Crisis moderates the expansion of Israeli multinationals

Report dated September 20, 2010

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Jerusalem and New York, **September 20, 2010**

The fourth annual survey of Israeli multinationals is being released today. It was conducted by a joint team composed of the Foreign Trade Division of the Manufacturers Association of Israel; The Recanati School of Business, Tel Aviv University; the School of Business Administration, the Hebrew University of Jerusalem; and the Vale Columbia Center on Sustainable International Investment (VCC), a joint undertaking of the Columbia Law School and The Earth Institute at Columbia University in New York.[1] The survey is part of a long-term, multi-country study of the rapid global expansion of multinationals from emerging markets. The results released today cover the year 2009.

Highlights

In 2009, Israel's top 21 multinationals – ranked by their foreign assets – had over USD 15 billion in foreign assets (table 1), about USD 30 billion in foreign sales (including exports), and around 72,000 persons in employment abroad (annex table 1). Four firms – Israel Corporation, Elco Holdings, Teva, and Ormat – together accounted for three quarters of the total foreign assets of the top 21.

The top 21 firms had 630 foreign affiliates. Just under half were in Europe, followed by North America and then Asia (annex table 2 and annex figure 2). Their presence in Africa is minimal. Twenty out of 21 firms were listed on one or more stock exchanges, including foreign stock exchanges (annex table 3). A significant number of firms were to be found in knowledge-based industries such as IT services, electronic hardware, pharmaceuticals and satellite networks. Annex figure 1 provides a breakdown of the foreign assets of the top 21 by industry.) All but one of the top 21 firms have their head office in Israel (annex figure 3).

The global financial and economic crisis, which had no noticeable effects in 2008, clearly did have an impact in 2009. Foreign assets remained unchanged, while foreign sales and employment declined perceptibly. The previous year's (2008) growth in sales and employment abroad, however, was large enough to show a significant net gain over the three-year period 2007-2009 (table 2 in the main text).

[1] The survey was carried out under the direction of Seev Hirsch of Tel Aviv University and Niron Hashai of Hebrew University. Research assistance was provided by Guy Ben Shachar of Hebrew University.

Profile of the top 21

An earlier draft of this report included 25 companies, the same number as in our last report, published March 2010, which covered the year 2008. Several firms were excluded in the light of the criteria used for establishing the nationality of the firms. One firm, Osem, was dropped because it is now majority-owned by the Swiss firm Nestlé. Amdocs, Zoran and Alliance, three other firms included in the last report, were excluded because their head office and the individuals or groups that effectively control their strategic decision-making are located outside Israel. One firm, Ormat, which has its head office abroad (in the United States), was retained in the list, as the company's top management is located in Israel and it does not have a controlling voting share held abroad.

The composition of the list was further changed to take account of other new developments or new information. Hod-Assaf was excluded because of the low level of its foreign assets; Carmel Olefins was excluded in order to avoid double counting, due to its acquisition by Oil Refineries Ltd., which is in turn a wholly owned subsidiary of the Israel Corporation. Tower, a producer of semiconductors, with substantial international operations since last year, was added.

The distribution of companies on the list, by the value of their foreign assets, is highly skewed. The largest, the Israel Corporation, is a conglomerate that owns several major multinational enterprises, including Israel Chemicals, discussed at length in previous reports, and Zim Integrated Shipping Services. With foreign assets of USD 4.5 billion, the Israel Corporation accounts for nearly 30% the total. Teva, Israel's leading pharmaceuticals manufacturer, ranks second and Elco Holdings, another conglomerate, ranks third. The foreign assets of each account for about 17% of the total. The only other multinational with foreign assets exceeding USD 1 billion is Ormat, which designs, constructs and operates 'green' power generating plants, which use its proprietary technology.

The foreign assets of only seven out of the 21 companies exceed USD 500 million and, in thirteen cases, they exceed USD 100 million. At the other end of the scale, there are seven firms whose foreign assets are less than USD 50 million. The smallest multinationals in the list are Orbotech, a producer of electronic optical equipment, and Ness Technologies, a provider of IT services and solutions, both with foreign assets of USD 15 million each.

Table 1. Ranking of the top 21[a] Israeli multinationals, 2009 (USD million)

Rank	Company	Main industry	Status (% of state holdings)	Foreign assets
1	Israel Corporation	Conglomerate	Listed (0%)	4,500
2	Teva	Pharmaceuticals	Listed (0%)	2,682
3	Elco Holdings	Conglomerate	Listed (0%)	2,675
4	Ormat	Power stations	Listed (0%)	1,577
5	Checkpoint	IT services	Listed (0%)	758
6	IDB Holdings	Conglomerate	Listed (0%)	744
7	Nice	IT services	Listed (0%)	578
8	Strauss Group	Food products	Listed (0%)	426
9	Frutarom	Food products	Listed (0%)	420
10	Elbit	IT services	Listed (0%)	254
11	Avgol	Unwoven fabric	Listed (0%)	201
12	Tower	Electronic hardware - electronic & optical equipment	Listed (0%)	167
13	Delta Galil	Wearing apparel	Listed (0%)	115
14	Palram	Plastic products	Listed (0%)	58
15	Retalix	IT services	Listed (0%)	48
16	Plasson	Plastic products	Listed (0%)	47
17	Lumenis	Electronic hardware - laser technologies	Unlisted (0%)	42
18	Gilat Satellite Networks	Electronic hardware - satellites	Listed (0%)	25
19	AudioCodes	IT services	Listed (0%)	23
20	Orbotech	Electronic hardware - electronic & optical equipment	Listed (0%)	15
21	Ness Technologies	IT services	Listed (0%)	15
Total				**15,370**

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

[a] Although we speak of the 'top 21', an important clarification is in order. All but one of the leading 21 Israeli multinationals identified in table 1 are publicly listed firms. A number of other (mainly unlisted) multinationals, very likely to belong to this group, could not be included because information on their activities was incomplete. So the top 21 in our list are *among* the largest Israeli multinationals rather than *the* largest.

