., 1994; Ogbu et al., eds., 1995).
- Shortage of foreign exchange that hampers access to imported spare parts and technical consultancy.
- Increasing restrictiveness of technological transfer through control of immigration of skilled workers, restrictions on machine exports, restricted export of raw materials, strict intellectual property rights regimes, and high technology licensing fees, among others.
- Language and cultural barriers to expatriate workers that hamper transfer of tacit knowledge contained in technology.

3.1.2 Does FDI lead to technology transfer in reality?

This sub-section looks at empirical evidence of direct technology transfer benefits to joint venture firms, and of “spillovers” to unaffiliated local firms.

3.1.2.1 Impact on Productivity

Technologies involve significant lags in their productivity effect and therefore short time series data may not show direct and indirect productivity benefits (Kumar, 1996). Moreover, before productivity benefits are realized domestic firms should be expected to suffer from an increase in competition,

with some of the inefficient ones weeded out to release resources for more efficient investment Blomström et al. (1999).

With the analytical techniques and data desegregation improving over time, many studies testing whether FDI leads to productivity improvement of local affiliated and non-affiliated firms have been conducted. In general, most firm-level studies find foreign equity participation to be positively correlated to firm or plant productivity (own-firm or plant effect), suggesting that at least joint ventures benefit from FDI. Overall, evidence on positive FDI spillovers for local firms not engaged in joint venture with foreign firms is weak (particularly in the case of developing countries) according to literature surveys by Blomström et al. (1999), Saggi (undated), and Kumar (1996) show. Empirical studies in developed countries consistently find positive spillovers but evidence for developing countries is mixed. Kokko (1994), Blomström et al. (1994), Sjöholm (1999), and Blomström and Sjöholm (1999) find spillovers for Mexico, Uruguay, and Indonesia while Haddad and Harrison (1993) and Aitken and Harrison (1991) find limited or no spillovers for Morocco and Venezuela.

The strongest and most consistent evidence of positive spillovers is found for vertical linkages, in particular backward linkages with local suppliers in developing countries (OECD, 2002). Studies finding positive vertical spillovers include Willmore (1986) and Kumar (1990). MNCs provide technical assistance, training and information to local suppliers to ensure high quality. They also assist local suppliers in the purchase of raw materials and intermediate inputs, in modernizing and upgrading their production facilities, and even offer export and management advice.

Empirical evidence of horizontal spillovers, especially to domestic firms that directly compete with the MNC affiliates, is mixed. Horizontal spillovers are rare, however, except between enterprises operating in unrelated sectors, Saggi (undated); OECD (2002).

FDI generates spillovers and therefore economic growth under some conditions including high education levels, Borensztein et al. (1998); Engelbrecht (1997); OECD (2002), wealth, Blomström et al. (1994), fully developed financial markets, Alfaro et al. (2000), and trade openness Balasubramanyam et al. (1996). Other factors having significant influence on the magnitude of spillovers are:

- direct domestic competition
- host country labour market standards
- technological capability or absorptive capacity of local firms
- limited technological gap between MNC and host country firms, OECD (2002) complementarity of foreign and host country technologies
- the nature of FDI
- the motives and attributes of the foreign investors

FDI spillovers may occur through a variety of activities, including labour and management training, demonstration, technological copying, direct licensing of technology, and vertical linkages in the production and distribution value chains. There is no consensus on the relative importance of the different channels, however.

3.1.2.2 Impact on Innovation

FDI appears to substitute local R&D (and therefore innovation), as the technology recipient enterprise becomes a mere link in the global chain of affiliates subject to central decision-making. MNCs centralize R&D and other technology-promoting efforts in the parent companies with the affiliate in a developing country undertaking local R&D only if it fits in the global strategy of the MNC, Kumar (1996). This significantly slows down technology transfer to host countries.

Bernstein and Mohnen (1998), however, found that host country firms could appropriate productivity benefits from R&D performed by foreign owned firms regardless of where it is performed through imports of intermediate goods produced by the foreign firm and through other channels. They also found that R&D performed by foreign firms raises the rate of return to R&D and other innovation-generating activities of domestically owned firms. Innovation, in fact, is one of the direct benefits of FDI. By increasing competition in the host country market, FDI forces local firms to innovate to remain competitive.

3.1.2.3 Impact on Technology Adoption

Technology adoption is a function of local technological capabilities, which in turn are largely determined by R&D, Bernstein (1989). FDI may therefore lead to technology adoption if it builds such capabilities, for instance, by establishing linkages with domestic firms through subcontracting and other mechanisms. Local firms may adopt technologies introduced by MNCs through imitation, reverse engineering, or vertical linkages.

3.1.2.4 Impact on Human Capital

MNC affiliates enhance internal human capital through training and on-the-job learning. Empirical evidence of this is scarce. There is some empirical and anecdotal evidence that MNC affiliates tend to provide more of this training and learning than do domestic enterprises, OECD (2002). With physical movement of workers, the human capital (knowledge embodied in workers) could be transferred to other sectors of the host economy. Gershenberg (1987) found that MNC affiliates in Kenya offer more training to their managers than local firms but there was limited evidence of labour turnover from the former to the latter. The World Investment Report of 1992 found remarkable labour turnover in Bangladesh's garment industry while a Taiwanese study found that almost 50% of all engineers and approximately 63% of all skilled workers that left MNCs joined local firms in the mid 1980s (Saggi, Undated).

