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World Investment Report

2001 Promoting
Linkages

Overview



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WORLD INVESTMENT REPORT 2001: PROMOTING LINKAGES

OVERVIEW

THE GEOGRAPHY OF INTERNATIONAL PRODUCTION

FDI flows reached record levels in 2000...

Foreign direct investment (FDI) continues to expand rapidly, enlarging the role of international production in the world economy. FDI grew by 18 per cent in 2000, faster than other economic aggregates like world production, capital formation and trade, reaching a record \$1.3 trillion (table 1). FDI flows are, however, expected to decline in 2001.

The global expansion of investment flows is driven by more than 60,000 transnational corporations (TNCs) with over 800,000 affiliates abroad. *Developed countries* remain the prime destination of FDI, accounting for more than three-quarters of global inflows. Cross-border mergers and acquisitions (M&As) remain the main stimulus behind FDI, and these are still concentrated in the developed countries. As a result, inflows to developed countries increased by 21 per cent and amounted to a little over \$1 trillion. FDI inflows to *developing countries* also rose, reaching \$240 billion. However, their share in world FDI flows declined for the second year in a row, to 19 per cent, compared to the peak of 41 per cent in 1994. The countries in *Central and Eastern Europe*, with inflows of \$27 billion, maintained their share of 2 per cent. The 49 least developed countries (LDCs) remained marginal in terms of attracting FDI, with 0.3 per cent of world inflows in 2000.

Within the developed world, the *Triad* - the European Union (EU), the United States and Japan - accounted for 71 per cent of world inflows and 82 per cent of outflows in 2000 (table 2). Within the Triad, the *EU* has gained both as a recipient and source of FDI. Record inflows (\$617 billion) were stimulated by further progress in regional integration, while the United States and other Western European countries remain its main partners outside the region. Due to the take-over of Mannesmann by VodafoneAirTouch - the largest cross-border merger deal so far - Germany became, for the first time, the largest recipient of FDI in Europe. The United Kingdom maintained its position as the top source country worldwide for a second year. The *United States* remained the world's largest FDI recipient country as inflows reached \$281 billion. Outflows with \$139 billion decreased by 2 per cent. *Japan* saw its inflows in 2000 drop by 36 per cent from the previous year to \$8 billion, partly due to the prolonged slow-down of the country's economic growth, but also perhaps indicative of the fact that, in spite of its welcoming FDI policies, other factors deter investment inflows. In contrast, outflows from Japan rebounded to \$33 billion, the highest level in ten years. Among *other developed countries*, the most conspicuous events were the unprecedented levels of FDI into and from Canada, reflecting several major M&A deals, in particular with partners in Europe and the United States.

There were major differences in FDI trends among developing countries. In contrast to the experience in most other parts of the world, inflows to *Africa* (including South Africa) declined in 2000 (for the first time since the mid-1990s), from \$10.5 billion to \$9.1 billion. As a result, the share of Africa in total FDI flows fell below 1 per cent. The decline was mainly related to two countries: South Africa and Angola. In the former country, fewer privatization and M&A deals caused the slow-down, while in the latter, inflows in the petroleum sector declined. The Southern African Development Community maintained its position as the most important subregion for FDI inflows in Africa. Its share in total FDI inflows into Africa was 44 per cent, compared to 21 per cent in the first half of the 1990s. The Community's improved attractiveness to FDI may have been principally driven by country-specific factors, but at least some FDI inflows were also motivated by the economic integration of the region.

After tripling during the second half of the 1990s, FDI flows into *Latin America and the Caribbean* also fell in 2000, by 22 per cent, to \$86 billion. This was mainly a correction from 1999 - when FDI inflows into the region were greatly affected by three major cross-border acquisitions of Latin American firms - rather than a shift in the underlying trend. Privatization slowed down in 2000, but continues to be important as a factor driving inward FDI. In terms of sectors, FDI into South America was mainly in services and

Table 1. Selected indicators of FDI and international production, 1982-2000
(Billions of dollars and percentage)

	Value at current prices (Billions of dollars)			Annual growth rate (Per cent)					
	1982	1990	2000	1986-1990	1991-1995	1996-1999	1998	1999	2000
FDI inflows	57	202	1 271	23.0	20.8	40.8	44.9	55.2	18.2
FDI outflows	37	235	1 150	26.2	16.3	37.0	52.8	41.3	14.3
FDI inward stock	719	1 889	6 314	16.2	9.3	16.9	19.8	22.3	21.5
FDI outward stock	568	1 717	5 976	20.5	10.8	16.4	20.9	19.5	19.4
Cross border M&As ^a	..	151	1 144	26.4 ^b	23.3	50.0	74.4	44.1	49.3
Sales of foreign affiliates	2 465	5 467	15 680 ^c	15.6	10.5	10.4	18.2	17.2 ^c	18.0 ^c
Gross product of foreign affiliates	565	1 420	3 167 ^d	16.4	7.2	11.0	3.2	27.2 ^d	16.5 ^d
Total assets of foreign affiliates	1 888	5 744	21 102 ^e	18.2	13.9	15.9	23.4	14.8 ^e	19.8 ^e
Export of foreign affiliates	637	1 166	3 572 ^f	13.2	14.0	11.0	11.8	16.1 ^f	17.9 ^f
Employment of foreign affiliates (thousands)	17 454	23 721	45 587 ^g	5.7	5.3	7.8	16.8	5.3 ^g	12.7 ^g
GDP at factor cost	10 612	21 475	31 895	11.7	6.3	0.7	-0.9	3.4	6.1
Gross fixed capital formation	2 236	4 501	6 466 ^h	12.2	6.6	0.6	-0.6	4.3	..
Royalties and Licences fees receipts	9	27	66 ^h	22.1	14.1	4.0	6.1	1.1	..
Export of goods and non-factor services	2 124	4 381	7 036 ^h	15.4	8.6	1.9	-1.5	3.9	..

Source : UNCTAD, *World Investment Report 2001: Promoting Linkages*, table I.1, p. 10.

^a Data are only available from 1987 onward.

^b 1987-1990 only

^c Based on the following regression result of sales against FDI inward stock for the period 1982-1998: Sales=967+2.462*FDI inward stock.

^d Based on the following regression result of gross product against FDI inward stock for the period 1982-1998: Gross product=412+0.461*FDI inward stock.

^e Based on the following regression result of assets against FDI inward stock for the period 1982-1998: Assets= -376+3.594*FDI inward stock.

^f Based on the following regression result of exports against FDI inward stock for the period 1982-1998: Exports=231+0.559*FDI inward stock.

^g Based on the following regression result of employment against FDI inward stock for the period 1982-1998: Employment=13 925+5.298*FDI inward stock.

^h Data are for 1999.

Note: Not included in this table are the value of worldwide sales by foreign affiliates associated with their parent firms through non-equity relationships and the sales of the parent firms themselves. Worldwide sales, gross product, total assets, exports and employment of foreign affiliates are estimated by extrapolating the worldwide data of foreign affiliates of TNCs from France, Germany, Italy, Japan and the United States (for sales and employment) and those from Japan and the United States (for exports), those from the United States (for gross product), and those from Germany and the United States (for assets) on the basis of the shares of those countries in the worldwide outward FDI stock.

Table 2. Regional distribution of FDI inflows and outflows, 1989-2000

(Billions of dollars)

Region/country	FDI inflows							FDI outflows						
	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000	1989-1994 (Annual average)	1995	1996	1997	1998	1999	2000
Developed countries	137.1	203.5	219.7	271.4	483.2	829.8	1 005.2	203.2	305.8	332.9	396.9	672.0	945.7	1 046.3
Western Europe	79.8	117.2	114.9	137.5	273.4	485.3	633.2	114.2	173.6	204.3	242.4	475.2	761.1	820.3
European Union	76.6	113.5	109.6	127.6	261.1	467.2	617.3	105.2	159.0	183.2	220.4	454.3	720.1	772.9
Other Western Europe	3.1	3.7	5.2	9.9	12.3	18.2	15.8	9.0	14.6	21.1	22.0	21.0	41.1	47.4
Japan	1.0	-	0.2	3.2	3.3	12.7	8.2	29.6	22.5	23.4	26.1	24.2	22.7	32.9
United States	42.5	58.8	84.5	103.4	174.4	295.0	281.1	49.0	92.1	84.4	95.8	131.0	142.6	139.3
Developing countries and economies	59.6	113.3	152.5	187.4	188.4	222.0	240.2	24.9	49.0	57.6	65.7	37.7	58.0	99.5
Africa	4.0	4.7	5.6	7.2	7.7	9.0	8.2	0.9	0.5	0.0	1.7	0.9	0.6	0.7
Latin America and the Caribbean	17.5	32.3	51.3	71.2	83.2	110.3	86.2	3.7	7.3	5.5	14.4	8.0	21.8	13.4
Asia and the Pacific	37.9	75.9	94.5	107.3	95.9	100.0	143.8	20.3	41.1	51.9	49.4	28.7	35.5	85.3
Asia	37.7	75.3	94.4	107.2	95.6	99.7	143.5	20.3	41.1	51.9	49.4	28.6	35.4	85.2
West Asia	2.2	-	2.9	5.5	6.6	0.9	3.4	0.3	-1.0	2.3	-0.3	-1.7	0.7	1.3
Central Asia	0.4	1.7	2.1	3.2	3.0	2.6	2.7	-	0.3	0.0	0.2	0.3	0.3	0.3
South, East and South-East Asia	35.1	73.6	89.4	98.5	86.0	96.2	137.3	20.0	41.8	49.7	49.5	30.0	34.4	83.6
South Asia	0.8	2.9	3.7	4.9	3.5	3.1	3.0	-	0.1	0.3	0.1	0.1	0.1	0.3
The Pacific	0.2	0.6	0.2	0.1	0.3	0.3	0.3	-	-	-	-	0.1	0.1	0.0
Developing Europe	0.2	0.5	1.1	1.7	1.6	2.7	2.0	-	-	0.1	0.2	0.1	0.1	0.1
Central and Eastern Europe	3.4	14.3	12.7	19.2	21.0	23.2	25.4	0.1	0.5	1.0	3.4	2.1	2.1	4.0
World	200.1	331.1	384.9	477.9	692.5	1 075.0	1 270.8	228.3	355.3	391.6	466.0	711.9	1 005.8	1 149.9

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, annex tables B.1 and B.2, pp. 291 to 296.

natural resources, while Mexico continued to receive the largest share of inflows in manufacturing as well as in banking.