The industrial composition of Israel's top multinationals reflects the country's resource endowment, which gives it a comparative advantage in knowledge-based industries. Industries with relatively high investments in R&D – e.g., laser technology, power stations, IT services and pharmaceuticals – represent more than half of the top 21 multinationals listed in table 1.

Traditional industries such as clothing and food products account for a small share of Israel's multinationals. Only Israel Chemicals, a part of the conglomerate Israel Corporation, manufactures natural-resource-based products.

As in previous years, IT service providers and electronic hardware producers continue to dominate the list of Israel's multinationals, in term of numbers. Note, however, that these firms are not among the largest in terms of foreign assets.

Checkpoint, a supplier of security systems, and Nice, which produces CRM solutions, are the only IT firms whose foreign assets exceed USD 500 million.

This year's list of multinational enterprises contains two food companies. The Strauss Group is a major producer of milk products, coffee and a large variety of other consumer food products. Frutarom, the second food products firm, is a producer of aromas and food additives.

Box 1. Changes in the valuation of foreign assets

In our last report, published March 31, 2010,[a] we reported the foreign assets of the top Israeli multinationals for 2008 as being just over USD 18 billion. In table 1, on the other hand, we give them as just over USD 15 billion. There are several reasons for the seeming discrepancy. First, as noted earlier, the composition of our list has changed somewhat and the number of firms has been reduced from 25 to 21.Second, and more important, our figures for foreign assets come from company reports (or information otherwise supplied by companies) and several of our companies have changed their accounting methods. Table 2 below, which contains figures pertaining to 2007, 2008 and 2009, compares the same set of companies in the three years and employs the more recent evaluation methods. As a result, our information from companies that changed their accounting methods not only gives us their foreign assets at the end of 2009 on the basis of this new method, *it also restates foreign assets at the end of 2007 and 2008*.

The new method excludes short-term assets, such as bank deposits, accounts receivable and inventories from reported foreign assets. It also excludes goodwill, which may have boosted assets in boom periods, when acquisitions took place at high prices. This more conservative accounting method naturally reduces the reported value of the firms'assets.

An example is furnished by Ness Technologies, an IT services and solutions provider whose foreign assets were reported as being USD 224 million in the last report. The exclusion of goodwill and other short-term assets led to Ness Technologies slipping to the bottom of the list, with foreign assets of USD 15 million.

In conclusion, there are two points to be made. The first is that, as stated above, our figures in this report come straight from the companies we have ranked and the companies that have adopted the new, more conservative, accounting method have furnished new figures for *2008* as well as 2009. The second point is a caution: readers need to treat all foreign asset figures with caution, since individual firms have considerable leeway in choosing the criteria for reporting on their international activities. This said, we might add that the new method does have the advantage of reflecting more closely the long-range foreign commitment of Israeli multinationals.

[a] Available at http://www.vcc.columbia.edu/files/vale/documents/Israel-Report-March2010.pdf.

The inclusion of IDB Holdings in this year's report illustrates further the problematic nature of comprehending the multinational activities of conglomerates. IDB Holdings is a majority shareholder of Makhteshim-Agan, a supplier of crop protection solutions with substantial operations in Latin America and elsewhere. Makhteshim-Agan was reported on separately in previous reports. To avoid double counting, it was excluded from the present report. IDB Holdings's other activities are mainly in retail food distribution, telecommunications, insurance, aviation and real estate. The cross-border activities of some of these businesses are relatively marginal. Hence, the inclusion of IDB Holdings with global assets of USD 6,800 million, global sales of nearly USD 9,000 million, and 28,000 employees, adds relatively little to our knowledge of Israel's multinational sector.

None of the firms in table 1 is either state-owned or state-controlled. All but one, Lumenis, are listed on various stock exchanges. Eighteen are listed on the Tel Aviv Stock Exchange (TASE), one on the New York Stock Exchange (NYSE) ten on the American Stock Exchange (NASDAQ), and nine on both NASDAQ and TASE (annex table 3). This pattern is consistent with the observation that while management control of the firms included in this report resides in Israel, ownership may be globally dispersed. Several of the firms raise at least part of their equity capital in the global markets, where the cost of capital is lower than in the small market of Tel Aviv. Moreover, it confirms the view that domestic investment and outward FDI do not necessarily compete for the same pool of capital.

The fact that almost all firms included in table 1 are listed on different stock exchanges does not mean that Israel's multinational enterprises necessarily seek to go public. In fact, some of the largest and most dynamic Israeli multinationals are unlisted. Their absence from the report is due to their failure to divulge information about their foreign and domestic operations. Other multinationals, including some discussed in earlier reports (e.g., Alliance), were sold to foreign investors or incorporated into the accounts of conglomerates (e.g., Carmel Olefins). Table 1 cannot therefore be said to offer a comprehensive picture of the scope of the Israeli corporate sector's multinational activity.