The ability of local firms to absorb technologies introduced by MNCs may be a key determinant of whether or not labour turnover occurs as a means of technology diffusion, Glass and Saggi (1999a). Such ability is determined by local investment climate, capability of local competitors, and level of

entrepreneurial effort. MNCs may offer higher wages than local rivals as a way of limiting the diffusion of their technology, with wage premiums paid by MNCs being indicative of their determination Saggi (Undated). Local competition policy may also affect labour turnover, for example, through restrictions on how soon a worker is allowed to move to a competitor firm, and trade secret laws.

3.1.3 Technology Transfer and Spillovers: Does Type of FDI Matter?

It is generally believed that local participation with MNCs reveals the latter's proprietary knowledge, thereby facilitating technology spillovers to the domestic sector, Blomström and Sjöholm (1999). Consequently, policy of local partner requirement for FDI is frequently adopted by developing countries with the objectives of restricting foreign influences and increasing the degree of technology diffusion in the host country. It is also known, however, that majority foreign ownership facilitates greater control over profits, thereby creating greater incentive for transfer of technology and management skills to the affiliates, Blomström and Sjöholm (1999). It would be expected, therefore, that the greater the control a MNC has over its affiliate, the more sophisticated the technologies it would transfer to the affiliate, Ramachandran (1993). Thus, whether wholly owned MNC affiliates lead to greater technology transfer and spillovers compared to joint ventures, is an empirical question.

There is ample empirical evidence that technologies transferred to wholly owned subsidiaries are of a newer vintage than licensed technologies or those transferred to joint ventures (Mansfield and Romeo 1980; Caves, 1996) due to reduced risk of technology appropriation. Furthermore, possibility of greenfield entry as opposed to joint venture increases the MNC's R&D expenditure, particularly in high technology sectors where the MNC has greater concern to protect the technology (Smarzynska, 1999)⁵. In low technology sectors, higher probability of a joint venture is positively correlated to the MNC's R&D expenditure relative to the average R&D expenditure in the industry.

Since local partners in minority owned firms probably get closer contact with the foreign technology, this may enhance technology diffusion in the host economy. MNCs may seek out joint ventures by themselves because local partners have better knowledge of local conditions regarding factor endowments and skill of employees, Beamish (1988), and of consumer preferences, Blomström and Sjöholm (1999). Blomström and Zejan (1991) find that Swedish firms with little experience with foreign production are likely to choose minority ventures when they go abroad.

Joint ventures are easier in relatively mature host industries because of relative ease of finding suitable local partners, Smarzynska (1999). To keep fixed costs low, MNCs may choose joint venture at the initial phase when foreign labour productivity is in doubt and become wholly owned subsidiaries once productivity is proven, Saggi (undated). Although the finding was not very robust, Blomström

⁵ Quoted in Saggi (undated).

and Sjöholm (1999) report that even though local content requirements could discourage inward FDI, they could promote increased local purchasing by MNC affiliates.

The relationship between mode of FDI and appropriable spillover benefits to host countries is not clarified by empirical evidence. In some studies, for example, Blomström and Sjöholm (1999), spillover benefits are as significant in joint ventures as they are in wholly owned foreign firms, suggesting that local participation with MNCs does not facilitate technology diffusion. In other studies e.g. Caves (1996) and Blomström and Zejan (1991), the degree of foreign ownership determines the vintage of technology transferred. In some cases, if the foreign investor does not receive controlling interest spillovers may be extinguished ,Blomström et al.(1999). In a detailed study, Aitken and Harrison (1999) found that joint ventures (unlike purely domestic firms) benefit from FDI, but that the benefits are concentrated in sectors with higher shares of foreign investment.

4. Motivation for and Determinants of FDI

That FDI and exports could be complements rather than alternatives motivates firms to supply FDI. Other motivations include the presence or threat of trade barriers in the market targeted by the MNC ('tariff-jumping motive'), Bhagwati et al. (1992); the desire to maintain competitiveness by copying competitors ('following the leader' motive), Lin and Saggi (1999); and the desire to exploit learning from earlier FDI, Kinoshita and Mody (1997).

The theory of determinants of FDI flows has developed substantially over time. Beginning with the neoclassical approach, summarized by MacDougall (1960), other theories include Jorgenson's (1963) model, the radical theories (for example, Baran and Sweezy, 1966), the relative competitive advantage approach, Hymer (1976), the theory of industrial organization, Agarwal (1980), the macro approach, Kojima's (1982) model, and the 'eclectic paradigm' Dunning (1993)⁶. These theories and other literature show that the major determinants of FDI flows include domestic market size and its growth, domestic business environment, technological capability, trade policy, investment policy, commitment to international rules and agreements, and other factors.

4.1 Domestic market size and its growth

There is a positive relationship between FDI flows and domestic market size and its growth. This is supported by inter-country empirical studies, Kumar (1996). Market size and its growth are especially important for FDI targeted at supplying the local market. Access to regional markets is thus also very important.

4.2 Enabling Investment Environment and Technological Capability

Macroeconomic and political stability, low business environment risk, well-trained labour force, competitive labour cost, good industrial relations, effective and efficient legal institutions, and quality infrastructure services are key determinants of an enabling business environment, according to empirical evidence. Convertible currencies, liberal exchange rates, low inflation rates, small current account deficits, extent of industrialization and urbanization, high credit rating, freedom from bureaucratic intervention, and similar arrangements promote FDI, Wells Jr. (1993); Kumar (1996).

⁶ See details about these models in Ikiara (2002).

Access to capital and level of external indebtedness, good governance, transparency, institutional soundness, and security are also important ingredients of a conducive business environment.