In developing Asia, FDI inflows reached a record level of \$143 billion in 2000. The greatest increase took place in East Asia; Hong Kong (China), in particular, experienced an unprecedented FDI boom, with inflows amounting to \$64 billion, making it the top FDI recipient in Asia as well as in developing countries. This upsurge in inflows has several explanations. First, it reflects a recovery from the economic turmoil of the recent past. Second, TNCs planning to invest in mainland China have been “parking” funds in Hong Kong (China), in anticipation of China’s expected entry into the WTO. Third, the increase reflects a major cross-border M&A in telecommunications, which alone accounted for nearly one-third of the territory’s total FDI inflows. Fourth, there is an element of increased “round-tripping” of capital flows into, and out of Hong Kong (China).

FDI flows to China, at \$41 billion, remained fairly stable. In the course of its negotiations for membership in the WTO, China has amended some of its FDI policies. TNCs play an increasingly important role in the Chinese economy; for example, tax contributions by foreign affiliates accounted for 18 per cent (\$27 billion) of the country’s total corporate tax revenues in 2000. Inflows to South-East Asia (ASEAN-10) remained below the pre-crisis level. The subregion’s share in total FDI flows to developing Asia continued to shrink, and stood in 2000 at 10 per cent, as compared with over 30 per cent in the mid-1990s. This was largely due to rising inflows into other countries in the region and significant divestments in Indonesia since the onset of the financial crisis. South Asia witnessed a drop in FDI inflows by 1 per cent over the previous year. India, the largest recipient in the subcontinent, received \$2 billion. Notwithstanding these mixed trends, the longer-term investment prospects for developing Asia remain bright. In addition to the quality of the underlying determinants for FDI, greater economic integration is likely to boost FDI in the region.

Outward FDI from developing Asia doubled in 2000, to \$85 billion. Hong Kong (China) was the most important source (\$63 billion); more than half of its outward FDI went to China. Outward FDI from China and India also picked up.

FDI inflows into *Central and Eastern Europe* also rose, to an unprecedented \$27 billion. Privatization-related transactions were a key determinant of FDI inflows throughout the region, with the exception of Hungary, where the privatization process has by and large run its course, and the Commonwealth of Independent States, where large-scale privatizations involving foreign investors have yet to begin. Outflows from the region expanded even faster than inflows, in spite of the fact that official data on outward FDI are likely to underestimate the actual outflows. (Some FDI by firms in the Russian Federation go unreported, or are reported under other elements of the balance of payments.)

...but a mapping of the geography of FDI patterns shows that international production is highly concentrated...

A mapping of FDI *inflows* indicates the extent to which host countries are integrating into the globalizing world economy. It also indicates indirectly the distribution of benefits from FDI. The mapping of *outward* FDI shows which countries control the global distribution of this investment. Understanding the pattern of FDI flows and stocks and its driving forces is important for the formulation and implementation of economic strategies and policies.

A comparison of the world maps of inward and outward FDI in 2000 and 1985 reveals that FDI reaches many more countries in a substantial manner than in the past. More than 50 countries (24 of which are developing countries) have an inward stock of more than \$10 billion, compared with only 17 countries 15 years ago (7 of them developing countries). The picture for outward FDI is similar: the number of countries with stocks exceeding \$10 billion rose from 10 to 33 (now including 12 developing countries, compared to 8 in 1985) over the same period. In terms of flows, the number of countries receiving an annual average of more than \$1 billion rose from 17 (6 of which were developing countries) in the mid-1980s to 51 (23 of which were developing countries) at the end of the 1990s. In the case of outflows, 33 countries (11 developing countries) invested more than \$1 billion at the end of the 1990s, compared to 13 countries (only one developing country) in the mid-1980s.

Despite its reach, however, FDI is unevenly distributed. The world's top 30 host countries account for 95 per cent of total world FDI inflows and 90 per cent of stocks. The top 30 home countries account for around 99 per cent of outward FDI flows and stocks, mainly industrialized economies. About 90 of the world's largest 100 non-financial TNCs in terms of foreign assets are headquartered in the Triad (see table 3 for the top 25 of those firms). More than half of these companies are in the electrical and electronic equipment, motor vehicle, and petroleum exploration and distribution industries. These TNCs play an important role in international production: they accounted (in 1999) for approximately 12 per cent, 16 per cent and 15 per cent of the foreign assets, sales and employment, respectively, of the world's 60,000 plus TNCs. General Electric maintained in 1999 its position as the largest TNC in the world. For the first time, three companies from developing countries (Hutchison Whampoa, Petr6leos de Venezuela and Cemex) are among the world's 100 largest TNCs. The transnationalization of companies is a phenomenon increasingly observed not only in developed countries but also in the developing world. The top 50 TNCs from developing countries - the largest of which are comparable in size to the smallest of the top 100 worldwide - originate in some 13 newly industrializing economies of Asia and Latin America as well as in South Africa (see table 4 for the top 10 of those firms). They congregate in construction, food and beverages, and diversified industries. The largest 25 TNCs from Central and Eastern Europe are somewhat more evenly distributed among nine home countries (see table 5 for the top 10 of those firms). Transport, mining, petroleum and gas and chemicals and pharmaceuticals are the most frequently represented industries among these TNCs. The transnationality index for the three groups of TNCs shows some divergent patterns. The degree of transnationalization increased for both the top 50 TNCs and the top 25: from 37 per cent in 1998 to 39 per cent in 1999 in the case of the former; and from 26 per cent to 32 per cent in the case of the latter. The transnationality of the top 100 TNCs remained fairly stable at a high level (53 per cent).

The locational patterns of international production differ by country and industry, and they change over time, partly in response to the shifting industrial composition of FDI. During the past ten years, services have become more important in international production because this sector has been liberalized for FDI relatively recently. In 1999, they accounted for more than half of the total stock of inward FDI in developed countries and some one-third of that in developing countries. In many service industries, FDI tends to be spread relatively widely, reflecting the importance of proximity to customers. The same applies to some manufacturing industries, in which access to the domestic market is the predominant reason for investing abroad. However, the more advanced the level of technology in an industry, the higher the level of concentration tends to be. For example, if one takes six industries representing different technological levels (semiconductors, biotechnology, automobiles, TV and radio receivers, food and beverages, and textiles and clothing), an industrial mapping shows FDI in biotechnology as highly concentrated (figure 1), followed by semiconductors and televisions and radio receivers. In comparison, the food and beverages industry is more evenly spread among host countries (figure 2). Foreign affiliates in high-technology industries tend to agglomerate in selected locations in the world. This reflects differences in the industrial distribution of FDI in the manufacturing sector between developed and developing countries. In the developed countries, chemicals is the largest recipient industry, while in developing countries FDI is concentrated in low-technology industries.

At the functional level, geographical patterns of FDI reflect efficiency considerations of TNCs in the light of increasing competitive pressures, coupled with technological advances that enable real-time links across long distances and the liberalization of trade and FDI policies. This encourages a greater spread of all corporate functions. Even such critical corporate functions as design, R&D and financial management are today becoming increasingly internationalized to optimize cost, efficiency and flexibility. Take, for example, the location of regional headquarters. Singapore and Hong Kong (China) have attracted a number of regional headquarters to serve the Asian region, with the first location hosting some 200 regional headquarters, and the second 855 in 2000. In some industries, TNCs have set up integrated international production systems with an intra-firm international division of labour spanning regions (as in automobiles) or

Table 3. The world's 25 largest TNCs, ranked by foreign assets, 1999
(Billions of dollars and number of employees)