Examples of leading Israeli multinationals that might have shown up on table 1 had data been available are Keter Plastics, Blades Technologies and Netafim. Keter supplies plastics furniture and storage systems. Blades Technologies is a major producer of precision forged and machined blades and vanes for aerospace and industrial gas turbine industries. Netafim designs, installs, maintains and in some cases manages complex drip irrigation systems. It is jointly owned by a number of communal settlements (*kibbutzim*). All three enterprises have substantial international operations including R&D, production, distribution and servicing, located in a large number of countries.

Changes between 2007 and 2009

Changes in the international operations of the 21 leading multinational enterprises between 2007 and 2009 are summarized in table 2. As noted earlier, the figures pertain to the same firms in 2007, 2008 and 2009. The period covered by these three years coincides with the global economic crisis, which could not fail to affect Israeli firms heavily involved in the United States and Europe, where the crisis was most acute. Certain elements of the effects of the crisis are clearly visible in table 2 below.

The table shows aggregate changes in the assets, sales and employment of the 21 Israeli multinationals, distinguishing between foreign and total operations. The global crisis, although in full force in 2008, was not reflected in the figures for that year. Both foreign and total assests, sales and employment increased between 2007 and 2008. The foreign sector led the increase in each of these elements. The relative increase in total and foreign sales outpaced the increase in employment and assets. Note, moreover, that the number of foreign employees increased by about 11,000, a relative increase of over 16% in a single year.

Table 2. Snapshot of the top 21 multinationals, 2007 -2009 (USD million and numbers of employees)

	Year			**Percentage change over period**		
	2,007	**2,008**	**2,009**	**2007-8**	**2008-9**	**2007-9**
Assets						
Foreign	13,670	15,477	15,370	13.22	-0.69	12.45
Total	26,929	29,358	27,469	9.02	-6.43	2.00
% Foreign	50.76	52.72	55.95	1.96	3.23	5.19
Sales						
Foreign	26,292	34,184	30,426	30.01	-10.96	15.76
Total	39,016	49,717	47,134	27.43	-5.22	20.78
% Foreign	67.39	68.76	64.55	1.37	-4.17	-2.80
Employment						
Foreign	68,415	79,476	72,027	16.17	-9.37	5.28
Total	133,581	145,261	143,590	8.74	-1.15	7.49
% Foreign	51.22	54.71	50.16	3.49	-4.55	-1.06
TNI (weighted)	56.46	58.73	56.75	2.27	-1.98	0.29

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

The positive trend described above was reversed in the following year, with declines across the board in both the foreign and the total category. The sharpest decline over 2008-2009 was in foreign sales (nearly 11%), followed by foreign employment (somewhat under 10%). In comparison, the declines in *total* sales and employment were modest to negligible (just over 5% and just over 1%), pointing to near 8% and 9% gains in domestic sales and domestic employment respectively. When it comes to assets, matters were different. Foreign assets fell hardly at all (well under 1%), while total assets fell by well over 6%. In this case, the substantial gain in 2009 in domestic sales and employment was counterbalanced by a substantial (almost 13%) decline in domestic assets.

The last column in table 2 provides a view of the overall effects of the crisis over the three-year period. On the whole, the *increases* in the activities of Israeli multinationals in 2008 were *much* larger than the declines experienced in 2009. Consequently, comparisons of 2009 with 2007 show a rise in foreign and total assets, sales and employment. The increase in total and foreign sales dominates the increase in the other components. The share of foreign in total assets increased over the 2007-2009 period from 51% in 2007 to 56% in 2009, while the shares of foreign sales and employment in total sales and employment declined perceptibly over the period.

One way of summarizing the discussion about the changes in the foreign and total components of the activities pursued by the 21 leading Israeli multinationals during the 2007-2009 period is to examine the trends in their Transnationality Index (TNI). The Index is a useful tool for gauging the relative importance of cross-border operations in the activities of multinationals. It is computed as a simple average of three ratios: foreign to total assets, foreign to total employment and foreign to total sales, and expressed as a percentage. The theoretical value of the index can vary between O (no foreign activities) and 1 (only foreign activities).

The bottom row of table 2 shows what we have called the weighted TNI ('weighted' because the large companies weigh more than small ones in it), which is calculated in two steps. First, the foreign and total values of assets, sales and employment of the 21 firms are summmed. Next, the weighted Index is derived by calculating the average ratio of foreign to total assets, sales and employment. Note that the TNI rose from 2007 to 2008 and declined in 2009. Over the three-year period 2007-2009, however, the TNI remained virtually unchanged, rising marginally from 56.46 to 56.75. Considered as a *group*, the leading Israeli multinationals kept up their international activities even over the crisis period of 2007-2009.

The 2009 Transnationality Index and its components

Details of the Transnationality Index of the individual firms and its components are shown in table 3. The firms are ranked by their TNI, which varies between 85 (Orbotec) and 12 (IDB Holdings). The simple average of the Index is 64, perceptibly higher than the weighted average of 58. The difference indicates the tendency of small firms to engage in internationalization more intensively than large firms. The median TNI is 67. Checkpoint is the median company. With a TNI of 12, IDB Holdings ranks lowest, being the only company with a TNI lower than 40.