FDI manufacturing in Asia has tended to locate in areas with developed ports, roads, power, and telecommunications, Wells Jr. (1993). Education and literacy levels are also important especially in Africa. MNCs are concentrated in industries that exhibit a high ratio of R&D relative to sales and a large share of technical and professional workers, Markusen (1995). Policies encouraging performance of R&D in the host economy enhance technical capability of local firms and therefore attract FDI and facilitate technology transfer. These include provision of technological infrastructure; subsidies for enterprise R&D; and protection and support for innovative enterprises, design engineering and consultancy organizations and leading local firms, Kumar (1996).

4.3 Trade Policy

Protection of the local market influences MNCs' choice between exporting to that market and producing in it, and the balance between FDI and licensing as alternative modes of production in the host country, Kumar (1996). Tariff barriers can encourage inward FDI and might increase spillovers. In the long run, however, such protectionism may reduce spillovers through slower economic growth and slower accumulation of technical competence Blomström et al. (1999). Excessive trade liberalization in the host country may induce MNCs to export to that market instead of producing there. Import liberalization may also however stimulate competition, thereby encouraging foreign firms to transfer technology to their affiliates in the liberal market to maintain competitiveness Blomström et al. (1999).

For international knowledge spillovers, the balance strongly tilts in favour of free trade, Saggi (undated); Eglin (2001). The Asian experience Wells Jr. (1993) has demonstrated that reduced protection may result in a reduction of FDI but an increase in the probability that the attracted FDI will be beneficial.

Policies specifically targeting export-oriented FDIs are necessary because these are special types of FDI that have positive effects on the host country economy Kumar (1996); Westphal (2001) and because they face stiff competition. Liberal but selective technology import policies stimulate innovation and therefore enhance local technological capabilities, Kumar (1996).

4.4 Investment or FDI Policy

FDI policy is the degree to which foreign ownership is constrained and business decisions of foreign investors are regulated (Blomström et al., 1999). These policies determine the amount and quality of FDI, Eglin (2001). To encourage development of local firms, restrictive FDI policies were pursued in most of Africa, Latin America, and Southeast Asia. Japan and South Korea restricted FDI but aggressively encouraged licensing of foreign technology. Sometimes policy has favoured joint ventures over wholly owned subsidiaries (for example in China) with hope that this will generate more spillovers. Southeast Asian countries also frequently pursue industrial targeting due to differential spillovers' potential.

Policies that lower the risk of investment, for example minimal restrictions on equity ownership, attract FDI, Wells Jr. (1993). Surveys show that foreign investors prefer host countries with transparent and predictable FDI policies that prohibit discriminatory treatment of foreign investors and provide an open and competitive business environment, Eglin (2001). Liberalization of investment restrictions may favour FDI over licensing. Theoretically, protection of intellectual property rights (IPRs) in host countries:

- positively influences the magnitude and quality of technology transferred to those countries,
- may affect the mode of technology transfer and therefore the size and scope of FDI spillovers
- alters the composition of FDI at the industry and firm levels, Kumar (1996); Saggi (undated).

Empirical evidence is mixed, however. For example, Lee and Mansfield (1996) and Gould and Gruben (1996) find positive effects while Siebeck (1990) and Chang (2001) do not. Glass and Saggi (1999b) finds that FDI actually decreases with strengthening of IPR protection in developing countries because an increase in the cost of imitation crowds out FDI.

Effective investment promotion, relying on personal contacts instead of advertising and investment missions, for countries that were relatively unknown by investors or had a negative image proved effective in attracting FDI into export manufacturing in South East Asia, Wells Jr. (1993).

Policies that discourage inward FDI in any form (for example those that reduce ex ante profitability of foreign investment) will reduce spillovers while those that require or encourage MNCs to transfer technology more quickly will enhance potential spillovers, Blomström et al. (1999). Policies obliging foreign firms to form strategic alliances with local firms are likely to yield more spillover benefits when there are technically competent local firms but less if the commercial value of the technology the foreign firm possesses is very high.

The proliferation of fiscal and financial incentives to lure FDI is likely to reduce welfare in host countries since there is no consensus that strong, positive FDI spillovers exist. There is no clear evidence that even export processing zones (EPZs) succeed in attracting FDI (OECD, 2002). Kumar (1996), however, reports some evidence that the presence of EPZs attracts export-oriented FDI. Investment incentives without economic fundamentals and other determinants will not stimulate FDI inflow, Kumar (1996).

4.5 Commitment to International Rules and Agreements

Anchoring domestic regimes to international rules and agreements, through commitment and membership, reassures foreign investors. The World Trade Organization (WTO) and other international agreements on investment and trade⁷ and bilateral investment treaties (BITs) are particularly important.

⁷ For example, the Convention establishing the Multilateral Investment Guarantee Agency (MIGA) and the Convention on the Settlement of Investment Disputes between States and Nationals of Other States.

4.6 Other Determinants

Geographical proximity to major markets and production centres, natural resource endowments, competition for FDI, economic performance in FDI-source countries, privatization, language, dependence of potential host country on the source country, and influential episodes, such as Aquino's succession in Philippines and Sukarno's rule in Indonesia are also important determinants of FDI. Inter-industry studies find that FDI intensity is positively influenced by advertisement intensity, skill intensity, R&D intensity, and capital intensity requirements, Kumar (1996).

5. FDI in Africa: Are Hopes being Realized?

This section looks at how Africa is performing with respect to FDI, including the countries and sectors that are attracting FDI, determinants of FDI flows within the continent, and whether FDI is contributing to growth and poverty reduction.

5.1 FDI and Technology Transfer to Africa: the Reality

Are Africa's hopes being realized in terms of FDI inflows and their impact?