Ranking 1999 by:		Ranked in 1998 by:		Corporation	Country	Industry ^b	Assets		Sales		Employment		TNI ^a
Foreign assets	TNI ^a	Foreign assets	TNI ^a				Foreign	Total	Foreign	Total	Foreign	Total	(Per cent)
1	75	1	75	General Electric	United States	Electronics	141.1	405.2	32.7	111.6	143 000	310 000	36.7
2	22	5	19	ExxonMobil Corporation	United States	Petroleum expl./ref./distr.	99.4	144.5	115.5	160.9	68 000	107 000	68.0
3	43	3	45	Royal Dutch/Shell Group ^c	The Netherlands/United Kingdom	Petroleum expl./ref./distr.	68.7	113.9	53.5	105.4	57 367	99 310	56.3
4	83	2	85	General Motors	United States	Motor vehicles	68.5	274.7	46.5	176.6	162 300	398 000	30.7
5	77	4	76	Ford Motor Company	United States	Motor vehicles	...	273.4	50.1	162.6	191 486	364 550	36.1
6	82	6	60	Toyota Motor Corporation	Japan	Motor vehicles	56.3	154.9	60.0	119.7	13 500	214 631	30.9
7	51	9	59	DaimlerChrysler AG	Germany	Motor vehicles	55.7	175.9	122.4	151.0	225 705	466 938	53.7
8	21	32	27	Total Fina SA	France	Petroleum expl./ref./distr.	...	77.6	31.6	39.6	50 538	74 437	70.3
9	50	7	54	IBM	United States	Computers	44.7	87.5	50.4	87.6	161 612	307 401	53.7
10	18	8	21	BP	United Kingdom	Petroleum expl./ref./distr.	39.3	52.6	57.7	83.5	62 150	80 400	73.7
11	2	10	3	Nestlé S.A.	Switzerland	Food/beverages	33.1	36.8	45.9	46.7	224 554	230 929	95.2
12	45	11	51	Volkswagen Group	Germany	Motor vehicles	...	64.3	47.8	70.6	147 959	306 275	55.7
13	11	-	-	Nippon Mitsubishi Oil Corporation (Nippon Oil Co. Ltd)	Japan	Petroleum expl./ref./distr.	31.5	35.5	28.4	33.9	11 900	15 964	82.4
14	41	19	52	Siemens AG	Germany	Electronics	...	76.6	53.2	72.2	251 000	443 000	56.8
15	90	14	73	Wal-Mart Stores	United States	Retailing	30.2	50.0	19.4	137.6	...	1 140 000	25.8
16	55	-	-	Repsol SA	Spain	Petroleum expl./ref./distr.	29.6	42.1	9.1	26.3	...	29 262	51.6
17	13	17	17	Diageo Plc	United Kingdom	Beverages	28.0	40.4	16.4	19.0	59 852	72 479	79.4
18	59	87	84	Mannesmann AG	Germany	Telecommunications/engineering	...	57.7	11.8	21.8	58 694	130 860	48.9
19	58	13	63	Suez Lyonnaise des Eaux	France	Diversified/utility	...	71.6	9.7	23.5	150 000	220 000	49.1
20	32	23	40	BMW AG	Germany	Motor vehicles	27.1	39.2	26.8	36.7	46 104	114 952	60.9
21	3	15	8	ABB	Switzerland	Electrical equipment	27.0	30.6	23.8	24.4	155 427	161 430	94.1
22	42	20	41	Sony Corporation	Japan	Electronics	...	64.2	43.1	63.1	115 717	189 700	56.7
23	9	34	1	Seagram Company	Canada	Beverages/media	25.6	35.0	12.3	11.8	...	...	88.6
24	8	12	7	Unilever	United Kingdom/The Netherlands	Food/beverages	25.3	28.0	38.4	44.0	222 614	246 033	89.3
25	49	-	-	Aventis	France	Pharmaceuticals/chemicals	...	39.0	4.7	19.2	...	92 446	54.0

Source: UNCTAD/Erasmus University database.

^a TNI is the abbreviation for 'transnationality index'. The transnationality index is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

^b Industry classification for companies follows the United States Standard Industrial Classification as used by the United States Securities and Exchange Commission (SEC).

^c Foreign assets, sales and employment are outside Europe.

^d Foreign assets, sales and employment are outside Australia and Asia.

^e Foreign assets, sales and employment are outside North-America.

^f Foreign employment is outside Europe, Australia and New Zealand.

... Data on foreign assets, foreign sales and foreign employment were not made available for the purpose of this study. In case of non-availability, they are estimated using secondary sources of information or on the basis of the ratios of foreign to total assets, foreign to total sales and foreign to total employment.

Note The list includes non-financial TNCs only. In some companies, foreign investors may hold a minority share of more than 10 per cent.

Table 4. The largest 10 TNCs from developing economies, ranked by foreign assets, 1999

(Millions of dollars, number of employees)

Ranking by				Assets		Sales		Employment		TNI ^a	
Foreign assets	TNI ^a	Corporation	Economy	Industry ^b	Foreign	Total	Foreign	Total	Foreign	Total	(Per cent)
1	24	Hutchison Whampoa Limited	Hong Kong, China	Diversified	..	48 532	2 107	7 132	..	42 510	38.5
2	30	Petroleos De Venezuela	Venezuela	Petroleum expl./ref./distr.	8 009	47 250	13 332	32 600	15 000	47 760	29.8
3	10	Cemex S.A. (Cementos Mexicanos S.A.)	Mexico	Construction	6 973	11 896	2 504	4 841	..	20 902	54.6
4	39	Petronas - Petroliam Nasional Berhad	Malaysia	Petroleum expl./ref./distr.	..	31 992	..	15 957	..	18 578	19.8
5	34	Samsung Corporation	Korea, Republic of	Diversified/Trade	5 127	21 581	6 339	37 180	1 911	4 600	27.4
6	13	Daewoo Corporation	Korea, Republic of	Diversified/Trade	..	16 460	..	18 618	..	12 021	49.4
7	22	Lg Electronics Inc.	Korea, Republic of	Electronics and electrical equipment	4 215	17 273	6 383	15 590	27 000	50 000	39.8
8	45	Sunkyong Group	Korea, Republic of	Energy/Trading/Chemicals	4 214	34 542	10 762	43 457	2 273	26 296	15.2
9	43	New World Development Co., Ltd.	Hong Kong, China	Construction	4 097	14 789	368	2 259	788	22 945	15.8
10	42	Samsung Electronics Co., Ltd.	Korea, Republic of	Electronics and electrical equipment	3 907	25 487	5 214	28 024	6 039	39 350	16.4

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, table III.1, p. 90.

^a TNI is the abbreviation for 'transnationality index'. The transnationality index is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign

^b Industry classification for companies follows the United States Standard Industrial Classification as used by the United States Securities and Exchange Commission (SEC).

^c Foreign assets, sales and employment are outside Europe.

Data on foreign assets, foreign sales and foreign employment were not made available for the purpose of this study. In case of non-availability, they are estimated using secondary sources of information or on the basis of the ratios of foreign to total assets, foreign to total sales and foreign to total employment.

Note: The list includes non-financial TNCs only. In some companies, foreign investors may hold a minority share of more than 10 per cent.

Table 5.. The largest 10 non-financial TNCs based in Central and Eastern Europe, a ranked by foreign assets, 1999

(Millions of dollars and number of employees)

Ranking by		Corporation	Country	Industry	Assets		Sales		Employment		Transnationality
Foreign assets	Transnationality index ^a				Foreign	Total	Foreign	Total	Foreign	Total	index b
1	15	Lukoil Oil Co.	Russian Federation	Petroleum & natural gas	3 236.0	8 422.0	4 642.0 ^d	10 903.0	10 000	120 000	29.8
2	1	Latvian Shipping Co.	Latvia	Transportation	459.0	470.0	191.0	191.0	1 124	1 748	87.3
3	23	Hrvatska Elektroprivreda d.d.	Croatia	Energy	296.0	2 524.0	10.0	780.0	..	15 877	4.3
4	12	Podravka Group ^c	Croatia	Food & beverages/ pharmaceuticals	285.9	477.1	119.4	390.2	501	6 898	32.6
5	6	Primorsk Shipping Co.	Russian Federation	Transportation	256.4	444.1	85.3	116.5	1 308	2 777	59.4
6	11	Gorenje Group	Slovenia	Domestic appliances	236.3	618.1	593.3	1 120.6	590	6 691	33.3
7	8	Far Eastern Shipping Co.	Russian Federation	Transportation	236.0	585.0	134.0	183.0	263	8 873	38.8
8	7	Pliva Group	Croatia	Pharmaceuticals	181.8	915.9	384.7	587.6	2 645	7 857	39.7
9	10	TVK Ltd.	Hungary	Chemicals	175.4	553.2	248.9	394.3	927	5 225	37.5
10	2	Motokov a.s. ^c	Czech Republic	Trade	163.6	262.5	260.2	349.1	576	1 000	64.8

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, table III.16, p. 115.

^a Based on survey responses.

^b The index of transnationality is calculated as the average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment.

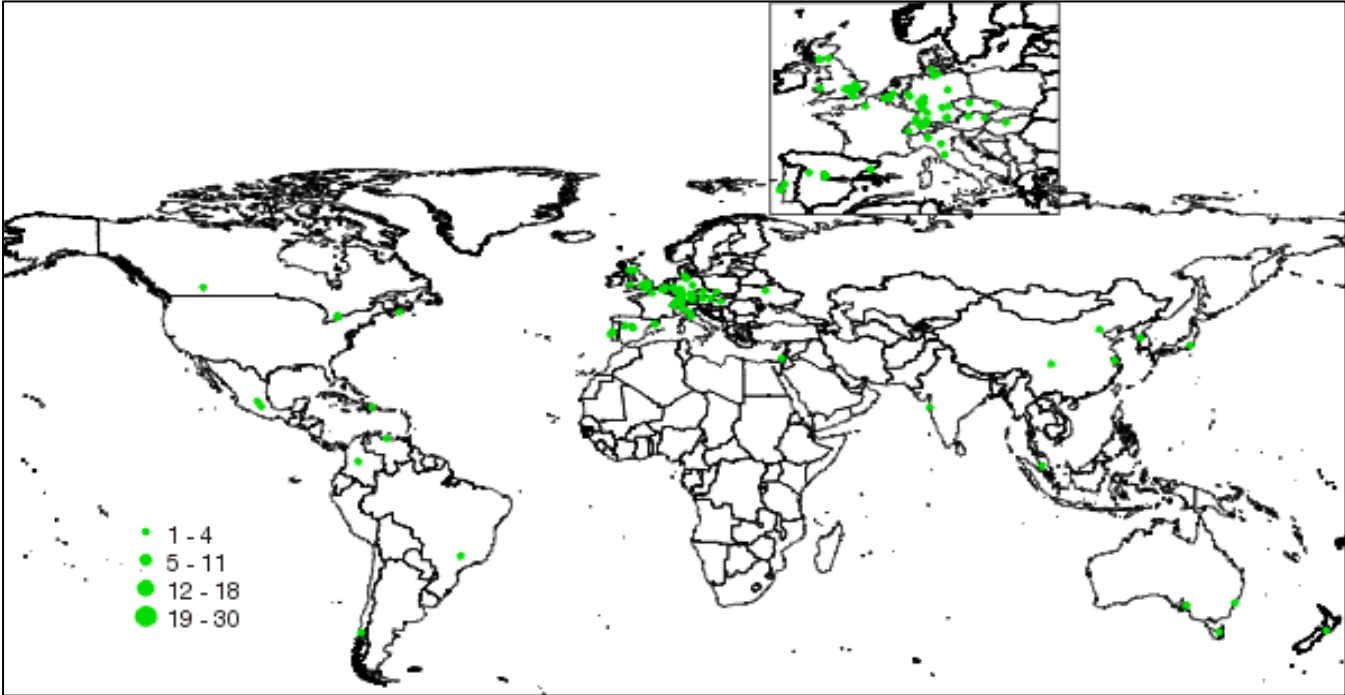
^c 1998 data.