Table 3. The Transnationality Index and its components, 2009

Rank by TNI	Company	Percentage of foreign in total			TNI
		Assets	Sales	Employment	
1	**Ormat**	98	100	57	**85**
2	**Teva**	71	96	82	**83**
3	**Frutarom**	80	91	78	**83**
4	**Delta**	77	87	81	**81**
5	**Avgol**	81	95	62	**79**
6	**Palram**	75	91	55	**74**
7	**Nice**	86	74	58	**73**
8	**Lumenis**	70	80	68	**73**
9	**Retalix**	73	89	51	**71**
10	**Orbotec**	52	99	62	**71**
11	**Checkpoint**	86	56	59	**67**
12	**AudioCodes**	52	92	34	**59**
13	**Ness Technologies**	40	68	68	**59**
14	**Plasson**	44	90	40	**58**
15	**Israel Corporation**	72	62	38	**57**
16	**Gilat Satellite Networks**	25	84	61	**57**
17	**Tower**	35	97	37	**56**
18	**Strauss Group**	53	47	59	**53**
19	**Elco Holdings**	71	35	36	**47**
20	**Elbit**	25	86	16	**42**
21	**IDB Holdings**	11	10	14	**12**
Average, unweighted		61	78	53	64
Average, weighted		56	65	50	58
Median		71	87	58	67
Top firm		Ormat	Ormat	Teva	Ormat
Bottom firm		IDB Holdings	IDB Holdings	IDB Holdings	IDB Holdings
Median firm		Teva & Elco	Delta	Nice	Checkpoint

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

Foreign assets account on average for 61% of total assets. Ormat is the leader in terms of the share of foreign in total assets (98%). It is followed by Checkpoint and Nice with a foreign asset share of 86%. Teva and Elco are the median companies (71%). The foreign assets of only four firms are less than 40% of total assets. IDB Holdings has the lowest share of foreign assets (11%).

The percentage of foreign sales varies between 100 (Ormat) and 10 (IDB Holdings). The average is 78%. With a foreign sales percentage of 87, Delta is the median company. Only seven firms have a foreign sales percentage of less than 80. Since foreign sales include exports from the home country, it is hardly surprising that the percentage of their total sales should be higher on average than the percentages of their foreign employment and foreign assets. These differences suggest that 'market-seeking' may be the major motivator of internationalization by Israeli multinationals.

The percentage of foreign employment is 53 on average; it ranges between 82 (Teva) and 14 (IDB Holdings). With 58% foreign employment, Nice is the median company. Foreign employment in fourteen companies exceeds 50%, though only two, Teva and Delta, have more than 80% of their employees abroad.

IDB Holdings consistently occupies the lowest rank in all the different components of the Transnationalization Index. This is hardly surprising in view of the fact that IDB is a conglomerate with very substantial operations in retailing, communication, finance, and real estate. Its international operations, though large by Israeli standards, account for only a small proportion of its overall business operations. Examination of the companies occupying the top ranks shows that Ormat, which ranks 1st in the share of foreign assets and sales, ranks only 12th in employment. Teva, which ranks 1st in foreign employment, ranks 4th in foreign sales and 10th in foreign assets. In fact, the correlations between the components of the index are not high; they range between 0.29 (foreign assets and sales) through 0.42(foreign employment and sales) to 0.55 (foreign assets and employment). It seems that attempts to represent the elusive concept of transnationality by a single measure such as the ratio of foreign to total assets, sales or employment are likely to lead to biased conclusions.

Regional distribution

The top 21 multinationals reported 630 foreign affiliates in 2009 (annex table 2), which implies an average of 30 affiliates per firm compared with 23 in last year's report. This increase in the number of affiliates by 30% in a single year is explained in part by the change in the composition of the firms included in the report. For example, a number of firms in the last report that had very few affiliates – Alliance, Carmel Olefins, Hod-Assaf – have disappeared from the present report. (Makhteshim Agan has also disappeared but this has made no real difference, as its 75 foreign affiliates now show up among the 80 affiliates of its parent, IDB Holdings, included among the top Israeli multinationals for the first time.) The big change is that the top-ranking firm, Israel Corporation (IC), has increased its number of affiliates by over 80% – from 102 affiliates in 2008 to 184 in 2009!

This increase is accounted for mainly by the new initiatives taken by IC in the energy sector. For example, Better Place, a multinational in which IC has a substantial stake, has been engaged in the development of a novel transport system, based on cars powered by electric batteries. Operating the system requires the building of battery switch stations. By the end of 2009, Better Place had built dozens of switch stations, which it counts as affiliates, in Australia, Canada, Denmark, Japan and the United States, as well as in Israel.

The regional distribution of the affiliates was largely unchanged. There was a 3% decline in the percentage of European affiliates and a 1% increase in the percentage of Latin American and African affiliates, the latter from a very small base (annex table 6).