5.1.1 Status and Nature of FDI Flows to Africa

Regions receiving the bulk of FDI inflows are developed countries, Latin America and the Caribbean, Asia and the Pacific, and the transition economies of Central and Eastern Europe (Table 1). Africa has suffered serious decline in the share of FDI inflows, from 1.8% in 1986-1990 to 0.8% in 1999-2000, while the share for LDCs stagnated at about 0.5% of world FDI over the period.

Table 1: Distribution of World FDI Inflows, 1986-2000 (percentage)

Region	1986-1990	1993-1998	1999-2000
Developed countries	82.4	61.2	80.0
Developing countries	17.5	35.3	17.9
• Africa	1.8	1.8	0.8
• Latin America & Caribbean	5.0	12.3	7.9
• Asia & Pacific	10.6	21.2	9.2
Central and Eastern Europe	0.1	3.5	2.0
Least developed countries (LDCs)	0.4	0.6	0.4

Source: UNCTAD (2002b), *World Investment Report 2002*.

Within the developing world, FDI inflows are concentrated in about 10 developing countries, mainly in Asian newly industrializing countries (NICs) and Latin America. In 2001, for instance, the five largest host countries in the developing world received 62% of total inflows into the region while the 10 largest received three-quarters, UNCTAD (2002b).

The share of Africa in FDI flows to developing countries has declined substantially over time from about 17% in 1960 to about 3% by 1999, Wells Jr. (1993) and UNCTAD (1999). FDI/GDP ratio trends

show that the continent's performance fell and then lagged behind those of Latin America and Asia (Fig. 2). The whole continent (except South Africa) received only \$8.2 billion in 2000 or just 0.6% of total world FDI inflows, equivalent to what tiny Finland alone received, UNCTAD (2002b).

In spite of the small share of developing country bound FDI that reaches the continent, FDI flows account for about 10% of SSA's gross fixed capital formation, Eglin (2001). The relatively high FDI/GFCF ratio reflects the relative smallness of many African economies, their inadequate domestic savings and investment, and the relatively larger developmental impact of FDI in the continent UNCTAD (1999). The ratio is very high in some African countries. In 1996-1998, for example, the ratio was 53.1% for Lesotho and 44.1% for Angola.

Fig. 2: Relative trends of FDI/GDP, 1970-1997

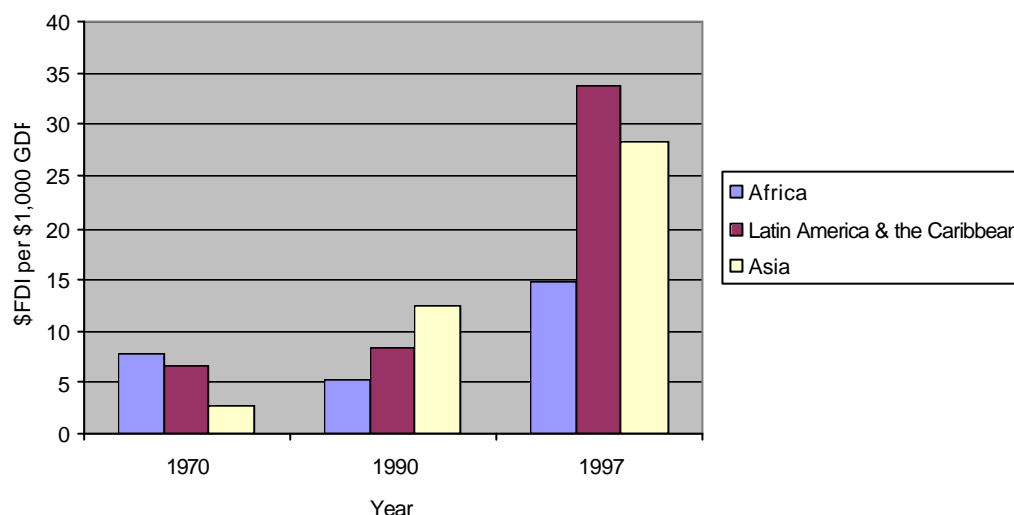


Figure 2: Relative trends of FDI/GDP, 1970-1997

5.1.1.1 Destination of FDI in Africa

The little FDI that comes to Africa is concentrated in a few countries. The top 10 African countries in terms of magnitude of FDI inflows in 1999 were Angola, Egypt, Nigeria, South Africa, Morocco, Mozambique, Sudan, Tunisia, Cote d'Ivoire, and Gabon, Eglin (2001). Traditional FDI frontrunners in Africa are Egypt, Mauritius, Morocco, and Nigeria. The share of total continental FDI flows going to Egypt and Nigeria has, however, declined from 67% in 1983-1987 to 38% in 1993-1997, UNCTAD (1999).

Angola, Botswana, Equatorial Guinea and Seychelles had higher FDI/GDP ratios than the average for developing countries in the early 1990s. Botswana, Equatorial Guinea, Ghana, Mozambique, Namibia, Tunisia, and Uganda have recently attracted rapidly increasing FDI inflows. Using the

yardsticks of annual inflows, per capita inflows, inflows per \$1,000 GDP, and FDI/GFCF, these are now seen as FDI frontrunner countries in the continent, UNCTAD (1999). Together, they accounted for more than 25% of FDI flows into Africa in 1996 but only 9% of the continent's population and 8% of its GDP.

Table 2 shows survey ranking of the top 20 African countries in 2000-2003 with respect to their attractiveness to FDI, and progress in improvement of the attractiveness. The table shows that Tanzania and Uganda have made tremendous improvement in their attractiveness while Libya, Angola, Zimbabwe, and Nigeria are likely to lose some of their attractiveness. Most other countries are unlikely to experience significant changes in their attractiveness.