^d Including export sales by parent firm.

^e Unweighted average.

continents (as in semiconductors). Within such complex systems, the functions transferred to different locations vary greatly. Less industrialized locations are assigned simpler tasks like assembly and packaging, while more skill- and technology-intensive functions are allocated to industrially more advanced locations.

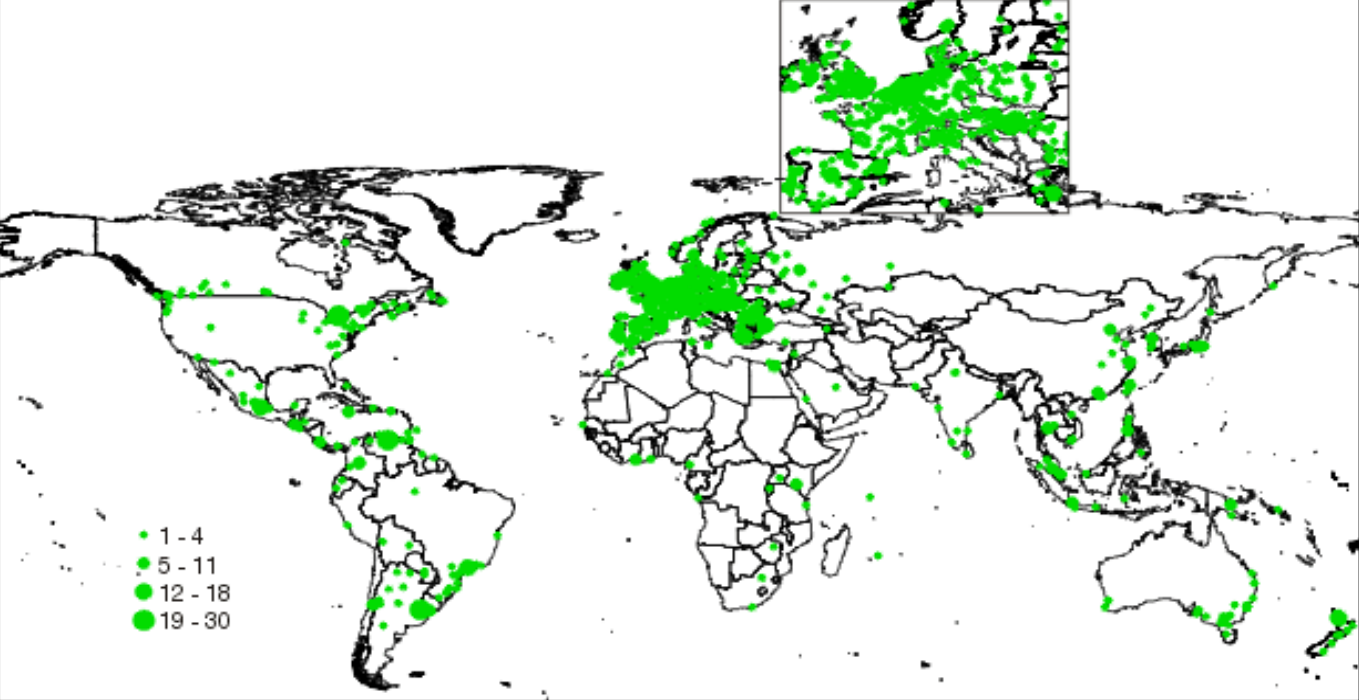
Figure 1. The distribution of foreign affiliates in the biotechnology industry, 1999^a



Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, figure II.18, p. 69.

^a On the basis of 169 majority-owned foreign affiliates identified.

Figure 2. The distribution of foreign affiliates in food and beverage industry, 1999^a



Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, figure II.22, p. 69.

^a On the basis of 2,245 majority-owned foreign affiliates identified.

...with countries varying greatly in terms of their success in attracting FDI, as revealed in the new Inward FDI Index.

The concentration of FDI reflects the concentration of economic activity more generally. Thus, exports, domestic investment and technology payments are also highly concentrated. Richer and more competitive economies naturally receive and send more international direct investment than other economies.

To gauge the underlying attractiveness of a country for international investors, it is useful to take its relative economic size and strength into account. The *Inward FDI Index* captures the ability of countries to attract FDI after taking into account their size and competitiveness. The Index is the average of three ratios, showing each country's share in world FDI relative to its shares in GDP, employment and exports. An index value of "one" would therefore mean that a country's share in world FDI matches its economic position in terms of these three indicators.

The ranking of 112 countries in 1988-1990 and 137 in 1998-2000 shows a large dispersion of index values. For 1998-2000, the value of the Index ranges from 17.3 for the leading economy, Belgium and Luxembourg, to -0.8 for Yemen. Moreover, the rankings have changed significantly over time. Singapore has slipped from first position at the end of the 1980s to thirteenth position a decade later. The fall in its index value reflects a slower growth of FDI (by about a half) than in its GDP and exports which more than doubled between the two periods. The position of Sweden has improved considerably (moving from the twenty-ninth spot to the fourth), partly reflecting a deliberate change in policy during the 1990s in favour of greater openness towards inward FDI.

In 1998-2000, there were five countries with an Inward FDI Index value of one: Costa Rica, El Salvador, Hungary, Malaysia and Slovakia. There were 53 countries with a value higher than one, and 79 with values lower than one. The last group, which "under-performs" in terms of attracting FDI, includes advanced economies like Japan, Italy and Greece, newly industrializing economies like the Republic of Korea, Taiwan Province of China and Turkey, oil rich economies like Saudi Arabia and a number of low income countries. FDI recipients with high values of the Index include the majority of the developed countries, Hong Kong (China), Singapore and some Central and Eastern European countries.

In both periods, the Index value for developed countries is about twice the world average, while those for developing countries and economies in transition are below the world average (table 6). The differences between the three groups of countries reflect mainly the influence of the employment variable: the developed and developing country groups have FDI shares roughly in proportion to their GDP shares, but the former receive far larger shares of world FDI than their shares in world employment, while developing countries and economies in transition receive less. Within the developing world, the Inward FDI Index values for South America and Central Asia exceeded unity in 1998-2000. In the other regions (and for these two regions in the earlier period), the Index value was below one. South Asia, West Asia and North Africa show the lowest values; the reasons for this may have more to do with political factors than economic ones. Sub-Saharan Africa receives FDI in line with its GDP share, but very little in relation to its share in employment; over time its FDI Index value has declined slightly. For the LDC group, the value of the FDI Index doubled between the two periods, mostly due to increases in the FDI to exports and FDI to GDP ratios. In fact, in the second period, the Index value for African LDCs exceeded one; it is now almost twice as high as that for sub-Saharan Africa as a whole. The index value for other LDCs has declined over the decade.

The Index suggests that Africa receives less FDI flows in comparison with the region's relative economic size. The underlying economic reality is that sub-Saharan Africa has lost share in *both* world FDI inflows and other economic aggregates; African LDCs, however, have maintained their share of FDI but have fallen further behind in other economic aggregates.

Table 6. The Inward FDI Index, by region, 1988-1990 and 1998-2000

Region	1988-1990				1998-2000			
	FDI share/ GDP share ^a	FDI share/ employment share ^b	FDI share/ export share ^c	FDI inward index	FDI share/ GDP share ^a	FDI share/ employment share ^b	FDI share/ export share ^c	FDI inward index
World ^d	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Developed economies	1.0	4.0	1.1	2.0	1.0	4.4	1.1	2.2
Western Europe	1.3	4.9	0.9	2.4	1.6	6.3	1.1	3.0
European Union	1.3	4.8	1.0	2.4	1.6	6.4	1.1	3.0
Other Western Europe	1.1	5.7	0.6	2.5	1.1	5.5	0.6	2.4
North America	1.1	4.7	2.0	2.6	0.9	4.4	1.6	2.3
Other developed economies	0.3	1.1	0.5	0.6	0.1	0.5	0.2	0.3
Developing economies	1.0	0.2	0.7	0.6	1.0	0.3	0.7	0.7
Africa	1.0	0.2	0.7	0.6	0.7	0.1	0.6	0.4
North Africa	0.8	0.4	0.7	0.6	0.4	0.2	0.4	0.3
Other Africa	1.2	0.2	0.8	0.7	1.0	0.1	0.7	0.6
Latin America and the Caribbean	0.8	0.6	1.0	0.8	1.1	1.0	1.6	1.2
South America	0.7	0.5	1.0	0.7	1.2	1.1	2.6	1.6
Other Latin America and the Caribbean	1.2	0.8	1.1	1.0	0.9	0.7	0.6	0.7
Asia and the Pacific	1.1	0.2	0.6	0.6	0.9	0.2	0.6	0.6
Asia	1.1	0.2	0.6	0.6	0.9	0.2	0.6	0.6
West Asia	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Central Asia	..	..	..	..	1.7	0.3	1.3	1.1
South, East and South-East Asia	1.3	0.2	0.7	0.7	1.1	0.2	0.6	0.6
South Asia	0.1	-	0.3	0.1	0.2	-	0.3	0.2
Pacific	4.5	1.6	1.9	2.7	1.2	0.3	0.5	0.7
Developing Europe	2.2	3.4	0.5	2.1	1.2	1.5	0.6	1.1
Central and Eastern Europe	0.2	0.1	0.2	0.1	0.9	0.4	0.6	0.6
Memorandum: least developed countries ^d								
LDCs: total	0.3	-	0.6	0.3	0.6	0.1	1.0	0.6
African LDCs	0.5	0.1	0.6	0.4	1.6	0.1	1.7	1.1
Latin America and the Caribbean LDCs	0.3	-	0.4	0.3	0.1	-	0.2	0.1
Asian and Pacific LDCs	0.1	-	0.5	0.2	0.1	-	0.2	0.1
Asian LDCs	0.1	-	0.5	0.2	0.1	-	0.2	0.1
West Asian LDCs	..	..	..	..	-1.3	-0.2	-0.9	-0.8
South and South-East Asian LDCs	0.1	-	0.5	0.2	0.2	-	0.5	0.2
Pacific LDCs	..	..	..	..	..	..	..	..