Selected mergers, acquisitions and greenfield investments

Annex tables 4 and 5 list the largest individual FDI transactions by Israel-based multinationals between 2007 and 2009. Annex table 4 contains figures on the top 10 outward mergers and acquisitions (M&As). The list is headed by the acquisition, in July 2008, of the US-based Barr Pharmaceuticals by Teva, Israel's leading pharmaceutical company. The price paid for Barr, which exceeded USD 8.8 billion, accounted for more than 75% of the total M&A value reported in the table. Teva spent an additional USD 400 million on the acquisition of CoGenseys and USD 335 million on the acquisition of Bentley Pharmaceuticals, two other US-based pharmaceuticals companies. These acquisitions explain why Teva is considered Israel's leading multinational. The acquisition by Nice of the US firm Actimize and by Israel Chemicals of the US firm Supersta are the only other transactions by firms listed in table 1. The remaining acquisitions were made by smaller firms, engaged in real estate, energy and high technology. The effects of the recent economic crisis are clearly demonstrated in annex table 4 which records only a single transaction in 2009.

The top ten greenfield investments between 2007 and 2009 are shown in annex table 5, which exhibits a very different orientation from that of the M&A transactions shown in annex table 4. The transactions are overwhelmingly in real estate operations, in the emerging markets of Eastern Europe. The only transactions in activities other than real estate are the Israel Corporation's automotive OEM investment in China and EIG Renewable's renewable energy investment in Macedonia. Once again, there is only one transaction among the top 10 that took place in 2009.

The big picture

The macro figures for the Israeli economy (table 4 below) exhibit a trend broadly in keeping with that of multinational activity, as shown in table 2. GDP, exports, and FDI inflows rose between 2007 and 2008 and declined in the following year. FDI outflows showed a declining trend over the entire period. FDI outward stock rose by very little in 2009. (See annex figures 4 and 5 for FDI flows and stock over the twenty-year period 1990-2009.) Even unemployment, which declined from 7.3% in 2007 to 6.1% in 2008, rose again to 7.6% in 2009.

Table 4: GDP, exports, FDI and unemployment, 2007-2009 (USD million and percentages)

Year	**2007**	**2008**	**2009**
GDP	167,852	202,158	195,240
Exports	71,630	80,850	67,677

Foreign direct investment			
FDI inflows	8,798	10,877	3,892
FDI outflows	8,604	7,210	1,172
FDI inward stock	62,223	64,005	71,258
FDI outward stock	49,833	54,382	56,130
Unemployment rate (%)	7.30	6.10	7.60
Exchange rate: NIS/USD	4.0870	3.5870	3.9230

Source: Israel Central Bureau of Statistics.

During the years 2007 to 2009, the global economy was engulfed by an economic crisis, manifested in declining output, trade and investment, and rising unemployment. The crisis, which is by no means over by September 2010, has had different effects on different economies. Israel, a small country highly integrated into the global economy, has naturally been affected as well. The effect, however, has been both moderate and somewhat delayed. It was barely noticeable in 2008 but became quite pronounced in 2009, as the present report indicates. While the value of Israeli multinationals' foreign assets remained practically unchanged, both foreign and total sales, as well as employment, declined noticeably (table 2 above).

Analysis of the three-year period since 2007, when the global crisis started, indicates that the decline in employment and sales between 2008 and 2009 was significantly smaller than their rise in the previous year. This fact, combined with the stability of foreign assets, suggests that the effect of the crisis on Israel's multinational sector, though now clearly visible, has been moderate.

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Emerging Markets Global Players Project

This Israeli - Vale Columbia Center ranking of Israeli multinationals was conducted in the framework of the Emerging Markets Global Players Project, a collaborative effort led by the Vale Columbia Center. It brings together researchers on FDI from leading institutions in emerging markets to generate annual reports on the leading multinationals in each participating country. Nine country reports were published in 2009. A number of additional reports will appear in 2010. Visit http://www.vcc.columbia.edu/content/emerging-market-global-players for further information.

The Israeli Team

The survey of Israel's leading multinational firms is a joint endeavor of the Foreign Trade Division of the Manufacturers Association of Israel, headed by Dan Catarivas (www.industry.org.il), and the two leading business schools in Israel. The Israeli project as a whole is headed by Seev Hirsch from the Recanati School of Business Administration at Tel Aviv University (www.recanati.tau.ac.il), together with Niron Hashai from the Jerusalem School of Business Administration at Hebrew University (bschool.huji.ac.il).

Vale Columbia Center on Sustainable International Investment

The Vale Columbia Center on Sustainable International Investment, headed by Karl P. Sauvant, is a joint Columbia Law School – Earth Institute venture at Columbia University. It seeks to be a leader on issues related to FDI in the global economy, paying special attention to the sustainability aspect of this investment. The Center focuses on the analysis and teaching of the implications of FDI for public policy and international investment law. Its objectives are to analyze important topical policy-oriented issues related to FDI, develop and disseminate practical approaches and solutions, and provide students with a challenging learning environment. For more information, see http://www.vcc.columbia.edu.