Table 2: Attractiveness to FDI of the top 20 African countries in 2000-2003

Country	Ranking: attractiveness to FDI	Ranking: progress in improving attractiveness
South Africa	1	1
Egypt	2	3
Morocco	3	2
Nigeria	4	7
Tunisia	5	4
Ghana	6	6
Libya	7	14
Cote d'Ivoire	8	5
Algeria	9	10
Kenya	10	11
Mozambique	11	9
Botswana	12	12
Angola	13	23
Zimbabwe	14	18
Tanzania	15	8
Mauritius	16	16
Namibia	17	15
Ethiopia	18	17
Uganda	19	13
Malawi	20	21

Source: UNCTAD/ICC survey of TNCs (November 1999 – January 2000), reported in UNCTAD (2000).

5.1.1.2 Source of Africa Bound FDI

The most important source regions for FDI, the so-called "Triad", are the European Union (EU), Japan, and the US. Africa's share of FDI from the "Triad" has fallen over time. Between 1987 and 1997, the share never exceeded 2% until 1996 and it was only 2.4% in 1997, UNCTAD (1999). Non-traditional investor countries like Canada, Italy, the Netherlands, Norway, Portugal, and Spain helped

to reduce the rate of decline of Africa's share of FDI. Between 1988-1992 and 1993-1997, these six countries increased their share in African FDI inflows from 8% to more than 22%, UNCTAD (1999). Investors from other developing countries, particularly South-East Asia, have also emerged as new sources of FDI for Africa. Some African firms, particularly from South Africa, are becoming MNCs and also investing in other African countries, through mergers and acquisitions. Total African MNC FDI stock is small, however, at \$ 43 billion in 1997, 13% of total outward FDI stocks of all developing countries, UNCTAD (1999).

5.1.1.3 Sectoral Composition of FDI in Africa

Like the tendency to concentrate in a few countries, FDI in Africa has tended to concentrate in a few economic sectors, traditionally in natural resource industries such as mining and oil. Wells Jr. (1993). Africa continues to attract FDI only into sectors where competitive advantages outweigh the continent's negative factors. These include minerals, timber, coffee, tea, cocoa, and oil, Mills and Oppenheimer (2002). However, FDI is now diversifying even into manufacturing and services, Eglin (2001) and UNCTAD (1999). In 1992, for instance, 30% of FDI stock in Nigeria was in the primary sector, 50% in manufacturing, and 20% in services, UNCTAD (1999). In 1995, 48% of FDI inflows into Egypt were in services, 47% in manufacturing, and 4% in the primary sector. Mauritius has also managed to increase the amount of FDI going into the manufacturing sector (textiles and electronic equipment). FDI from Germany is going increasingly into manufacturing. More than 60% of British FDI stock in Africa is in the manufacturing and services sectors, UNCTAD (1999). The share of USA's FDI stock in Africa that is in the primary sector dropped from 79% in 1986 to 53% in 1996. In terms of industries, US FDI going to manufacturing has been to food and related products, primary and fabricated metals, and other manufactures, UNCTAD (1999). South African MNCs are in mining, financial services, breweries, food processing, retailing, and other services, UNCTAD (1999).

FDI in manufacturing has tended to concentrate on the local rather than the export market, Wells Jr. (1993). A survey of MNCs in 2000 indicated that the sectors with the greatest potential to attract FDI in Africa are tourism, natural resource industries, and industries for which the domestic market is important (such as telecommunications), UNCTAD (2002a). This gradual diversification is encouraging given that agriculture and labour-intensive manufacturing are two sectors that can make the greatest contribution to poverty reduction, UNCTAD (2002a).

While it is tempting to think that FDI should be targeted at the primary commodity sectors, which employ the majority of people in the continent, it should be realized that employment in those sectors is not sustainable due to the deteriorating terms of trade facing them. This paper, in section 7, proposes a research agenda to inform FDI targeting efforts for poverty reduction.

5.1.2 FDI and Technology Transfer: Evidence from African Manufacturing

Though there are few studies addressing the link between FDI and technology transfer in Africa, some indicative evidence is available from Wangwe (ed., 1995) covering firms in six African countries (Zimbabwe, Tanzania, Nigeria, Kenya, Ivory Coast, and Mauritius); Biggs and Srivastava (1996) covering Ghana, Zimbabwe, and Kenya. Others include Lundvall et al. (1999); Haddad and Harrison

(1993) on Morocco; Gershenberg (1997) on Kenya; Phillips et al. (2000) on Mauritius, Uganda and Kenya; and Herbert-Copley, (1992). The evidence suggests that:

- There may be limited technology transfer and spillovers to the domestic firms. Phillips et al. (2000) report that a 1% increase in FDI/GDP leads to a 0.8% increase in future domestic investment in Africa compared to 1.17% in Latin America. Many exporting firms are found to locate foreign partners and either form joint ventures with them or hire them as agents for specific technology and/or marketing tasks. In Mauritius, foreign investment has played a positive role in building local technological capabilities. In some countries, MNCs bought out the local firms affected by competition and monopolized activities.
- Previous experience either through trade or association with MNCs and foreign technical assistance contribute to export success.
- In MNC affiliates and firms in which foreign partners play important technological functions, accumulation of indigenous or local technological capabilities is limited, except in cases where the affiliate is engaged in activities that the parent is not engaged in (for example, Del Monte of Kenya).
- Interactions with foreign partners enhance managerial and technological capabilities but only under certain circumstances: when the top managers and entrepreneurs have some previous experience, when the firms are targeting export markets, and when the top positions are not reserved for expatriates.
- On-the-job training closely followed by information links established by FDI are the best channels of learning and therefore the largest contributors to value added in the firms. A 1% increase in the number of trained workers (or information links established by FDI) resulted into an increase in value added of 60% (or 30%), Biggs and Srivastava (1996).
- MNC affiliates and local firms managed by expatriates have higher skills than other local firms due to access to technology.
- With the exception of MNC affiliates and large exporting firms, African firms are technologically isolated from the world, indicative of weak or non-existent learning mechanisms or capabilities. Dependence on foreign technology remains high at least in large, formal-sector firms. Even though some local capabilities have been built, the local skill base is incomplete and the relatively complex tasks (such as design and engineering) are still carried out by expatriates usually under technical service agreements. This is largely attributable to lack of adequate provisions for training, localization of technical and managerial positions at the pre-investment stage, and poor economic performance during post-investment stage.
- Due to limited vertical and horizontal linkages, there is hardly any technology diffusion.
- In Kenya, foreign investment may not be transferring up-to-date technology, as exporting, skill, or foreign ownership are found not to explain differential productivity of manufacturing sub-sectors (food, wood, textiles, and metal).
- Technical effort is directed less toward performance enhancement ("capacity stretching"), unlike in Latin American firms, and more toward piecemeal product innovation and adaptation.

These studies show that the challenge facing Africa is how to accumulate basic technological capabilities, promote export activities as they bring greater technological learning opportunities

than domestic-market oriented activities, encourage the most appropriate modes of technology transfer, and build capable bureaucracy and a robust information exchange network with the private sector, as proven by East Asian experiences.

5.2 Determinants of FDI in Africa

5.2.1 The Determinants

There are many studies that address determinants of FDI in Africa. To mention a few, these include Geda (2000), UNCTAD (1999, 2000), Phillips et al. (2000), Wells Jr. (1993), Eglin (2001), and OECD (2002). These and other studies show that FDI flows to Africa are determined by:⁸

- Relative market size and its growth. Small local markets and weak growth have seriously constrained FDI attraction efforts. High GDP growth rates in the past 10 years, however, have helped frontrunner countries to attract FDI.
- Access to regional markets and prospects of inclusion in free trade arrangements with major markets. There are poor prospects for Africa except the case of Lomé Treaty. Intra-regional trade accounted for 6% of total African exports in 1990 and only 10% by the end of the 1990s, Mills and Oppenheimer (2002).

Table 3. Determinants of FDI in Africa, 2000-2003: Survey Findings.

Determinant	% viewing it as positive determinant %	% viewing it as negative Determinant*
Growth of local market	67	11
Profitability of investment	62	27
Size of local market	62	28
Access to regional markets	60	12
Trade policy	58	14
Political and economic outlook	52	28
Tax regime	48	23
Regulatory & legal framework governing FDI	45	21
Access to skilled labour	41	20
State of physical infrastructure	41	25
Investment incentives	40	20
Access to natural resources	39	21
Administrative costs of doing business	39	28
Access to low-cost unskilled labour	32	24
Access to capital /finance	31	28
Access to global markets	30	38
Level of extortion and bribery	19	49

* This column should be interpreted with care. In the case of profitability of investment, for example, 27% of the respondents felt that it was low and discouraged FDI.

Source: UNCTAD/ICC survey of TNCs (November 1999 – January 2000), reported in UNCTAD (2000).

⁸ See also Table 3.

- *Access to natural resources.* Availability of natural resource reserves has contributed to FDI inflows to Guinea, Botswana, Ghana, Mozambique, and Namibia.
- *Level of taxes, risk of capital losses, and returns to investment.* High tax rates and risk have discouraged FDI into many countries in the continent, in spite of the generally high returns to investment. Perception of risk in the continent is still very high and continues to hinder FDI Eglin (2001).
- *Historical pattern of FDI.*
- *Macroeconomic and other policies.* Overvalued exchange rates, lack of convertible currencies, other discouraging policies, and ideological opposition to FDI have discouraged FDI into Africa to a large extent. Tedious FDI screening processes and organizations established by many African countries discouraged even beneficial FDI while political decisions crowded out economic reasoning, Wells Jr. (1993). Partly due to absence in Asia of the anti-FDI rhetoric that characterized Africa and Latin America in the 1960s and 1970s, Asia accounted for more than half of all FDI to developing countries by the 1980s. Efficiency has attracted FDI to Tunisia, especially in its textile and apparel industry. Efforts to improve education levels of citizens, particularly at primary and secondary levels, and develop infrastructure have attracted FDI into several African countries.
- *Socio-political instability (armed conflicts and lack of democracy).* It is estimated that one-fifth of the total African population lives under conditions of conflict, Mills and Oppenheimer, (2002). Export-oriented manufacturers have proved very sensitive to host country politics and policies. End of civil strife helped Mozambique, Namibia, and Uganda to attract FDI Bhattacharya et al. (1997).
- *Enforceability of contracts or transparency of the judicial system.* Lack of enforceability raises risk of capital loss in many African countries and has hindered FDI.
- *Perceived sustainability of national economic policies.* In many African countries, policies are not perceived as being sustainable, a factor that discourages FDI.
- *Quality of public services.* The low quality of service in many African countries discourages FDI into those countries.
- *Openness of trade regimes.* Efforts to adopt favourable trade policies have helped frontrunner countries to attract FDI.
- *Privatization programmes.* Where these have taken place, they have generated investment opportunity and therefore attracted FDI.
- *Modernization of investment codes and high profile publicity efforts.* Tax incentives are not necessary but freedom from bureaucratic intervention, deregulation, few restrictions on equity ownership, and investment promotions have proved useful.
- *Adoption of international FDI agreements and capacity for bilateral negotiations on investment arrangements with larger and more powerful trading partners.*
- *Prioritization of projects on the basis of economic impact* has helped countries like Mozambique, Namibia, Senegal, and Mali to attract FDI.
- *Distance to major markets like Japan, USA, and Europe.* Location advantages helped Asia and countries like Mexico to build export-manufacturing industries. Location advantage has shifted from low labour cost to competitive characteristics, such as product and service quality, and timeliness of delivery, Wangwe, (ed), (1995).