Source : UNCTAD, *World Investment Report 2001: Promoting Linkages*, table I.5, p. 43.

^a The ratio of the region's share of world FDI inflows to the region's share of world GDP.

LABSTA database and the World Bank's World Development Indicators, 2001.

^c The ratio of the region's share of world FDI inflows to the region's share of world exports of goods and non-factor services.

^d LDCs as defined by the United Nations.

Note : The Indexes for some regions are based on incomplete coverage of countries in the region, due to lack of data on one or more variables. Also, the Indexes for Central Asia, Developing Europe and Central and Eastern Europe are not strictly comparable between the two periods because the number of countries included in each differed substantially between the two periods. The increase in the number of countries covered by the Index for developing economies in the second period (from 86 to 100) can cause a moderate upward bias in that grouping's Index in the second period.

Interpreting the Inward FDI Index calls for care and the use of evidence on other economic and policy variables. Nonetheless, it can provide a starting point for benchmarking how countries succeed in attracting FDI. Many of the countries at the top of the ranking (with an index value far exceeding unity) are strong economies that are leveraging their economic strength through policies to attract more than their "normal" share of FDI. There are also, however, a few countries with weak economies but strong natural resource endowments that occupy places at the top. A number of countries at the bottom are weak economies in which the influence of other economic factors and policies apparently pulls inward FDI below levels that could be expected on the basis of the elements of economic strength covered by the Index. There are others at the bottom, (such as Japan and the Republic of Korea), however, that have strong economic positions overall but have chosen to restrict FDI (at least until fairly recently).

The expansion of international production is taking place in a new international setting...

The rapidly changing international setting is changing the drivers of FDI. While the main traditional factors driving FDI location - large markets, the possession of natural resources and access to low-cost unskilled or semi-skilled labour - remain relevant, they are diminishing in importance, particularly for the most dynamic industries and functions. As trade barriers come down and regional links grow, the significance of many *national* markets also diminishes. Primary industries account for a shrinking share of industrial activity, and natural resources per se play a smaller role in attracting FDI for many countries. The role of cheap “raw” labour is similar: even labour-intensive activities often need to be combined with new technologies and advanced skills. The location of TNC activity instead increasingly reflects three developments: policy liberalization, technical progress and evolving corporate strategies.

Changes in the international *policy environment* have a strong impact on locational decisions. Trade and investment liberalization allows TNCs to specialize more and to search for competitive locations. TNCs have greater freedom to choose locations and the functions they transfer. Between 1991 and 2000, a total of 1,185 regulatory changes were introduced in national FDI regimes, of which 1,121 (95 per cent) were in the direction of creating a more favourable environment for FDI (table 7). During 2000 alone, 69 countries made 150 regulatory changes, of which 147 (98 per cent) were more favourable to foreign investors.

Technical progress affects the geography of FDI in many ways. Rapid innovation provides the advantages that propel firms into international production. Thus, innovation-intensive industries tend to be increasingly transnational, and TNCs have to be more innovative to maintain their competitiveness. Innovation also leads to changes in the structure of trade and production, with R&D-intensive activities growing faster than less technology-intensive activities. The increased technology intensity of products reduces the importance of primary and simple low-technology activities in FDI, while raising that of skill-intensive activities. New information and communication technologies intensify competition while allowing firms to manage widely dispersed international operations more efficiently. High-technology activities previously out of reach of developing countries can now be placed there because labour-intensive processes within those activities can be economically separated and managed over long distances.

Table 7. National regulatory changes, 1991-2000

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Number of countries that introduced changes in their investment regimes	35	43	57	49	64	65	76	60	63	69
Number of regulatory changes of which:	82	79	102	110	112	114	151	145	140	150
More favourable to FDI ^a	80	79	101	108	106	98	135	136	131	147
Less favourable to FDI ^b	2	-	1	2	6	16	16	9	9	3

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, box table I.1.1, p. 6.

^a Including liberalizing changes or changes aimed at strengthening market functioning, as well as increased incentives.

^b Including changes aimed at increasing control as well as reducing incentives.

Many activities in integrated production systems are technology-intensive and dynamic; their location in developing countries can rapidly transform the FDI and competitive landscape there. Moreover, the pervasiveness of technical change means that *all* TNC activities have to use new technologies effectively. Location decisions have to be based on the ability of host countries to provide the complementary skills, infrastructure, suppliers and institutions to operate technologies efficiently and flexibly. Technical progress, thus, forces firms involved in international production to differentiate increasingly between the “haves” and “have-nots” in new FDI-complementing factors when deciding where to undertake different activities.

Managerial and organizational factors strengthen the new locational determinants of FDI. A greater focus on core competencies, with flatter hierarchies and stronger emphasis on networking, steers investments towards locations with advanced factors and institutions, and, where relevant, distinct industrial clusters. New organizational methods (aided by new technologies) allow a more efficient management of global operations, encouraging a greater relocation of functions. Intense competition forces firms to specialize in their core business, inducing TNCs to forge external links at various points along the value chain (from design and innovation to marketing and servicing) and allow other firms (including TNCs) to undertake different functions.

Hence, the changing geography of international production reflects the dynamic interaction of many economic, organizational and policy factors. While many of these factors have long been relevant, their combination today represents new forces influencing TNC location decisions. To cope successfully with globalization and use FDI to their advantage, developing countries must understand these forces. They set the parameters within which policy makers have to act, to attract FDI and to extract the greatest benefits in terms of technology, skills and market access, striking backward linkages and leveraging foreign assets to reach competitive positions in global markets.

...and leads to a concentration at the sub-national level as well...

The growing spread and mobility of TNCs are making local conditions more, not less, important. The increased freedom for factors and functions to move does not mean that international production spreads equally to all locations. Mobile factors only go and “stick” in places where efficient complementary factors exist. Thus, FDI tends to be fairly concentrated geographically within countries, responding to the agglomeration economies that also influence domestic firms. These economies relate to proximity to markets and factors of production, and the availability of specialized skills, innovatory capabilities, suppliers and institutions. Intensifying competition forces firms to specialize more in their core competencies and rely more heavily on links with external partners (suppliers, buyers or even competitors) than in the past. These networking possibilities often induce TNCs to set up operations in close proximity to (competent) clusters of related firms.

Industrial clusters are playing an increasing role in economic activity, particularly in technology intensive activity. “Clusters” are concentrations of firms in one or a few industries, benefiting from synergies created by a dense network of competitors, buyers and suppliers. Clusters comprise demanding buyers, specialized suppliers, sophisticated human resources, finance and well-developed support institutions. Such concentrations of resources and capabilities can attract “efficiency-seeking” FDI (and more and more FDI is of this type). It also helps to attract “asset-seeking” FDI to the more advanced host countries. In their inexorable search for new competitive advantages, TNCs seek “created assets” such as technology and skilled labour across the globe. Clusters of innovative activity (as in Silicon Valley in California, Silicon Fen in Cambridge (United Kingdom), Wireless Valley in Stockholm or Zhong Guancun, a suburb of Beijing) have a distinct advantage in attracting such (high value) FDI.

These shifts in location factors pose important policy challenges for developing countries. Many countries, in particular the poorer and least industrialized ones, risk becoming even more marginal to the dynamics of international production because they cannot meet the new requirements for attracting high quality FDI. Simply opening an economy is no longer enough. There is a need to develop attractive configurations of locational advantages.

Different configurations of advantages attract different corporate functions and industries. In some high-technology industries like electronics, it may be possible to attract final-stage assembly on the basis of cost-efficient semi-skilled labour and efficient export-processing facilities. In other activities, production facilities may require well-developed local supply chains, a pool of skilled labour, close interaction with other firms and knowledge-producing institutions in close proximity. Some back-office activities may require specialized skills (e.g. in accounting). High value functions like R&D or regional headquarters are particularly demanding of advanced skills and institutions.

Investors - domestic and foreign alike - seek to take advantage of dynamic clusters. In joining a cluster, they often add to its strength and dynamism. This, in turn, tends to attract new skills and capital, adding further

to the dynamism of the location. Where agglomeration economies are significant, the rest of the country might be of little relevance to the locational decisions of firms. Hence, attracting FDI in these activities depends increasingly on the ability to provide efficient clusters. An international bank's location choice is not so much a choice between the United Kingdom and Germany as between London and Frankfurt.