Annex table 1. Israel: The top 21 multinationals: Key variables, 2009 (USD million and numbers of employees)

Rank	Company	Industry	Assets		Employment		Sales		TNI index (%)	Number of foreign affiliates
			Foreign	Total	Foreign	Total	Foreign	Total		
1	Israel Corporation	Conglomerate	4,500	6,211	6,510	17,333	7,799	12,498	57	184
2	Teva	Pharmaceuticals	2,682	3,766	28,788	35,089	13,399	13,899	83	29
3	Elco Holdings	Conglomerate	2,675	3,786	2,564	7,065	591	1,699	47	21
4	Ormat	Power stations	1,577	1,604	622	1,090	431	431	85	38
5	Checkpoint	IT services	758	877	1,246	2,112	519	924	67	55
6	IDB Holdings	Conglomerate	744	6805	4,000	28,000	875	8,986	12	80
7	Nice	IT services	578	673	1,510	2,596	433	583	73	23
8	Strauss Group	Food products	426	810	7,700	13,071	769	1,625	53	23
9	Frutarom	Food products	420	526	1,128	1,448	388	425	83	34
10	Elbit	Electronic hardware - electronic and optical products	254	1008	1,806	11,238	2,422	2,832	42	18
11	Avgol	Unwoven fabric	201	249	322	520	200	211	79	4
12	Tower	Electronic hardware - electronic and optical equipment	167	483	576	1,576	290	299	56	3
13	Delta Galil	Wearing apparel	115	150	6,053	7,500	497	573	81	10
14	Palram	Plastic products	58	77	489	890	217	238	74	21
15	Retalix	IT services	48	66	628	1,221	171	192	71	10
16	Plasson	Plastic products	47	108	483	1,172	191	214	58	16
17	Lumenis	Electronic hardware - laser technologies	42	60	517	761	181	226	73	18
18	Gilat SatelliteNetworks	Electronic hardware - satellites	25	100	542	893	192	228	57	7
19	AudioCodes	IT services	23	44	194	578	116	126	59	3
20	Orbotech	Electronic hardware - electronic and optical equipment	15	29	989	1,602	373	378	71	11
21	Ness Technologies	IT services	15	37	5,360	7,835	372	547	59	22
Total			**15,370**	**27,469**	**72,027**	**143,590**	**30,426**	**47,134**	**57**	**630**

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

[a]The Transnationality Index (TNI) is calculated as the average of the following three ratios: foreign assets to total assets, foreign employment to total employment, and foreign sales to total sales.

Annex table 2. Israel: The top 21 multinationals: Regionality Index[a], 2009 (Percentages, except for last column)

Rank by foreign assets	Company	Africa	Asia & Australia	Latin America & the Caribbean	North America	Europe	Number of foreign affiliates
1	Israel Corporation	3.5	25.5	8	12.5	50.5	184
2	Teva	0	0	17.5	13.5	69	29
3	Elco Holdings	0	14.5	0	9.5	76	21
4	Ormat	2.5	11	21	63	2.5	38
5	Checkpoint	0	25.5	5.5	13	56	55
6	IDB Holdings	1.5	7.5	21	20	50	80
7	Nice	0	30.5	4.5	26	39	23
8	Strauss Group	0	0	13	48	39	23
9	Frutarom	3	6	6	17.5	67.5	34
10	Elbit	0	11	5.5	44.5	39	18
11	Avgol	0	25	0	50	25	4
12	Tower	0	0	0	100	0	3
13	Delta Galil	10	20	0	30	40	10
14	Palram	5	19	5	24	47	21
15	Retalix	0	20	0	50	30	10
16	Plasson	0	19	6	12.5	62.5	16
17	Lumenis	0	33.5	11	11	44.5	18
18	Gillat Satellites	0	0	57	29	14	7
19	Audiocodes	0	0	0	66	33	3
20	Orbotech	0	0	36.5	18	45.5	11
21	Ness Technologies	0	4.5	23	13.5	59	22
Total affiliates		**12**	**104**	**72**	**138**	**304**	**630**

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

[a] The Regionality Index is calculated by dividing the number of a firm's foreign affiliates in a particular region of the world by its total number of foreign affiliates and multiplying the result by 100.

Annex table 3. Israel: The top 21 multinationals: Stock exchange listings, 2009

Rank by foreign assets	Company	Listing	
		Domestic	*Foreign*
1	Israel Corporation	TASE	*None*
2	Teva	TASE	Nasdaq
3	Elco Holdings	TASE	*None*
4	Ormat	TASE	NYSE
5	Checkpoint	*None*	Nasdaq
6	IDB Holdings	TASE	*None*
7	Nice	TASE	Nasdaq
8	Strauss Group	TASE	*None*
9	Frutarom	TASE	*None*
10	Elbit	TASE	Nasdaq
11	Avgol	TASE	*None*
12	Tower	TASE	Nasdaq
13	Delta Galil	TASE	*None*
14	Palram	TASE	*None*
15	Retalix	TASE	Nasdaq
16	Plasson	TASE	*None*
17	Lumenis	*None*	*None*
18	Gillat Satellites	TASE	Nasdaq
19	Audiocodes	TASE	Nasdaq
20	Orbotech	*None*	Nasdaq
21	Ness Technologies	TASE	Nasdaq

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

Annex table 4. Israel: The top 10 outward M&A transactions, 2007-2009 (USD million)