5.2.2 *Lessons from Asia*

The Asian experience⁹ provides a number of lessons for Africa. Appropriate macroeconomic policies, deregulation policy, elimination of bureaucratic hassles, effective investment promotion, and attractive investment policy are important determinants of FDI flows. The experience shows that NICs of Asia may make better promotion targets for Africa than firms in the US, Europe and Japan, due to their tendency to invest in distant locations. Textile firms from these Asian NICs are potential first targets for the continent.

MNCs from developing countries are preferable to those from developed country MNCs because they:

- undertake technology modifications in response to developing country raw material endowment and other characteristics
- tend to produce simpler, lower-technology, low-cost products which require little marketing ability to sell in world markets
- have a higher propensity to form joint ventures with local firms
- tend to use more local human resources and raw materials
- tend to have down-scaled imported technologies
- are more appropriate for developing country needs in terms of the characteristics of technology they specialize in and therefore transfer, their integration with domestic demand, and their effects on the balance of payments
- are in a learning stage, they transfer not only the know-how but the know-why, Wangwe, (ed), (1995).

"Petty patents" or "utility models" which accord lower level protection (4-7years) to innovations that fall short of patent standards, in terms of originality, played an important role in industrial development of Japan and other East Asian countries and could have utility for promoting technological development in developing countries, Chang (2001).

5.3 **So, is Africa Realizing its Hopes?**

It has been shown that a few African countries are realizing their hopes of attracting significant FDI inflows. It is encouraging also that FDI is diversifying into non-traditional sectors, mainly manufacturing and services, which may contribute to poverty alleviation. Whether the impact of the FDI is large enough to justify promotion expenditure is not clear, however, FDI benefits are not automatic; they require proactive, deliberate and strategic policy and adequate technological capacity in the potential host countries. They also require a minimum threshold level of development in education, technology, infrastructure, financial markets, and health, which most of the African countries lack.

⁹ See, for example, Wells Jr. (1993) and Mathews (2000).

6. What Must Africa Do?

To realize its hope of attracting large and growing FDI flows and maximizing the poverty alleviation role of those flows, Africa must put in place the requisite institutional, policy, and regulatory frameworks and enforce them aggressively. Specifically, the continent must:

1. *Invest in a thorough understanding of the international production systems, MNC strategies, and what pulls MNCs*, as a first step towards getting integrated into regional and global production networks of MNCs. Surveys have shown that managers of African investment promotion agencies have incomplete understanding of the factors that attract the appropriate type of MNCs.
2. *Adopt a proactive, deliberate, and strategic approach to FDI policy*. FDI promotion and linkage policies should be consistent with each country's overall development and industrialization strategies. African countries should employ FDI as a tool to develop labour-intensive and other target industries (value-adding, technology-intensive, and export-oriented industries), as a way of maximizing the impact of FDI on poverty reduction. They should also take precaution against large foreign firms that may crowd SMEs out, and encourage foreign firms to develop linkages with the domestic economy. Adequate environmental regulations could also serve to minimize FDI costs. There is need for targeting of FDI source as well. Because of various advantages Africa should target developing country MNCs, especially those from Asian NICs.
3. *Promote cooperation with developed countries, in the spirit of NEPAD*. This will lead to:
 - improved access to developed country markets
 - assistance (ODA) towards building and improving the infrastructure and other competencies necessary for attracting FDI
 - greater sensitivity to the technological needs of the continent and establishment of codes of conduct for MNCs
 - reduction of developed country subsidies to inward direct investment
 - reducing restrictions on immigration of skilled workers and technology transfer in general
 - greater technical assistance and capacity building in the continent
4. *Improve the general macroeconomic and institutional frameworks*, including stable and high economic growth rate, liberal exchange rates, convertible currency, low inflation, minimal current account deficit and external indebtedness, low interest rates and access to capital, efficient banking system and capital markets, and competitive corporate tax rates. In terms of institutions, there is need for predictability and stability in politics, leadership,

- judicial system, security, and effective institutions for dealing with corruption and enforcing good governance in general. The lead that the NEPAD initiative is taking is commendable.
5. Create a healthy and enabling business environment that encourages both foreign and local investors, provides incentives for innovation and skills improvement, and contributes to competitive corporate climate. This could be done by:
 - improving the transparency of regulatory and legal frameworks
 - streamlining of customs clearance
 - creating bureaucracy and business licensing
 - creating institutions to reduce business risk such as risk insurance agencies adopting deregulation policy
 - formulating policies to safeguard levels of competition, such as openness to international trade, efficiency-enhancing competition laws including the principle of non-discrimination, and establishment of effective enforcement agencies; rational investment/FDI policies
 - accelerating privatization

Membership to multilateral institutions like WTO and commitment to international FDI agreements such as OECD Declaration on International Investment and Multinational Enterprises and MIGA also improve the local business environment. With an enabling environment, costly investment incentives are not necessary, which can resolve Africa's dilemma.