Just like competitive firms differentiate themselves from their rivals by developing clearly identifiable products with recognizable brand names, some countries, too, can, over time, identify and develop their distinct "investment products", and market them to foreign investors. For example, Bangalore in India has become a "brand name" for the development of software, with its pool of highly skilled engineers and competitive software companies. Singapore and Hong Kong (China) enjoy a similar status in the area of financial services and regional headquarters in Asia.

...which calls for a new generation of investment promotion policies.

Using and strengthening clusters to attract FDI calls for new approaches, going beyond the first and second generations of investment promotion policies. In the first generation of investment promotion policies, many countries adopt market friendly policies. They liberalize their FDI regimes by reducing barriers to inward FDI, strengthening standards of treatment for foreign investors and giving a greater role to market forces in resource allocation. Virtually all countries - to varying degrees - have undertaken steps in this direction. Some countries, can go a long way in attracting FDI with these steps, if the basic economic determinants for obtaining FDI are right. In the second generation of investment promotion policies, governments go a step further and actively seek to attract FDI by "marketing" their countries. This approach leads to the setting up of national investment promotion agencies. The World Association of Investment Promotion Agencies, established in 1995, now has over 100 members. Again, of course, the success of proactive efforts depends, in the end, on the quality of the basic economic factors in a host country.

The third generation of investment promotion policies takes the enabling framework for FDI and a proactive approach towards attracting FDI as a starting point. It then proceeds to target foreign investors at the level of industries and firms to meet their specific locational needs at the activity and cluster level, in light of a country's developmental priorities. Such a strategy, in turn, is greatly helped if a country can nurture specific clusters that build on the country's competitive advantages, capitalizing on the natural inclination of firms to agglomerate and that eventually acquire a brand name. A critical element of such investment promotion is to improve - and market - particular locations to potential investors in specific activities. Of course, a country's general economic, political and regulatory features also matter, because they affect the efficiency of the clusters within it. But the key to success of such new investment promotion strategies is that they actually address one of the basic economic FDI determinants while understanding the changing location strategies of TNCs.

However, such a targeted approach, especially the development of locational "brand names", is difficult and takes time. It requires fairly sophisticated institutional capacities. Third generation promotion is, nevertheless, growing in practice, as witnessed by the proliferation of sub-national agencies (of which a minimum of 240 exist today) and even municipal investment promotion agencies.

This gives rise to another challenge: the need to coordinate policies across various administrative levels in a country. If that is not done, there is a risk that competition among regions within a country leads to "fiscal wars" and results in waste as far as the welfare of the country as a whole is concerned. It also raises the risk that promotion agencies, if they are unable to coordinate other policy-making bodies in the country, will be unable to deliver on their promises to investors.

Regardless of the level at which FDI is promoted - and regardless of the precise mix of the three basic investment strategies that is being pursued - the competitiveness of the domestic enterprise sector and a pool of skilled people are the key to the "product". Strong local firms attract FDI; the entry of foreign affiliates, in turn, feeds into the competitiveness and dynamism of the domestic enterprise sector. The strongest channel for diffusing skills, knowledge and technology from foreign affiliates is the linkages they strike with local firms and institutions. Such linkages can contribute to the growth of a vibrant domestic enterprise sector, the bedrock of economic development. For developing countries, the formation of backward linkages with foreign affiliates

therefore assumes particular importance. The challenge then is how to promote backward linkages - regardless of the type of investment promotion policy a country pursues. This is the topic of Part Two of *WIR01*.

PROMOTING BACKWARD LINKAGES

Backward linkages from foreign affiliates to domestic firms can enhance the benefits from FDI.

Part One of *WIR01* mapped the locational pattern of the extent to which countries attract FDI. A key factor determining the benefits host countries can derive from FDI are the linkages that foreign affiliates strike with domestically owned firms. Backward linkages from foreign affiliates to domestic firms are important channels through which intangible and tangible assets can be passed on from the former to the latter. They can contribute to the upgrading of domestic enterprises and embed foreign affiliates more firmly in host economies. Given the role that backward linkages can play in these respects, *WIR01* analyses how host country governments can best promote efficient backward linkages by foreign affiliates. The approach is pragmatic. It draws on practical experience as to what firms have done to forge linkages, and the measures that governments have adopted to encourage linkages and their deepening. An underlying assumption is that, whatever the current level of backward linkages, linkages can be increased or deepened further, with a view towards strengthening the capabilities and competitiveness of domestic firms.

Linkages offer benefits to foreign affiliates and domestic suppliers, as well as to the economy in which they are forged as a whole. For *foreign affiliates*, local procurement can lower production costs in host economies with lower costs and allow greater specialization and flexibility, with better adaptation of technologies and products to local conditions. The presence of technologically advanced suppliers can provide affiliates with access to external technological and skill resources, feeding into their own innovative efforts. The direct effect of linkages on *domestic suppliers* is generally a rise in their output and employment. Linkages can also transmit knowledge and skills between the linked firms. A dense network of linkages can promote production efficiency, productivity growth, technological and managerial capabilities and market diversification for the firms involved. Finally, for a *host economy* as a whole, linkages can stimulate economic activity and, where local inputs substitute for imported ones, benefit the balance of payments. The strengthening of suppliers can in turn lead to spillovers to the rest of the host economy and contribute to a vibrant enterprise sector.

Where, as in developed countries, both buyers and suppliers are technologically strong and capable, knowledge flows run in both directions with a focus mainly on new technologies, products and organizational methods. Where, as in most developing countries, suppliers are relatively weak, the flows are likely to be more one-sided, from foreign affiliates (buyers) to domestic firms. They can also be expected to contain more basic technological and managerial knowledge, in that suppliers are likely to lag further behind international best practice frontiers; for this reason, they can be particularly important.

Of course, not all linkages are equally beneficial for host economies. For example, in highly protected regimes, foreign affiliates may strike considerable linkages without much incentive to invest in the upgrading of suppliers' technological capabilities. Instead, such linkages may foster a supplier base that is unable to survive international competition. Linkages developed in competitive environments and accompanied by efforts to enhance suppliers' capabilities are likely to be technologically more beneficial and dynamic. The objective is not to promote linkages for their own sake, but to do so where they are beneficial to the host economy.

The extent to which domestic firms benefit from linkages with foreign affiliates also depends on the nature of their relationship. The intensity of the interaction between buyers and suppliers is affected by the bargaining position of the two parties. A supplier of relatively simple, standardized, low-technology products and services is typically in a weak bargaining position vis-à-vis its buyer. Such suppliers may be highly vulnerable to market fluctuations, and their linkages with foreign affiliates are unlikely to involve much exchange of information and knowledge. Foreign affiliates only invest resources in building local capabilities when they expect such an effort to yield a positive return.

TNCs have a self-interest in forging links with domestic suppliers,...

Organizational changes are making supply chain management more critical to the competitiveness of firms, including TNCs. On average, a manufacturing firm spends more than half its revenues on purchased inputs. In some industries, such as electronics and automotive, the proportion is even higher. Some firms are contracting out the entire manufacturing process to independent “contract manufacturers”, keeping only such functions as R&D, design and marketing. In these cases, supply chain management obviously becomes even more important.

A foreign affiliate - like any other firm - has three options for obtaining inputs in a host country: import them; produce them locally in-house; or procure them from a local (foreign- or domestically owned) supplier. The extent to which foreign affiliates forge linkages with domestic suppliers is determined by the balance of costs and benefits, as well as differences in firm-level perceptions and strategies. While the costs and benefits reflect a large number of industry-specific factors, the most important one concerns the local availability of qualified suppliers. Foreign affiliates producing primarily for the domestic market generally procure a larger share of inputs locally than export-oriented ones or those that are part of integrated international production systems. In the latter case, cost and quality considerations are particularly stringent, and affiliates tend to be guided by corporate global sourcing strategies. The lack of efficient domestic suppliers is often the key obstacle to the creation of local linkages. In many demanding activities, TNCs therefore actively encourage foreign suppliers to establish local facilities or prefer to produce in-house.

Many TNCs have supplier development programmes in host developing countries. Efforts can include finding suppliers and ensuring efficient supply through technology transfer, training, information sharing and the provision of finance. The objective is usually to expand the number of efficient suppliers, and/or to help existing suppliers improve their capabilities in one or several areas. However, supplier development efforts are typically not extended to all suppliers. Foreign affiliates tend to focus on a limited number of suppliers providing the strategically most important inputs. Where supplier development is undertaken, however, TNCs often offer considerable support to suppliers by transferring technology, training suppliers' staff, providing business-related information and lending financial support. The intensity of knowledge and information exchange in buyer-supplier relationships tends to increase with the level of economic development of host countries, particularly in complex activities, and where technological and managerial gaps with suppliers are not too wide.

...but governments can play an important role in promoting linkages...

Although foreign affiliates have an interest in creating and strengthening local linkages, their willingness to do so can be influenced by government policies addressing different market failures at different levels in the linkage formation process. For example, TNCs may be unaware of the availability of viable suppliers, or they may find it too costly to use them as sources of inputs. In developing countries, policies may be required to compensate for weak financial markets or weak institutions like vocational schools, training institutes, technology support centres, R&D and testing laboratories and the like. Well-designed government intervention can raise the benefits and reduce the costs of using domestic suppliers.

The role of policy is most significant where there is an “information gap” on the part of both buyers and suppliers about linkage opportunities, a “capability gap” between the requirements of buyers and the supply capacity of suppliers and where the costs and risks for setting up linkages or deepening them can be reduced. The linkage formation process is obviously affected by a host country's overall policy environment, its economic and institutional framework, the availability of human resources, the quality of infrastructure and political and macroeconomic stability. But the most important host country factor is the availability, costs and quality of domestic suppliers. Indeed, in addition to being a key determinant for the formation of efficient linkages, the technological and managerial capabilities of domestic firms also determine to a large extent the ability of a host economy to absorb and benefit from the knowledge that linkages can transfer. Weak capabilities of domestic firms increase the chances that foreign affiliates source the most sophisticated and complex parts and components either internally or from a preferred (foreign-owned) supplier within or outside a host country. For example, domestic firms in Taiwan Province of China and Singapore supply complex inputs to foreign affiliates, but far fewer do so in Malaysia, Thailand or Mexico.