Date	Acquiror's name	Target name	Target industry	Target economy	% of shares acquired	Value of transaction
12/23/2008	Teva Pharm Inds Ltd	Barr Pharmaceuticals Inc	Pharmaceuticals	United States	100.00	8,810.21
04/16/2007	Investor Group	RBS Group PLC-Marriot Hotels	Hotels and motels	United Kingdom	100.00	2,170.63
03/02/2007	Delek Real Estate Ltd	RoadChef Motorways Ltd	Eating places	United Kingdom	100.00	734.14
04/30/2007	Africa Israel Investments Ltd	NY Times Bldg,New York,NY	Operators of non-residential buildings	United States	100.00	525.00
06/14/2007	Gazit Inc	Ormat Technologies Inc	Cogeneration, alternative energy sources	United States	12.00	407.15
02/21/2008	Teva Pharm Inds Ltd	CoGenesys Inc	Pharmaceuticals	United States	100.00	400.00
07/22/2008	Teva Pharm Inds Ltd	Bentley Pharmaceuticals Inc	Pharmaceuticals	United States	100.00	352.06
08/14/2007	Israel Chemicals Ltd	Supresta LLC	Chemicals and chemical preparations	United States	100.00	352.00
11/22/2009	452 Fifth Owners LLC	452 Fifth Avenue, New York, NY	Operators of non-residential buildings	United States	100.00	330.00
08/30/2007	NICE Systems Ltd	Actimize Inc	Pre-packaged software	United States	100.00	279.11
Total						**14,360.30**

***Source*:** Thomson ONE Banker. Thomson Reuters.

Annex table 5. Israel: The top 10 outward greenfield transactions, 2007-2009 (USD million)

Date	Company	Destination	Industry	Value of transaction
Oct-08	Fishman Group	Russia	Real estate	1,800.00
May-08	Fishman Group	Russia	Real estate	1,500.00
Sep-08	EngelInvest	Vietnam	Real estate	1,100.00
Dec-07	Elbit Imaging	Romania	Real estate	884.34
Jan-08	Israel Corp (IC)	China	Automotive OEM	803.09
Jul-08	EIG Renewables	Macedonia	Alternative/renewable energy	564.11
May-09	Fishman Group	Thailand	Real estate	530.80
Dec-08	Fishman Group	Belarus	Real estate	500.00
Jun-08	ELCO Holdings	Bulgaria	Real estate	473.00
Jul-07	Africa Israel Investments	Russia	Real estate	465.20
Total				**8,620.54**

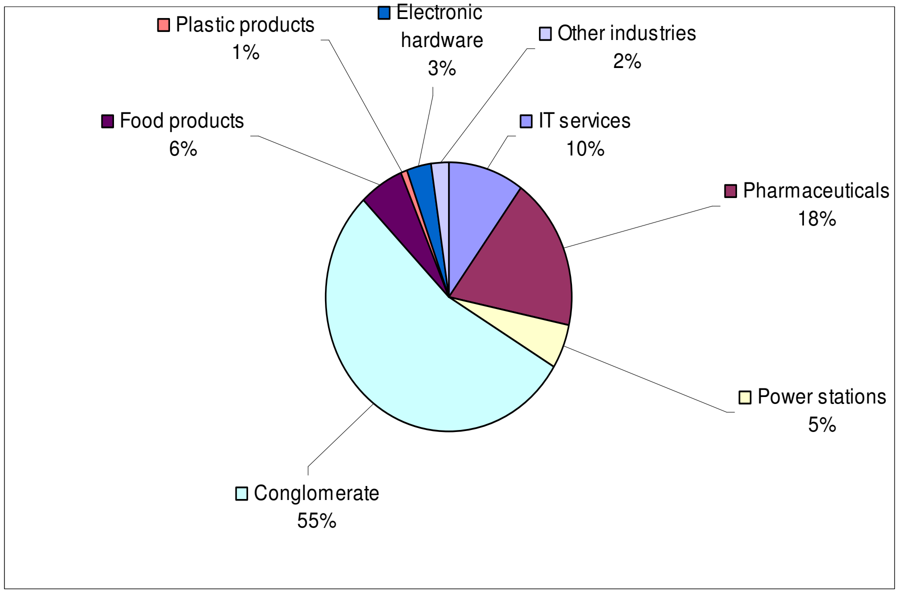
Source: fdi Intelligence, a service from the Financial Times Ltd.

Annex table 6. Israel: Regional distribution of affiliates, 2008 & 2009

	Africa	Asia & Australia	Latin America & the Caribbean	North America	Europe	Total
2008						
Number	6	93	59	123	291	572
Percentage	1.0	16.3	10.3	21.5	50.9	100.0
Affiliates per firm						22.9
2009						
Number	12	104	72	138	304	630
Percentage	1.9	16.5	11.4	21.9	48.3	100.0
Affiliates per firm						30.0

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

Annex figure 1. Israel: Breakdown of the foreign assets of the top 21 multinationals, by industry, 2009



Industry	**Foreign assets** (USD million)	Companies
IT services	1,449	Checkpoint, NICE, Ness Technologies, Retalix, Audiocodes
Pharmaceuticals	2,682	Teva
Power stations	758	Ormat
Conglomerate	7,919	Elco Holdings, Israel Corporation, IDB Holdings
Food products	846	Strauss Group, Frutarom
Plastic products	105	Plasson, Palram
Electronic hardware	503	Elbit, Tower, Lumenis, Orbotech, Gilat
Other industries	316	Delta, Avgol