6. Raise the effective market size by striving for stable macroeconomic and socio-political regimes, pursuing regional trade liberalization and integration, and pursuing inclusion in free trade arrangements with major markets such as the EU and the US. The NEPAD strategy of promoting intra-African trade is thus a step in the right direction.
7. Formulate competition policy to create a level playing ground since MNC affiliates enjoy substantial advantages over local firms. Elements of such policy include initial protection of leading local firms (local champions) to build their brand names, restriction of the use by MNC affiliates of international brand names in the local market, and prevention of takeovers and mergers involving affiliates and local firms to avoid accumulation of monopolistic advantages.
8. Upgrade infrastructure, technology, and human and other competencies to levels that facilitate full realization of FDI benefits. Ways of doing this include:
 - Establishing focused programmes of reducing the cost of doing business, with such elements as improving the quality and reducing the cost of infrastructure (transportation, roads, electricity, and telecommunications, among others). The NEPAD strategy of establishing regional infrastructure links is commendable.
 - Allowing foreign participation, under requisite regulatory frameworks, in physical infrastructure and financial services sectors.
 - Providing good general basic education, scientific training and skills, and health, and developing human capital and technology policies jointly since technological and educational achievements are mutually reinforcing.

- Providing policies to support local technological effort and encourage entrepreneurship including provision of technological infrastructure; subsidization of enterprise R&D and other incentives to encourage use of advanced technologies; and provision of protection and support to innovative enterprises, design engineering and consultancy organizations, and leading local firms. The continent could establish regional technology centres to boost technological capabilities. Institutions to raise technology awareness such as museums and model demonstration factories are also important, nationally and regionally.
 - Providing policies to enhance labour market flexibility and implementation of international agreements to reduce child labour, eliminate workplace discrimination, and remove impediments to collective bargaining.
9. Have strong states to play crucial roles of providing enabling business environments and basic education and skills; building local technological capabilities; promoting efficient programmes to link MNCs with domestic firms; promoting and supporting small and medium enterprises to act as suppliers to MNC affiliates; and identifying, exploring and developing markets.
 10. Exploit the strength of public-private partnerships in designing infrastructure and policies that would attract and sustain FDI, building local technological capabilities, and designing policies and incentives to maximize the net benefits of FDI.
 11. Formulate and implement effective investment promotion policies, including regional marketing initiatives, but only after the fundamental determinants of FDI are in place. This promotion is critically important if the continent's negative business image is to be changed. If the Nepad plans of combating the continent's conflicts and diseases and instituting good economic and political governance succeed, they will be an unprecedented boost to the continent's image.

7. A Research Agenda

This paper has shown that the impact of FDI on economic growth and, therefore, poverty reduction is not clear in Africa. Indeed, even managers of African investment promotion agencies do not fully understand how and why foreign investors make the choices they do. Research is obviously therefore critical on:

- (a) How foreign investors make decisions and the factors that drive those decisions
- (b) Transmission mechanisms between FDI and poverty reduction, specifically on:
 - Which sectors have the largest prospects for poverty reduction in the continent?
 - Is FDI being attracted into these sectors?
 - What is the relative importance or potential, of the economic sub-sectors that attract FDI, in poverty alleviation (in terms of direct and indirect FDI benefits, employment intensity, and skill intensity)?
 - Do firms with foreign ownership have greater linkages with the local economy (particularly farmers and small scale enterprises) than do locally owned firms?
 - Which dimensions of poverty does FDI affect?
 - How are FDI spillovers distributed?
 - Which policies promote spillovers in sectors with the largest relative impact on poverty alleviation?
- (c) FDI and technology transfer in various sectors in Africa. Specifically,
 - Are there FDI spillovers (efficiency and technology) to domestic firms?
 - If there are spillovers, are they generic to most types of inward FDI or concentrated among certain types of FDI (say joint ventures) or among specific types of MNCs?
- (d) The link between FDI and the specific components of technology transfer such as innovation, technology adoption, and managerial learning.
- (e) Whether FDI incentives and subsidies are justified in Africa given the high opportunity cost of resources in the continent?
- (f) Alternative modes of technology transfer to Africa and their relative implications on poverty alleviation.

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Table of Contents

1.	Introduction: Poverty, Hopes and Dilemma over FDI in Africa	1
2.	FDI and Poverty Reduction: Transmission Mechanisms	3
	2.1 What is FDI?	3
	2.2 Role of FDI in Poverty Reduction	3
	2.2.1 FDI and Economic Growth	5
	2.2.2 FDI and International Trade Integration	6
	2.2.3 FDI and Competition in the Host Market	7
	2.2.4 FDI and Enterprise Development	7
	2.2.5 FDI and Environmental/Social Concerns	7
3.	FDI, Technology Transfer and Economic Growth	8
	3.1 FDI and Technology Transfer	8
	3.1.1 Theory	9
	3.1.2 Does FDI lead to technology transfer in reality?	10
	3.1.2.1 Impact on Productivity	10
	3.1.2.2 Impact on Innovation	12
	3.1.2.3 Impact on Technology Adoption	12
	3.1.2.4 Impact on Human Capital	12
	3.1.3 Technology Transfer and Spillovers	13
4.	Motivation for and Determinants of FDI	15
	4.1 Domestic market size and its growth	15
	4.2 Enabling Investment Environment and Technological Capability	15
	4.3 Trade Policy	16
	4.4 Investment or FDI Policy	16
	4.5 Commitment to International Rules and Agreements	17
	4.6 Other Determinants	18
5.	FDI in Africa: Are Hopes being realized?	19
	5.1 FDI and Technology Transfer to Africa: The Reality	19
	5.1.1 Status and Nature of FDI Flows to Africa	19
	5.1.1.1 Destination of FDI in Africa	20
	5.1.1.2 Source of Africa Bound FDI	21