The international environment is evolving, as a result of globalization and liberalization, as well as changes in the international policy framework, including WTO agreements and other international arrangements. Some policy instruments traditionally used to foster linkages are now considered less relevant or are subject to new multilateral rules, such as the WTO Agreement on Trade-related Investment Measures (TRIMs) or the Agreement on Subsidies and Countervailing Measures. For example, local content requirements have been phased out by most countries. At the same time, FDI and trade liberalization, as well as more intense competition for FDI, have reduced the reliance on other investment performance requirements.

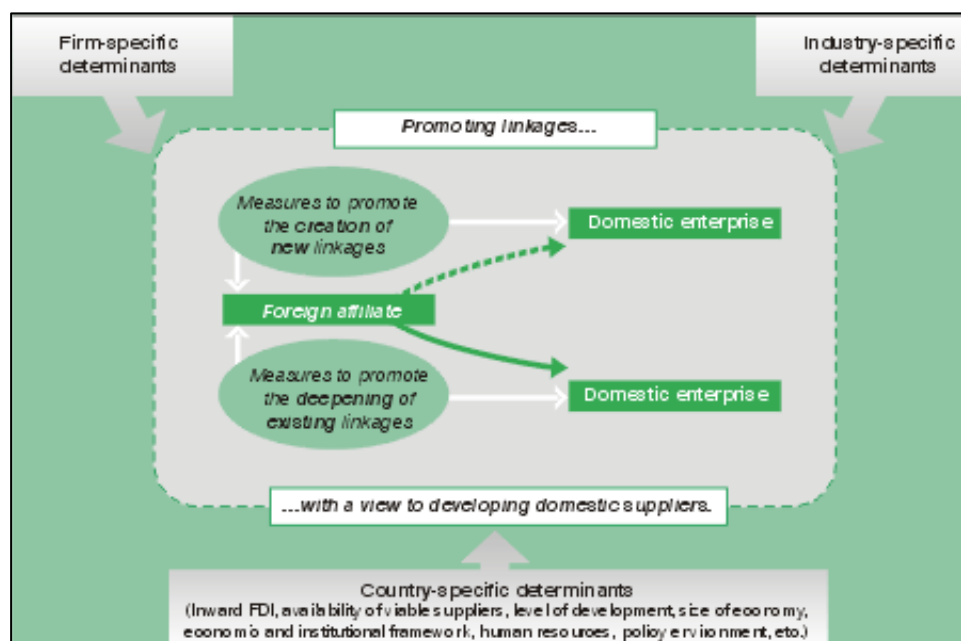
Well-targeted incentives to support the creation and deepening of linkages can have a positive impact on linkages. Thought should be given to render this category of development-related subsidies non-actionable (i.e. not open to challenge) under WTO rules. On the other hand, preferential trade arrangements – with rules of origin based on the level of domestic value added or local content – can have important effects on FDI and linkage creation by TNCs in preference-receiving countries. In general, these effects are the more significant, the higher the preferential margin associated with rules of origin and the lower the related administrative costs. Linkage effects of rules of origin, however, also depend on local supply capacity.

This new international setting has, thus, changed the scope for national policy options. There is, however, flexibility within the existing international policy framework, e.g. in the form of extension of transition arrangements and differential treatment of countries at different levels of development. While some agreements are subject to further review, the challenge for policy makers is, therefore, to make use of the options allowed within the current framework, as well as other policy measures that are not subject to multilateral rules to integrate FDI more deeply into their national economies and, in particular, benefit from backward linkages.

In this new policy environment, active policy approaches that work with the market are at a premium. Whereas there is no universally established best practice in linkage promotion policy, important lessons can be drawn from past experience. Linkage promotion policies, like other development policies, are often highly context specific and need to be adapted to the specific circumstances prevailing in each host country (figure 3). They need to be an integral part of broader development strategies, and their success often depends on factors that may not appear in a narrow assessment of linkages policies. Much also depends on how policies are designed, coordinated and implemented in practice.

One approach involves encouraging linkages through various measures to bring domestic suppliers and foreign affiliates together and to strengthen their linkages in the key areas of information, technology, training and finance. This is a broad approach - it basically improves the enabling framework for linkages formation. A review of the experience of host countries yields a long menu of specific measures that can be taken in this respect. Such measures can include, for example, the provision of information and matchmaking to help domestic firms link up with foreign affiliates; encouraging foreign affiliates to participate in programmes aimed at the upgrading of domestic suppliers' technological capabilities; promoting the establishment of supplier associations or clubs; the joint provision of services (especially training); and various schemes to enhance domestic suppliers' access to finance.

Figure 3. Policy focus for the promotion of backward linkages



Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, figure V.1, p. 164.

...perhaps best in the framework of a special linkage promotion programme.

Another approach goes further in that it involves the establishment of a specific linkage promotion programme combining a number of the measures just mentioned. This is a proactive approach which is typically focused on a selected number of industries and firms, with a view towards increasing and deepening linkages between foreign affiliates and domestic firms. As with other policies that span a range of productive factors, activities and enterprises, it is advisable for policy makers that choose this approach to “start small” (perhaps with a pilot scheme) and to build policy monitoring, flexibility and learning into the programme. The need for starting small is all the greater when resources are scarce. Moreover, it is essential for any programme to seek close collaboration with the private sector, both foreign affiliates and domestic suppliers, in design and implementation.

Some countries have in fact set up specific linkage programmes involving a combination of different policy measures, and targeting selected industries and firms. Such programmes have been put in place primarily by countries with a large foreign presence and with a (relatively) well-developed base of domestic enterprises. The Czech Republic, Hungary, Ireland, Malaysia, Mexico, Singapore, Thailand and the United Kingdom have all made special efforts of this kind. Some of the programmes are organized at the national level while others have been implemented as regional or local initiatives. Three elements are common to them: the provision of market and business information; matchmaking; and managerial or technical assistance, training and, occasionally, financial support or incentives. Some programmes have also included FDI promotion activities, to attract foreign investors in targeted industries. In each case, sustainable linkages will only be created if both foreign affiliates and domestic firms can benefit from them.

The general features of a special Linkages Promotion Programme are set out below. Such a programme should be seen more as a set of building blocks that countries might “mix and match” according to their specific circumstances, rather than a ready-made prescription that all countries can apply. Clearly, the choice of measures and the way they are combined must reflect the level of development, policy capabilities, resources and objectives of each country. Even countries at similar levels of development may choose different configurations of policy according to their enterprise and institutional capabilities.

The starting point for an effective linkage programme is a clear vision of how FDI fits into the overall development strategy and, more specifically, a strategy to build production capacity. The vision has to be based on a clear understanding of the strengths and weaknesses of the economy and of the challenges facing it in a globalizing world. A linkage programme should, in particular, address the competitive needs of domestic enterprises and the implications these have for policies, private and public support institutions and support measures (including skills- and technology-upgrading).

1. Setting the policy objectives of a linkage programme

Linkage programmes are at the intersection of two subsets of programmes and policies: those geared towards enterprise development (especially SME development) and those related to FDI promotion. The former are desirable in and by themselves, as a vibrant enterprise sector is the bedrock of economic growth and development; in the context of the promotion of linkages, the capabilities of local firms are the single most important determinant of success. FDI promotion, in turn, increasingly focuses not only on the quantity of FDI a country attracts, but also on its quality, including linkage opportunities.

Linkage programmes can have two broad objectives: to increase domestic sourcing by foreign affiliates (i.e. create new backward linkages) and to deepen and upgrade existing linkages - both with the ultimate aim of upgrading the capacities of local suppliers to produce higher value-added goods in a competitive environment. These objectives are interdependent: deepening may spin off new linkages, and spreading linkages may change their quality and depth.

A government's objectives should be shared with all principal stakeholders, as their active participation is needed for the success of any programme. Active dialogue and consultations are advisable right from the very beginning. This requires first and foremost:

- Initiating a public-private sector dialogue (perhaps in a "Linkage Forum") with stakeholders, including foreign affiliates (and especially their procurement officers), supplier industry associations, chambers of commerce, banks, service providers, trade unions and government agencies (such as investment promotion agencies, development corporations, industrial zone authorities, industry development agencies).
- Disseminating "best practice" experiences based on companies' programmes and actions and experiences of government programmes and measures in other countries.

2. Identifying the targets of the programme

Governments, in cooperation with private sector institutions, need to define the targets of a programme in terms of the industries and, within them, the foreign affiliates and domestic suppliers to be involved.

- **Industries** can be selected according to:
 - the sectoral development priorities of a country, taking into account the extent of the presence of foreign affiliates and capable domestic firms;
 - the degree of match between local capabilities and the input requirements of foreign affiliates;
 - the nature of international production systems within the industry selected, which partly determines the degree of autonomy of foreign affiliates with respect to local sourcing (foreign affiliates that are part of integrated international production systems are likely to be more dependent on global corporate sourcing policies);
 - the technology content of the activity and the scope for moving up the value-added chain.

Such an analysis is essential for any linkage strategy - without it, a government cannot decide how to allocate scarce resources. It also has to take into account trends in the growth and spread of

international production networks and their implications for domestic producers, drawing, among others, on continuous dialogue with key stakeholders.