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

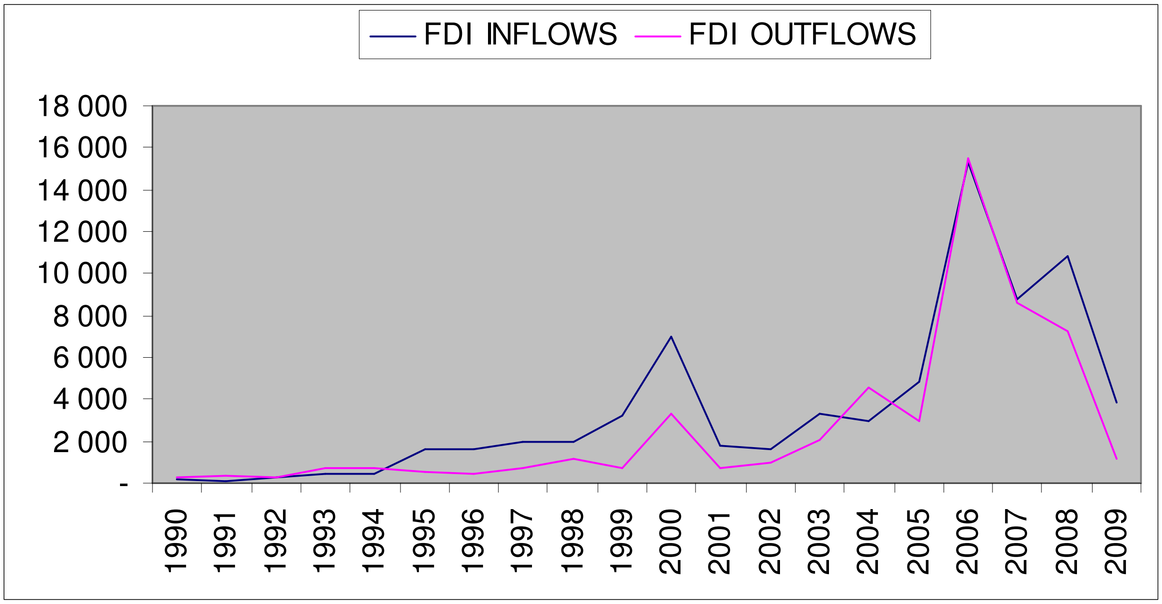
Annex figure 2. Israel: Foreign affiliates of the top 21 multinationals, by region, 2009 (number of affiliates)

Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

Annex figure 3. Israel: Head office locations of the top 20 multinationals, 2009

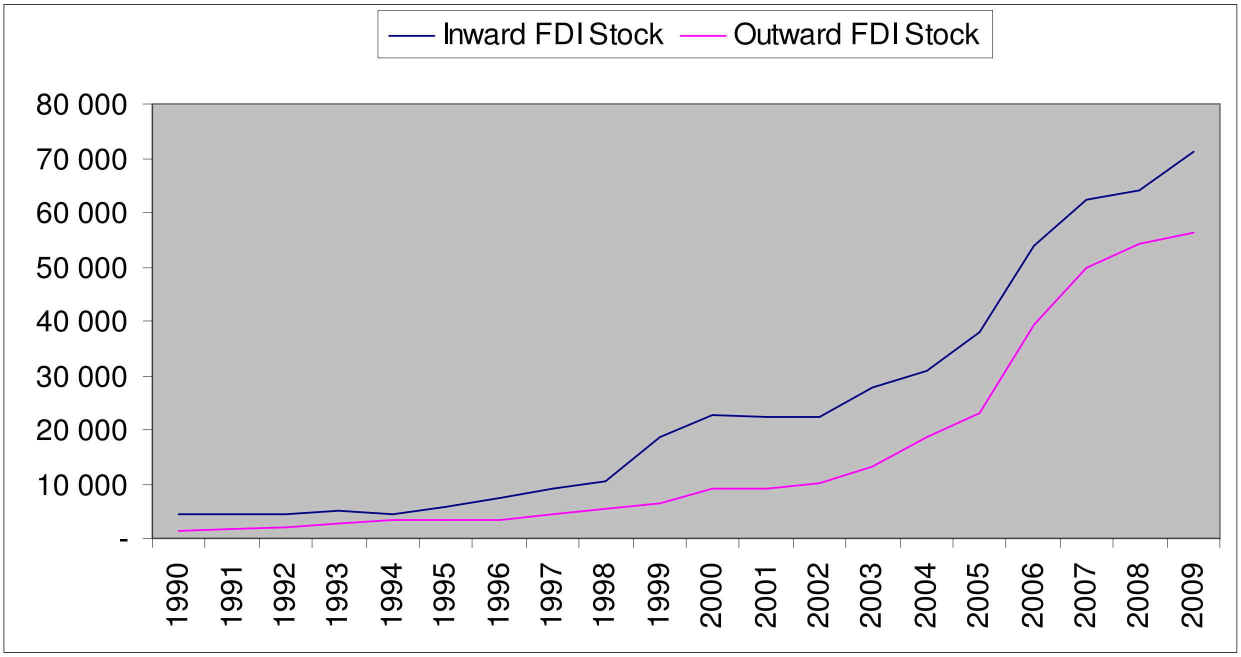
Source: Israeli-Vale Columbia Center survey of Israeli multinationals.

Annex figure 4: Israel: Inward and outward FDI flows, 1990-2009 (USD million)



Source: Accountant General's Office, Ministry of Finance.

Annex figure 5: Israel: Inward and outward FDI stock, 1990-2009 (USD million)



Source: Accountant General's Office, Ministry of Finance.