- **Foreign affiliates** can be selected according to their willingness and potential to establish beneficial linkages. Beyond that - and as part of their FDI promotion - governments can target TNCs that are particularly interested in developing strong supply links with domestic enterprises. The linkage programme may even support local managers of foreign affiliates in lobbying their head offices to allow greater autonomy in sourcing. In-depth consultations with foreign affiliates can then identify their specific linkage needs.
- **Suppliers** can be selected on the basis of their commitment and capabilities (or potential capabilities) to meet the needs of foreign affiliates. “Commitment” can be tested through certain self-improvement requirements, with some external guidance and minimal support during the initial stage of selection. Other criteria that can be used involve technological benchmarking and skills audits. Specific criteria that have been used include the size of the firm, production capabilities, ISO certification and age. However, one of the most important elements to take into account is the commitment of key managers (and especially the chief executive officer) to the idea of continuous improvement and their willingness to upgrade their operations to meet international standards required for successful linkages. The active cooperation of chambers of commerce, business associations, support centres, service providers and other private sector institutions is very important here, as is the cooperation of SME development programmes, be they local or international. (UNCTAD’s EMPRETEC programme is an example of the latter.) “Linkage Workshops” for representatives of foreign affiliates and local enterprises could provide the mechanism through which eventual programme participants can be narrowed down. Subsequent “Business Clinics” for Linkage Workshop participants could then allow for one-to-one consultations for pairs of linkage partners. Firms prepared to go further could thus undertake operational and management audits to determine the strengths and weaknesses of domestic partners.

3. Identifying specific measures to be adopted

Governments need to be aware of actions already taken by foreign affiliates and domestic firms (table 8). Some of these may need to be encouraged and supported. Governments can also act as facilitators and catalysts and ensure that private institutions have the incentives and resources needed. They can be particularly proactive in the following key areas of linkage formation: information and matchmaking; technology upgrading; training; access to finance (table 9). The range of measures that can be taken in each of these areas is wide. Their principal purpose is to encourage and support foreign affiliates and domestic firms to forge and deepen linkages. They are outlined - individually and as contained in programmes - in the main body of *WIR01*. They constitute a menu from which governments can mix and match. Specific choices depend on the results of earlier consultations with existing support institutions and relevant programmes in the public and private sectors, as well as with key stakeholders on the specific needs of an industry or set of firms. The results of the Linkage Forums, Linkage Workshops and Business Clinics mentioned earlier and the identification of promising domestic firms are also of help here. Governments could also encourage participating foreign affiliates to agree to a coaching and mentoring arrangement with promising local firms.

These measures can be underpinned by efforts to strengthen the negotiating position of local firms vis-à-vis foreign affiliates; for instance, by guidelines or making model contracts available. Special informal mechanisms can also help resolve problems and disputes and contribute to more lasting linkage relationships.

Table 8. Measures by foreign affiliates to create and deepen linkages

Creation of new linkages	Transferring of Technology	Providing training	Sharing information	Giving financial support
<ul style="list-style-type: none"> • Making public announcements about the need for suppliers and the requirements that firms must meet on cost and quality. • Supplier visits and quality audits. 	<p>Product technology:</p> <ul style="list-style-type: none"> • Provision of proprietary product know-how. • Transfer of product designs and technology specifications. • Technical consultations with suppliers to help them master new technologies. • Feedback on product performance to help suppliers improve performance. • Collaboration in R&D. <p>Process technology:</p> <ul style="list-style-type: none"> • Provision of machinery and equipment to suppliers. • Technical support on production planning, quality management, inspection and testing. • Visits to the suppliers facilities to advise on lay -outs, operations and quality. • Formation of "cooperation clubs" to interact with suppliers on technical issues. • Assistance to employees to set up their own firms. <p>Organisation and managerial know-how assistance:</p> <ul style="list-style-type: none"> • Assistance with inventory management (and the use of just-in-time and other systems). • Assistance in implementing quality assurance systems. • Introduction to new practices such as network management or financial, purchase and marketing techniques. 	<ul style="list-style-type: none"> • Training courses in affiliates for suppliers' personnel . • Offering access to internal training programme in affiliates or abroad. • Sending teams of experts to suppliers to provide in-plant training. • Promotion of cooperative learning among suppliers. 	<ul style="list-style-type: none"> • Informal exchanges of information on business plans and future requirements. • Provision of annual purchase orders. • Provision of market information. • Encouraging suppliers to join business associations. 	<ul style="list-style-type: none"> • Providing special or favourable pricing for suppliers' products. • Helping suppliers' cash flow through advance purchases and payments, prompt settlements and provision of foreign exchange. • Long-term financial assistance through the provision of capital; guarantees for bank loans; the establishment of funds for working capital or other suppliers needs; infrastructure financing; sharing of the costs of specific projects with suppliers; and leasing.

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, table VI.2, p. 214.

Table 9. Government specific measures to create and strengthen linkages

Information and Matchmaking	Technology upgrading	Training	Financial assistance
<p><i>Provision of information:</i></p> <ul style="list-style-type: none"> • Handouts and brochures. • Constantly updated electronic databases. <p><i>Matchmaking:</i></p> <ul style="list-style-type: none"> • Acting as honest broker in negotiations. • Supporting suppliers audits. • Providing advice on subcontracting deals. • Sponsoring fairs, exhibitions, mission and conferences. • Organizing meetings, visits to plants. 	<ul style="list-style-type: none"> • Technology transfer as a performance requirement. • Partnership with foreign affiliates. • Incentives for R&D cooperation. • Home-country incentives. 	<ul style="list-style-type: none"> • Promoting suppliers associations. • Collaboration with the private sector for one-stop service, including training. • Support to private sector training programmes. • Collaboration with international agencies. 	<ul style="list-style-type: none"> • Legal protection against unfair contractual arrangements and other unfair business practices. • Encouraging of payment delays through legislation. • Government guarantees to recovery of delayed payments • Guaranteeing the recovery of delayed payments. • Indirect financing to suppliers channelled through their buyers. • Tax credits or tax reductions and other fiscal benefits to firms providing long-term funds to suppliers. • Co-financing development programmes with the private sector. • Direct role in providing finance to local firms. • Mandatory transfer of funds from foreign affiliates to local suppliers. <p>Home country measures:</p> <ul style="list-style-type: none"> • Two-step loans. • Using ODA.

Source: UNCTAD, *World Investment Report 2001: Promoting Linkages*, table VI.1, p. 210.

The result should be a clear and feasible programme of action. Naturally, at each step of the implementation of a programme, the government needs to have a clear idea about the costs involved and the resources available.

4. Setting up an appropriate institutional and administrative framework to implement and monitor the programme

Governments can choose from a number of options in designing the institutional framework for a linkage programme:

Make the programme a distinct part of an existing body or even set up a special national-level linkage programme under an independent body to act as the focal point for all relevant activities by different departments and institutions.

Leave the design and implementation of the linkage programme to local authorities, with central advice, encouragement and support from the central government. This approach might be preferable in large countries or where resources for linkage programmes are limited, or where regions have distinct combinations of locational advantages to offer.

Involve the private sector as the main executing agency for the linkage programme. Suppliers, affiliates or their associations may set up such a body. The role of the government would be to act as catalyst and fulfil regulatory and information functions.

The size of a programme depends on the objectives sought and the resources available. Some programmes benefit from external funding through financial assistance provided by donor countries. In the longer term, however, the financial sustainability of linkage programmes if directly run by governments, requires sufficient government funding support. Moreover, cost sharing by participating firms (both buyers and suppliers) is desirable, not only for funding purposes but also for assuring self-commitments of the participants. This is feasible, especially when a programme has demonstrated its usefulness and is recognized for its services. Needless to say, to create trust and credibility among enterprises, a programme must be staffed by professionals with the appropriate private sector-related skills and background.

Linkage programmes can only work if they are networking effectively with efficient intermediate institutions providing support in skill building, technology development, logistics and finance. These include standards and metrology institutes, testing laboratories, R&D centres and other technical extension services, productivity and manager training centres and financial institutions. These can be public or private. It is also important that linkage programmes work closely with relevant private associations - chambers of commerce and industry, manufacturers' associations, investor associations and so on. Trade unions and various interest groups are other important stakeholders.

Finally, it is important to have a monitoring system in place to evaluate the success of a programme. Often, in a learning-by-doing process, a programme needs to be adjusted and refined as experiences accumulate and situations change. The system could include benchmarks and surveys of users. Criteria could include the following:

- Outreach: the number of companies included in the programme over time.
- Impact: the impact of the programme can be judged by such indicators as the number of suppliers, linked up with foreign affiliates over time; the value of deals and changes in these over time; the share of domestic suppliers in the procurement by foreign affiliates; the extent to which R&D activities are being undertaken by domestic suppliers over time (including those resulting in patents); changes in export volumes; the improvements in productivity or the value added at the firm or industry level; and whether a local supplier establishes itself abroad.

- Cost effectiveness: the cost of the programme in light of the results achieved and the benefits obtained as defined by the objectives laid out at the beginning of the programme.

* * * * *

It is worth repeating that linkage programmes build on the mutual self-interests of foreign affiliates and domestic firms. Linkages are a stepping stone towards strengthening the competitiveness of domestic firms, giving them a foothold in international production networks and embedding foreign affiliates fully in host economies. At the same time, linkage programmes should be seen as part of a broader set of FDI and SME policies. As networks of viable suppliers often prosper in clusters of firms, attention needs to be given to the development of such clusters, particularly for knowledge-intensive industries and activities. The third generation of FDI promotion policy - targeting foreign investors at the level of industries and firms and using clusters to attract FDI (and, in turn, strengthening clusters through it) - has a role to play here. In fact, the more linkage promotion policies that go hand-in-hand with SME development and targeted FDI promotion policies, the more they are likely to be successful.

Geneva, July 2001

Rubens Ricupero
Secretary-General of UNCTAD

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